

New Contractor Intake Instructions

All New DSHS Contractors must:

- Complete, sign and submit the **Intake Form** to the **Department of Social and Health Services (DSHS)**.
- Register in the **Statewide Payee Registration System**. This system is maintained by the Washington State Department of Enterprise Services (DES) to process payments for **all** Washington state agencies. To register, **follow the online instructions at <https://ofm.wa.gov/it-systems/accounting-systems/statewide-vendorpayee-services>**. You must complete this step in order to be paid.

Please **do not** return this DSHS Contractor Intake Form to DES; they will **not** process it.

All Existing DSHS Contractors who have changed their business name or business organization, or experienced other significant changes, **must:**

- Update their information in the **Statewide Payee Registration System** by following the instructions at <http://des.wa.gov/services/ContractingPurchasing/Business/VendorPay/Pages/default.aspx>.
- Complete, sign and submit a new **Contractor Intake** form to the **Department of Social and Health Services (DSHS)**.

Section One: Contractor Name/Business Organization

1. Contractor name.

- For an Individual or Sole Proprietor, enter your name as shown on your Social Security card on the "Name" line. Sole Proprietors provide Last Name, First Name, Middle Name, and Suffix.
- Other entities. Enter your business name as shown on the legal document creating the entity.

2. Business Organization. Please mark only one.

- If you are a nonresident alien foreign person or a business entity established in another state or country, the IRS may require you to complete Form W-8.
- If you are a Non-profit Corporation or a Faith-Based Non-Profit Corporation **attach a copy of your 501(c) status**.

3. Taxpayer Identification Number (TIN).

- Individual or Sole Proprietor - If you are a sole proprietor you may enter either your Social Security Number (SSN), or if you have one, your federal Employer Identification Number (EIN).
- Other Business Entities - Enter the entity's Employer Identification Number (EIN). If the entity does not have an EIN, enter the SSN of the owner of the business.
- Resident alien - If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the SSN box.

4. Default Reported, Waiver Certification, Fiscal Year, UBI Number, Business License, and Unique Entity Identifier (UEI) Number.

- List any contracts that you have had with the state that have been terminated for default.
- Certify whether you require your employees to sign mandatory individual arbitration clauses or class or collective action waivers. For more information review <https://des.wa.gov/services/contracting-purchasing/policies-training/resources/EO18-03>.
- Provide your fiscal year end date.
- Provide your Washington State Uniform Business Identifier (UBI) Number.
- **Attach a copy of your State Master Business License**. You may be exempt from registering with the State of Washington under certain circumstances. For more information review: <http://bls.dor.wa.gov/faqlicense.aspx>
- Provide your Unique Entity Identifier (UEI) Number.

Section Two: Contractor Primary Address Enter the primary address information of your business. If this form is for a new DSHS contract, and you want to provide a contract-specific address in addition to your primary one, please do so in Section Five.

Section Three: Contractor Ownership Check those that, in your opinion, apply to your organization. Please provide a certification number, if available. For the definition of microbusiness, minibusiness and small business, see RCW 39.26.010 (16), (17) and (22).

Section Four: Contractor Contact Person(s) Enter the primary contact information, and job title, for your business. If you are completing this form for a new DSHS contract, and you want to provide a contract-specific contact person other than your primary one, please do so in Section Five.

Section Five: Additional Information

- 1. Contractor Additional Addresses.** If applicable, provide additional addresses used for DSHS Contracts.
- 2. Contractor Additional Staff.** If applicable, provide additional staff information for DSHS Contracts. Additional staff may include those who have authority to sign a DSHS contract on behalf of the business, and are referred to as a signatory.

Section Six: Contractor Certification You must sign, date, and return this form before DSHS will issue a contract.

New Contractor Intake

Section One: Contractor Name/Business Organization		(DSHS staff enter on ACD Intake Detail screen)			
1. CONTRACTOR NAME Deloitte Consulting LLP		DBA OR FACILITY NAME			
2. BUSINESS ORGANIZATION <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> <input type="checkbox"/> Individual or Sole Proprietor <input type="checkbox"/> Non-Profit Corporation (Attach a copy of 501(c) status) <input type="checkbox"/> For Profit Corporation <input type="checkbox"/> Faith Based (FBO) Non-Profit Corporation <input type="checkbox"/> Faith Based (FBO) Unincorporated <input type="checkbox"/> Governmental Entity <input type="checkbox"/> Foreign Person or Entity </td> <td style="width: 50%; border: none; vertical-align: top;"> <input type="checkbox"/> General Partnership <input checked="" type="checkbox"/> Limited Liability Partnership (LLP) <input type="checkbox"/> Limited Liability Limited Partnership (LLLLP) <input type="checkbox"/> Limited Liability Company, filing as a Corporation <input type="checkbox"/> Limited Liability Company, filing as a Partnership <input type="checkbox"/> Limited Liability Company, filing as a Sole Proprietor </td> </tr> </table> <p style="text-align: center; margin-top: 10px;"> If your business is NOT a sole proprietorship, attach a list of the partners, members, directors, officers, and board members. </p>				<input type="checkbox"/> Individual or Sole Proprietor <input type="checkbox"/> Non-Profit Corporation (Attach a copy of 501(c) status) <input type="checkbox"/> For Profit Corporation <input type="checkbox"/> Faith Based (FBO) Non-Profit Corporation <input type="checkbox"/> Faith Based (FBO) Unincorporated <input type="checkbox"/> Governmental Entity <input type="checkbox"/> Foreign Person or Entity	<input type="checkbox"/> General Partnership <input checked="" type="checkbox"/> Limited Liability Partnership (LLP) <input type="checkbox"/> Limited Liability Limited Partnership (LLLLP) <input type="checkbox"/> Limited Liability Company, filing as a Corporation <input type="checkbox"/> Limited Liability Company, filing as a Partnership <input type="checkbox"/> Limited Liability Company, filing as a Sole Proprietor
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3. TAXPAYER IDENTIFICATION NUMBER (TIN) Enter your TIN in the appropriate box. <ul style="list-style-type: none"> For individuals, this may be your Social Security Number (SSN). For other entities, it is your Employer Identification Number. 	Social Security Number OR Employer Identification Number	(Enter all 9 numbers, NO DASHES) <div style="border: 1px solid black; padding: 2px; display: inline-block; background-color: black; color: white; font-weight: bold;">7C</div> (Enter all 9 numbers, NO DASHES)			
4. DEFAULT REPORTED, WAIVER CERTIFICATION, FISCAL YEAR, UBI NUMBER, BUSINESS LICENSE, AND UEI NUMBER <p>Have you had any contract with the state terminated for default? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, attach a list of terminated contracts with an explanation why each contract was terminated.</p> <p>Does your business require its employees to sign or agree to, as a condition of employment, mandatory individual arbitration clauses or class or collective action waivers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Is your fiscal year end the same as the calendar year (January 1 through December 31)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If the answer is no, what is your fiscal year end date? May 31</p> <p>What is your Washington State Uniform Business Identifier (UBI) Number? 602-356-799 (Enter all 9 numbers, NO DASHES)</p> <p>Attach a copy of your current Washington State Master Business License or explain below why you are exempt from registering your business with the State of Washington. (See page 1 for information on exemptions.)</p> <p>See attached.</p> <p>What is your Unique Entity Identifier (UEI) number? _____ (Enter all numbers, NO DASHES).</p>					
Section Two: Contractor Primary Address		(DSHS staff enter on ACD Intake Detail screen)			
CONTRACTOR PRIMARY ADDRESS (NUMBER, STREET, AND APARTMENT OR SUITE NUMBER) 711 Capital Way South, Suite 102					
CITY, STATE, AND ZIP CODE Olympia, WA 98501					
EMAIL ADDRESS	COUNTY WHERE PRIMARY ADDRESS IS (FOR OUT-OF-STATE CONTRACTORS)				
PHONE NUMBER (INCLUDE AREA CODE) (916) 288-3100	FAX NUMBER (INCLUDE AREA CODE) (866) 719-2934				

Section Three: Contractor Ownership Type (DSHS staff enter, as applicable, on ACD Intake Detail screen)

Is your business owned by a person (or persons) who is (or are) **(Check all that apply)**:

	No	Yes; but we are NOT certified*	Yes and we ARE Certified*	Certification Number
A Woman?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A Minority?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A Veteran?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Certified means either the business entity (or, when the business is a sole proprietorship, the individual) has received a certification number from Washington State's Office of Minority and Women-Owned Business Enterprises (OMWBE) www.omwbe.wa.gov, or Department of Veterans' Affairs (DVA).

Is your business a certified Disadvantaged Business Entity? No Yes, Certification No.

Does your business qualify as a Microbusiness, Minibusiness, or Small Business under [RCW 39.26.010](#)? No Yes

Section Four: Contractor Primary Contact Person (DSHS staff enter on ACD Intake Detail screen)

Primary contact person is a(n):

Owner Officer or Board Member Partner Staff Member Elected Official

Other (please identify) _____ (DSHS staff enter as applicable on ACD)

Is the primary contact person authorized to sign contracts? Yes No

PRIMARY CONTACT NAME AND JOB TITLE

Rakesh Duttgupta, Principal

PHONE NUMBER (INCLUDE AREA CODE)

(916) 288-3977

FAX NUMBER (INCLUDE AREA CODE)

(916) 288-3627

PRIMARY CONTACT EMAIL ADDRESS

rduttgupta@deloitte.com

CELLULAR PHONE NUMBER (INCLUDE AREA CODE)

(916) 761-6466

Section Five: Additional Information (DSHS staff enter on Intake Detail – Sub Information Summary screens)

1. ADDITIONAL CONTRACTOR ADDRESSES: IF YOU HAVE MORE THAN TWO ADDITIONAL ADDRESSES, YOU MAY **ATTACH** A LISTING OF ADDITIONAL ADDRESSES.

ADDRESS DESCRIPTION	ADDITIONAL ADDRESS (NUMBER, STREET, AND APARTMENT OR SUITE NUMBER)
<input type="checkbox"/> Billing address	CITY, STATE, AND ZIP CODE
<input type="checkbox"/> Facility address	
<input type="checkbox"/> Mailing address	

PHONE NUMBER (INCLUDE AREA CODE)

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COUNTY WHERE PRIMARY ADDRESS IS (FOR OUT-OF-STATE CONTRACTORS)

FAX NUMBER (INCLUDE AREA CODE)

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EMAIL ADDRESS

ADDRESS DESCRIPTION	ADDITIONAL ADDRESS (NUMBER, STREET, AND APARTMENT OR SUITE NUMBER)
<input type="checkbox"/> Billing address	CITY, STATE, AND ZIP CODE
<input type="checkbox"/> Facility address	
<input type="checkbox"/> Mailing address	

PHONE NUMBER (INCLUDE AREA CODE)

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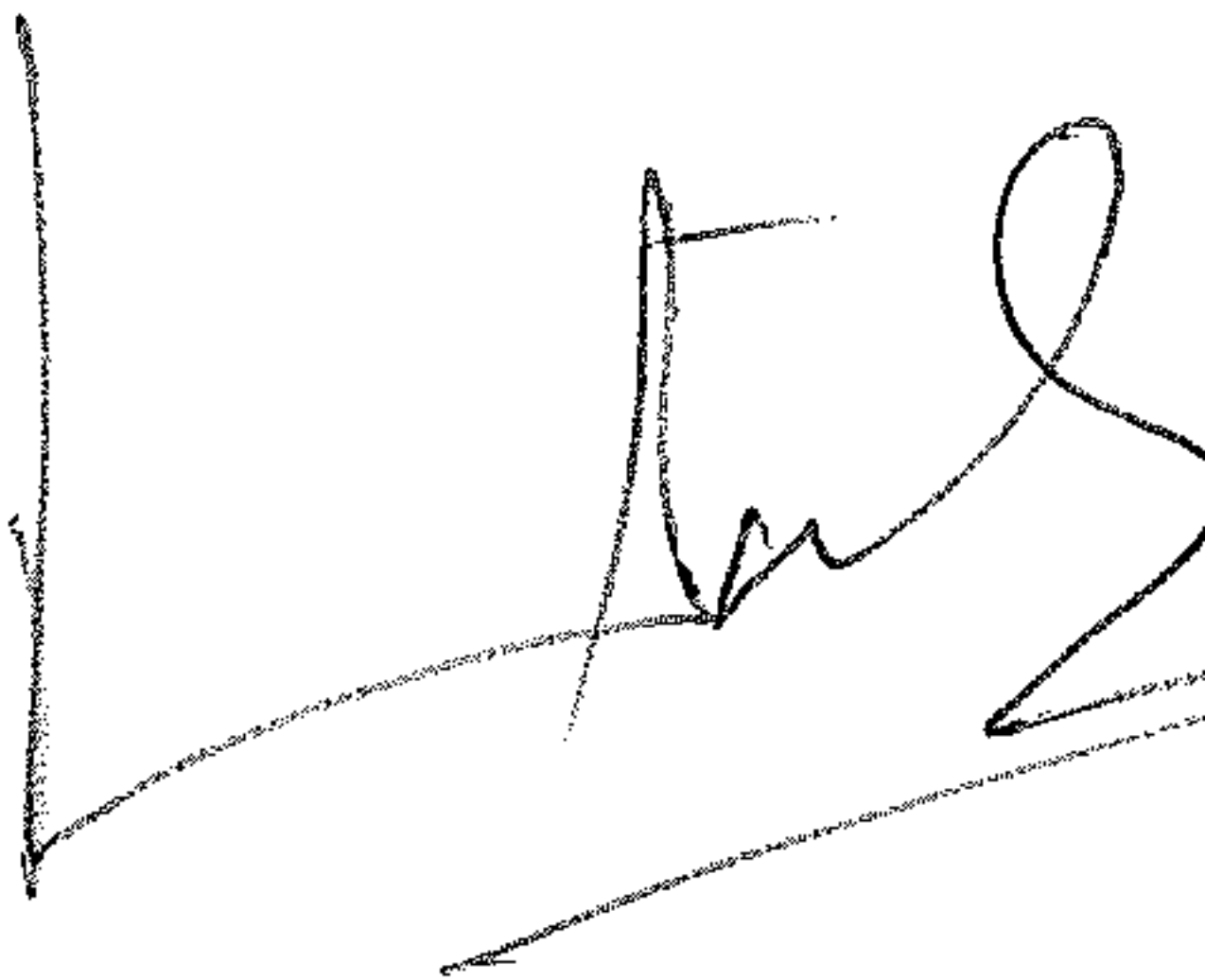
COUNTY WHERE PRIMARY ADDRESS IS (FOR OUT-OF-STATE CONTRACTORS)

FAX NUMBER (INCLUDE AREA CODE)

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EMAIL ADDRESS

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ATTACHED SUPPORTING DOCUMENTATION CHECKLIST

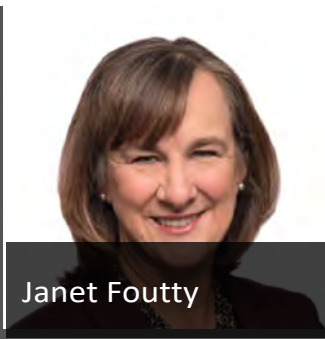
- Copy of your W-9 - Request or Taxpayer Identification Number and Certification
- Copy of statement showing non-profit 501(c) status (if applicable)
- List of partners, members, directors, officers, and board members (not applicable to sole proprietors)
- Copy of your Washington State Master Business License or proof of exemption
- List of any contracts you have had with the state that have been terminated for default, including a brief explanation (if applicable)
- List of Additional Addresses (if applicable)
- List of Additional Staff (if applicable)
- Copy of your Certificate of Insurance (if applicable)

[7A][7C]



Meet the Deloitte Board of Directors

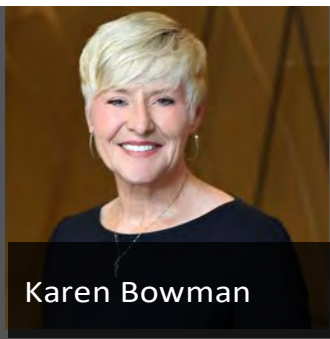
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Joe Ucuzoglu



Karen Bowman



Ambar Chowdhury



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Tarik Dudum



Amy Shaw Feirn



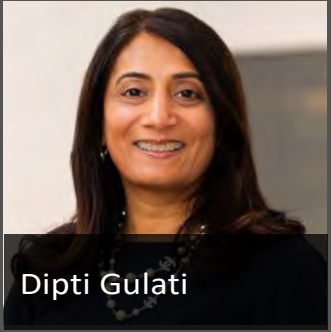
Wendy Fletcher



Carin Giulante



Kim Griffin-Hunter



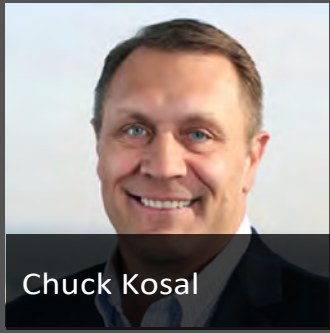
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Barnes	Jason Paul	Deloitte & Touche LLP
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Berg	Chase B	Deloitte & Touche LLP
Bergentoft	Niklas Dag	Deloitte & Touche LLP
Berger	Jonathan C	Deloitte & Touche LLP
Bergmann	Gregory A.	Deloitte Tax LLP
Bergner	Jeffrey J	Deloitte & Touche LLP
Bergstrom	Jason E	Deloitte Consulting LLP
Berk	Ari Solomon	Deloitte Tax LLP
Berman	Adam H	Deloitte & Touche LLP
Bernard	Julie Adsit	Deloitte & Touche LLP
Bernardo	Kevin J	Deloitte & Touche LLP
Bernecker	Thorsten Michael	Deloitte Consulting LLP
Berner	Daniel P	Deloitte & Touche LLP
Berninger	John R	Deloitte Tax LLP
Berrey	David Robert	Deloitte & Touche LLP
Berrigan	Michael Paul	Deloitte & Touche LLP
Berrill	Elizabeth Audrey	Deloitte & Touche LLP
Bertolozzi	Marco V	Deloitte Tax LLP
Best	Todd William	Deloitte Tax LLP
Betancourt	Armando Dimas	Deloitte Consulting LLP
Betts	David R	Deloitte Consulting LLP
Bhat	Sameer Taranath	Deloitte Consulting LLP
Bhat	Vikram S.	Deloitte & Touche LLP
Bhatia	Shalini Kumar	Deloitte Consulting LLP
Bhattacharjee	Deb	Deloitte Consulting LLP
Bianchine	Lori Zarlinski	Deloitte & Touche LLP
Bible	Charles Micah	Deloitte & Touche LLP
Bible	William L	Deloitte & Touche LLP
Bickler	Jared Patrick	Deloitte & Touche LLP
Bickler	Lindsay Christine	Deloitte & Touche LLP
Biddix	Troy R	Deloitte Tax LLP
Bielski	Lindsay Ann	Deloitte & Touche LLP
Bieniek	Christina Lazaro	Deloitte Consulting LLP
Bierman	Philip S	Deloitte Consulting LLP
Bigelow	Raymond H.	Deloitte & Touche LLP
Billa	Gopalakrishna Murty	Deloitte Consulting LLP
Bingham	Brandon T	Deloitte Tax LLP
Biondi	Jean-Emmanuel	Deloitte Consulting LLP
Birchard	Steve S.	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Bird	Sean M.	Deloitte & Touche LLP
Birk	Matthew J.	Deloitte Financial Advisory Services LLP
Bishop	Alla Y	Deloitte & Touche LLP
Bitter	Robert	Deloitte & Touche LLP
Bjorkman	Marc W.	Deloitte & Touche LLP
Black	Janet Watson	Deloitte & Touche LLP
Blackburn	Pamela L.	Deloitte & Touche LLP
Blair	Kirk A	Deloitte Financial Advisory Services LLP
Blair	Reese C.	Deloitte & Touche LLP
Blakaitis	Suzanne Christine	Deloitte & Touche LLP
Blank	Jeremy B.	Deloitte Tax LLP
Blankenship	Shannon Elizabeth	Deloitte Tax LLP
Block	Matthew Howard	Deloitte & Touche LLP
Blore	Steven Matthew	Deloitte Tax LLP
Bodner	James Michael	Deloitte & Touche LLP
Boehm	Timothy William	Deloitte Consulting LLP
Boelke	Mary B.	Deloitte Tax LLP
Boggs	Lynda Diane	Deloitte Consulting LLP
Bolger	Daniel Joseph	Deloitte & Touche LLP
Bolina	Ajay	Deloitte Consulting LLP
Boll	Trevor J	Deloitte & Touche LLP
Bolt	Andrew B	Deloitte Consulting LLP
Bomchill	Renee D.	Deloitte & Touche LLP
Bonanno	Jesse L	Deloitte Consulting LLP
Bonanno	Samantha Lynn Bentley	Deloitte Tax LLP
Bondar	Michael	Deloitte Transactions and Business Analytics LLP
Bondarenko	Dorothy G	Deloitte & Touche LLP
Bonelli	Linda L.	Deloitte Tax LLP
Bongiorni	Tara Lynn	Deloitte Tax LLP
Bonin	Scott Allen	Deloitte Transactions and Business Analytics LLP
Bonn	Lauren	Deloitte LLP
Bonner	William Robert	Deloitte Consulting LLP
Bonomi Jr.	John G	Deloitte LLP
Booker	Joel Brandon	Deloitte Tax LLP
Borawski	Michael	Deloitte Consulting LLP
Borden	Deedee Weirong	Deloitte Tax LLP
Borgen	Bjorn	Deloitte & Touche LLP
Borgia	Coleen Jane	Deloitte Consulting LLP
Borowy	Robert George	Deloitte Tax LLP
Borzone	Brian Anthony	Deloitte Consulting LLP
Boss	Cory A	Deloitte & Touche LLP
Boufarah	Brian K.	Deloitte & Touche LLP
Boulos	Ala'a M	Deloitte Tax LLP
Bower	Scott E.	Deloitte & Touche LLP
Bowers	Shawn Daniel	Deloitte Consulting LLP
Bowles	Katharine Willcox	Deloitte Tax LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Bowlin	Eric L	Deloitte & Touche LLP
Bowling	Karen May	Deloitte & Touche LLP
Bowman	Daniel Walsh	Deloitte Tax LLP
Bowman	Eric J	Deloitte & Touche LLP
Bowman	Karen P.	Deloitte & Touche LLP
Bowman	Karen R	Deloitte Consulting LLP
Bowman	Kelly Denise	Deloitte Transactions and Business Analytics LLP
Boyd	Chad Matthew	Deloitte Tax LLP
Boyd	Hugh J	Deloitte Tax LLP
Boyle	Matthew Scott	Deloitte Tax LLP
Bozeman	V Edward	Deloitte Tax LLP
Bradbury	Criss M	Deloitte & Touche LLP
Bradfield	Derek J.	Deloitte & Touche LLP
Bradfield	Jeffrey	Deloitte Consulting LLP
Brady	Alan James	Deloitte Consulting LLP
Brady	Alexandre L	Deloitte & Touche LLP
Brady	Donald	Deloitte Consulting LLP
Braeutigam Jr.	Kurt William	Deloitte & Touche LLP
Brainard	Gretchen	Deloitte Consulting LLP
Brandau	Patrick J.	Deloitte & Touche LLP
Brandt	Christopher Matthew	Deloitte Consulting LLP
Brannon	Kevin M	Deloitte Consulting LLP
Brault	Kevin Scott	Deloitte & Touche LLP
Bremer	Timothy M.	Deloitte & Touche LLP
Brennan	Charles Joseph	Deloitte & Touche LLP
Brennan	James P.	Deloitte & Touche LLP
Brennan	Sean Michael	Deloitte Tax LLP
Breuer	Thomas Manfred	Deloitte Consulting LLP
Briggs	Raymond Spencer	Deloitte Consulting LLP
Briggs	William D.	Deloitte Consulting LLP
Brinker	Michael S.	Deloitte Consulting LLP
Britel	Mia	Deloitte Consulting LLP
Britton	Jessica	Deloitte Consulting LLP
Brock	James H	Deloitte Tax LLP
Brockelman	Theresa	Deloitte & Touche LLP
Brodsky	Karen Canavan	Deloitte Tax LLP
Brodzik	Christina Rebecca	Deloitte Consulting LLP
Bronson	Sean	Deloitte & Touche LLP
Bronzene	Dana Marie	Deloitte Consulting LLP
Brooks	Scott C.	Deloitte & Touche LLP
Brotschul	Martin Phillip	Deloitte Consulting LLP
Brown	Aaron L	Deloitte Tax LLP
Brown	Aaron R	Deloitte & Touche LLP
Brown	Bruce A	Deloitte Consulting LLP
Brown	Jennifer Zampino	Deloitte Consulting LLP
Brown	Michael Del	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Brown	Ray Harold	Deloitte Tax LLP
Brown	Trent T.	Deloitte & Touche LLP
Brownridge	John L.	Deloitte Consulting LLP
Brulato	John C.	Deloitte & Touche LLP
Bruno	Jerald T	Deloitte Consulting LLP
Bruno	Vincent C.	Deloitte & Touche LLP
Bruun-Jensen	Jacob	Deloitte Consulting LLP
Bub	Scott R	Deloitte & Touche LLP
Buchanan	Charles Wade	Deloitte Consulting LLP
Buck	David A	Deloitte Consulting LLP
Buck Jr.	Thomas Luscombe	Deloitte & Touche LLP
Buckles	Lucille M	Deloitte & Touche LLP
Budhiraja	Varun	Deloitte Consulting LLP
Budislovich	Travis James	Deloitte Consulting LLP
Buelow	Darin Martin	Deloitte Consulting LLP
Buettgen	Peter Wolfgang	Deloitte Consulting LLP
Buhr	Jeffrey M	Deloitte & Touche LLP
Bunch	Maria Dominguez	Deloitte & Touche LLP
Burakoff	Oscar Bernardo	Deloitte Tax LLP
Burgoyne	Paul	Deloitte Transactions and Business Analytics LLP
Burke	Jeff Andrew	Deloitte Consulting LLP
Burley	Matthew C	Deloitte & Touche LLP
Burns	Jennifer Renea	Deloitte & Touche LLP
Burows	Kenneth Allan	Deloitte Consulting LLP
Burr	Keith	Deloitte Consulting LLP
Burrus	Brian	Deloitte Consulting LLP
Bush	James R	Deloitte Consulting LLP
Butera	Thomas A	Deloitte Tax LLP
Byrne	Daniel	Deloitte Tax LLP
Cabeca	Anthony J	Deloitte Tax LLP
Cadieux	Doreen H.	Deloitte Tax LLP
Caffarelli Jr.	Richard Michael	Deloitte & Touche LLP
Cahill	Matthew P	Deloitte Tax LLP
Cahn	Adam	Deloitte & Touche LLP
Calabro	Lawrence	Deloitte Consulting LLP
Calagna	Keri Ann	Deloitte & Touche LLP
Calder	William J	Deloitte & Touche LLP
Calderon	Rafael F	Deloitte Consulting LLP
Caldwell	James H	Deloitte & Touche LLP
Calegari	Fernando	Deloitte & Touche LLP
Call	Robert W	Deloitte Tax LLP
Calzaretta	James C	Deloitte Tax LLP
Campanelli	Anthony J.	Deloitte Financial Advisory Services LLP
Campbell	Benton Jay	Deloitte LLP
Campbell	Brian	Deloitte Consulting LLP
Campbell	Christopher Whitney	Deloitte Tax LLP

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Last Name	First Name	Legal Entity
Campbell	Jason Reynolds	Deloitte & Touche LLP
Campbell-Warner	Brenda Louise	Deloitte Financial Advisory Services LLP
Camperlingo	Jennifer Chu	Deloitte Tax LLP
Campos	Jose A.	Deloitte & Touche LLP
Canavan	Denise Anne	Deloitte & Touche LLP
Canning	Michael S.	Deloitte Consulting LLP
Cannistraci	Peter Joseph	Deloitte Consulting LLP
Cannon	Scott C.	Deloitte & Touche LLP
Caplan	Hillel	Deloitte & Touche LLP
Caplan	Michael E	Deloitte Consulting LLP
Caplan	Sarah Frances	Deloitte Tax LLP
Capps	Sara	Deloitte Consulting LLP
Capron	Eric W	Deloitte Consulting LLP
Caputo	Peter J.	Deloitte Transactions and Business Analytics LLP
Caramello Jr.	Stephen J.	Deloitte Tax LLP
Carey	Edward B	Deloitte Consulting LLP
Carey IV	William Augustus	Deloitte & Touche LLP
Carino	Joseph C	Deloitte Tax LLP
Carlin	Clinton S	Deloitte & Touche LLP
Carlino	Michael Edward	Deloitte Consulting LLP
Carmazzi	Christine M.	Deloitte & Touche LLP
Carney	David E	Deloitte Consulting LLP
Caronia	Mateo Eduardo	Deloitte Tax LLP
Carpenter	Ashley William	Deloitte & Touche LLP
Carpenter	Timothy P.	Deloitte Tax LLP
Carr	Vickie F	Deloitte Tax LLP
Carr Jr.	Richard Frank	Deloitte Consulting LLP
Carrier	Matthew R.	Deloitte Consulting LLP
Carrington	Charles D	Deloitte & Touche LLP
Carroll	Glenn Patrick	Deloitte Consulting LLP
Carroll	William M	Deloitte Consulting LLP
Caruso	Christopher P	Deloitte & Touche LLP
Carvell	Kelsey Jean	Deloitte Consulting LLP
Casaceli	Stephen Joseph	Deloitte Consulting LLP
Cascone	James Carlo	Deloitte & Touche LLP
Casey	James G.	Deloitte Tax LLP
Casner	Grant A	Deloitte & Touche LLP
Cassidy	Brian J	Deloitte & Touche LLP
Castillo	Ryan Eduardo	Deloitte Tax LLP
Catalano	Jo Ann	Deloitte Tax LLP
Catalano	Mark W.	Deloitte & Touche LLP
Cattozzo	Susan Kay	Deloitte Consulting LLP
Cauley Jr.	David Stephen	Deloitte Tax LLP
Cavins	John Stewart	Deloitte Consulting LLP
Cecchino	Thomas A	Deloitte Tax LLP
Cederoth	Karen E	Deloitte Tax LLP

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Last Name	First Name	Legal Entity
Ceglarek	Steven John	Deloitte Tax LLP
Celi	John	Deloitte Consulting LLP
Cerutti	Scott C.	Deloitte & Touche LLP
Chadenga	Tawanda	Deloitte & Touche LLP
Chadrow	William D.	Deloitte Consulting LLP
Chalich	David	Deloitte & Touche LLP
Chambers	Fiona M.	Deloitte Tax LLP
Chamtieh	Rachid M.	Deloitte & Touche LLP
Chan	Hannah So	Deloitte Consulting LLP
Chand	Sharon K	Deloitte & Touche LLP
Chandel	Ram Sharan S	Deloitte Consulting LLP
Chandler III	Clayton E.	Deloitte & Touche LLP
Chandra	Vinay Subhash	Deloitte Consulting LLP
Chang	Jenny C.	Deloitte & Touche LLP
Chang	Louise	Deloitte Consulting LLP
Chapman	Anna	Deloitte Tax LLP
Chapman	Stephen James	Deloitte Tax LLP
Chapman	Wesley A	Deloitte Tax LLP
Chari	Rajan D	Deloitte & Touche LLP
Charlton	David	Deloitte Tax LLP
Chasen	Rebecca Hanna	Deloitte Financial Advisory Services LLP
Chatterjee	Ayan	Deloitte Consulting LLP
Chau	Mongchour V	Deloitte & Touche LLP
Chaudhary	Amit	Deloitte Consulting LLP
Chawla	Gagan	Deloitte Consulting LLP
Cheadle	Carrie M	Deloitte & Touche LLP
Chen	Barry	Deloitte Consulting LLP
Chen	Estella Fang	Deloitte Consulting LLP
Chen	June	Deloitte Tax LLP
Cheney	Kyle Thomas	Deloitte & Touche LLP
Cheng	Grace Kwon May	Deloitte Consulting LLP
Chennakesavan	Srivathson	Deloitte Consulting LLP
Chergey	James S.	Deloitte & Touche LLP
Cherry	Keith Patrick	Deloitte Consulting LLP
Cherubin	Annamaria	Deloitte Consulting LLP
Cheung	Amy Y	Deloitte Consulting LLP
Chhatwal	Rahul	Deloitte Consulting LLP
Chhikara	Amit	Deloitte & Touche LLP
Chick	Jean V.	Deloitte Consulting LLP
Chickermane	Nikhil Niranjana	Deloitte Consulting LLP
Childs	Travis S	Deloitte & Touche LLP
Chill	Paul H.	Deloitte Transactions and Business Analytics LLP
Chitre	Subodh Subhash	Deloitte Consulting LLP
Chizmar	Christopher S.	Deloitte Tax LLP
Choe	Ted	Deloitte Consulting LLP
Choi	Li Ping	Deloitte Tax LLP

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Last Name	First Name	Legal Entity
Chowdhury	Ambar Kumar	Deloitte Consulting LLP
Christensen	Wendi R	Deloitte Tax LLP
Christian	Michelle McGuire	Deloitte Consulting LLP
Christoff	Jeffrey Alan	Deloitte Consulting LLP
Chronis	Amy Louise	Deloitte & Touche LLP
Chung	Kerwin	Deloitte Tax LLP
Chung	Pil H	Deloitte Consulting LLP
Ciacchella	John	Deloitte Consulting LLP
Ciaramella Jr.	John Anthony	Deloitte Consulting LLP
Cibenko	Tamara A	Deloitte Consulting LLP
Ciszewski	Jennifer Marie	Deloitte & Touche LLP
Clapprood	Eric Lucien	Deloitte Consulting LLP
Clarence	Brett L	Deloitte & Touche LLP
Clark	Benjamin E.	Deloitte & Touche LLP
Clark	Brian A	Deloitte & Touche LLP
Clark	Brian D.	Deloitte & Touche LLP
Clark	Courtney Leigh	Deloitte Tax LLP
Clark	Lisa M	Deloitte & Touche LLP
Clark	Matthew Paul	Deloitte Consulting LLP
Clark	Nathaniel Alexander	Deloitte Consulting LLP
Clarke	Adrian M	Deloitte Financial Advisory Services LLP
Clarke	Michael Alan	Deloitte Tax LLP
Clarke	Teia LaShay Harper	Deloitte Consulting LLP
Clay	Chad Justin	Deloitte Consulting LLP
Clayton	Nydia Marie	Deloitte Consulting LLP
Clegg	Jeffrey E	Deloitte Tax LLP
Clemmons	Paul N.	Deloitte Consulting LLP
Clifford	Eric R.	Deloitte & Touche LLP
Cloaninger	Charlie Edward	Deloitte Tax LLP
Cloniger	Melissa Ann	Deloitte & Touche LLP
Cloud	Julia A.	Deloitte Tax LLP
Coats	Shari Fallek	Deloitte LLP
Cochran	James W.	Deloitte & Touche LLP
Cody	Joseph Robert	Deloitte Consulting LLP
Coffer	Scott Ryan	Deloitte & Touche LLP
Coffey	Catherine	Deloitte Tax LLP
Coffman	Jason Peck	Deloitte Consulting LLP
Cohen	Baruch J	Deloitte Tax LLP
Cohen	David	Deloitte LLP
Cohen	Debra	Deloitte & Touche LLP
Cohen	Lorraine E	Deloitte Tax LLP
Cohen	Mark A.	Deloitte LLP
Cohen	Matthew Jordan	Deloitte & Touche LLP
Cole	Gary Michael	Deloitte Consulting LLP
Coleman	Brandon C	Deloitte & Touche LLP
Coleman	Mark Thomas	Deloitte Consulting LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Collins	Daniel Joseph	Deloitte Consulting LLP
Collins	Michelle T	Deloitte & Touche LLP
Comeau	Gregory L	Deloitte & Touche LLP
Comerford	Robert J	Deloitte & Touche LLP
Condro	Michael C	Deloitte & Touche LLP
Conlin	Sean Eugene	Deloitte Consulting LLP
Connolly	Kevin A.	Deloitte Consulting LLP
Connors	Michael F	Deloitte Consulting LLP
Conrad	J Michael	Deloitte & Touche LLP
Conrad	John Francis	Deloitte & Touche LLP
Conroy	Sean P	Deloitte & Touche LLP
Contreras	Michael T	Deloitte & Touche LLP
Contri	Robert A	Deloitte Consulting LLP
Conway	Patrick R	Deloitte & Touche LLP
Cook	James H	Deloitte Tax LLP
Cooper	Christopher C	Deloitte & Touche LLP
Cooper	Lindsey Kathryn	Deloitte & Touche LLP
Cooper	Teresa Ann	Deloitte Consulting LLP
Copeland	Timothy Egan	Deloitte & Touche LLP
Copley	John Christopher	Deloitte & Touche LLP
Corbett	Jeffrey L	Deloitte Tax LLP
Corbett	Kevin R	Deloitte Financial Advisory Services LLP
Corcoran	Kevin Michael	Deloitte Consulting LLP
Cordin	Michael	Deloitte Consulting LLP
Cordonnier	Nicole N.	Deloitte & Touche LLP
Cordova	David M	Deloitte Tax LLP
Coronado	Jason M.	Deloitte Tax LLP
Corte Jr.	Frederick L	Deloitte & Touche LLP
Cortez	Ashley Griffith	Deloitte Tax LLP
Coscart	Dustin Grey	Deloitte Tax LLP
Coto	David Alexander	Deloitte & Touche LLP
Coue	Jaseung	Deloitte Consulting LLP
Couture	David L.	Deloitte Consulting LLP
Cove	Kristen B	Deloitte Tax LLP
Covert	Melinda K	Deloitte & Touche LLP
Coveyduck	Edward Andrew	Deloitte Consulting LLP
Cowley	Jennifer Feore	Deloitte Consulting LLP
Cowley	Robert	Deloitte & Touche LLP
Cox	Christopher C.	Deloitte Consulting LLP
Coy	Gregory S.	Deloitte & Touche LLP
Coykendall	John P.	Deloitte Consulting LLP
Craanen	Diane M	Deloitte & Touche LLP
Craft	Aaron Stephen	Deloitte & Touche LLP
Craft	Jeffrey P	Deloitte & Touche LLP
Crawford	Todd	Deloitte Tax LLP
Crawford Jr.	Donald R	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Cresnik	Matej	Deloitte Tax LLP
Cristinzio	Carrie L.	Deloitte & Touche LLP
Croke	Michael J.	Deloitte & Touche LLP
Cronin	Carl David	Deloitte & Touche LLP
Cronin	Karen A	Deloitte & Touche LLP
Crooks	Nicholas William	Deloitte & Touche LLP
Cross	Michele L	Deloitte Financial Advisory Services LLP
Cross	Oniel A	Deloitte Consulting LLP
Crossan	Gillian	Deloitte & Touche LLP
Crowe	Steven Robert	Deloitte Tax LLP
Crowley	David J.	Deloitte & Touche LLP
Crowley	Eileen A.	Deloitte & Touche LLP
Croxen	Jeffrey Dennis	Deloitte Consulting LLP
Cruley	Kyle Robert	Deloitte Consulting LLP
Cruz	Natalie	Deloitte & Touche LLP
Cryderman	Christopher John	Deloitte & Touche LLP
Cullen	Peggy L	Deloitte & Touche LLP
Cullen	Thomas Jason	Deloitte Consulting LLP
Cummings	Molly L	Deloitte & Touche LLP
Cunning	Michael	Deloitte & Touche LLP
Cunningham	Cathleen Lyn	Deloitte & Touche LLP
Curda	LiseMarie	Deloitte & Touche LLP
Curran	Kenneth Gerard	Deloitte Tax LLP
Curry III	Frederick Eugene	Deloitte Transactions and Business Analytics LLP
Curry Jr.	Stephen G.	Deloitte & Touche LLP
Cutbill	David I	Deloitte & Touche LLP
Cuthill	Sarah E	Deloitte Consulting LLP
Cutten	Christine M	Deloitte Consulting LLP
Daab	John P	Deloitte Consulting LLP
Dabruzzo Jr.	Ronald	Deloitte Tax LLP
Daecher	Andrew H.	Deloitte Consulting LLP
Dagher	Walid I	Deloitte Tax LLP
Daher	Michael G	Deloitte Consulting LLP
Dahm	Kaoru K	Deloitte Tax LLP
Daley	Thomas C	Deloitte Consulting LLP
Daligan	Marisa D	Deloitte & Touche LLP
D'Aloia	Paul	Deloitte & Touche LLP
Daly	Felicia	Deloitte & Touche LLP
Daly	Sean P.	Deloitte & Touche LLP
D'Amato	Sally Young	Deloitte Consulting LLP
DanceKelly	Tanya D	Deloitte Consulting LLP
D'Andrea	Leigh L	Deloitte Tax LLP
Dange	Manav	Deloitte Consulting LLP
D'Angelo	Antonio	Deloitte Tax LLP
D'Angelo	Lisa Ann	Deloitte & Touche LLP
Daniels	Michael R	Deloitte Tax LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Daniels	Timothy Barrett	Deloitte & Touche LLP
Danielson	Lawrence Aaron	Deloitte Consulting LLP
Danitz	Michael Robert	Deloitte Consulting LLP
Danson III	Forrest M.	Deloitte Consulting LLP
Danylyszyn	Alejandro	Deloitte Consulting LLP
Darov	Holly Katherine	Deloitte Consulting LLP
Das	Abhijit	Deloitte Tax LLP
Dassen	Ronnie Henricus Maria	Deloitte Tax LLP
Datta	Jivan Borja	Deloitte Tax LLP
Datwani	Harry Hareshchandra	Deloitte Consulting LLP
Daugherty	Carl W	Deloitte & Touche LLP
Dave	Krishnakant Shivdutta	Deloitte Consulting LLP
Davenport	Stephen Michael	Deloitte Tax LLP
David	Matthew J.	Deloitte Consulting LLP
Davide	Salvatore J	Deloitte & Touche LLP
Davies	Adam M	Deloitte & Touche LLP
Davine	Christine Q.	Deloitte & Touche LLP
Davis	Andrew Michael	Deloitte Consulting LLP
Davis	Brett Jason	Deloitte Consulting LLP
Davis	Christopher W	Deloitte Tax LLP
Davis	Clifton Robert	Deloitte Tax LLP
Davis	Courtney Marlon	Deloitte & Touche LLP
Davis	James B.	Deloitte & Touche LLP
Davis	Jamie Nicole	Deloitte & Touche LLP
Davis	Jeffrey M.	Deloitte Consulting LLP
Davis	Kenneth S.	Deloitte Tax LLP
Davis	Kristina Brown	Deloitte & Touche LLP
Davis	Mark S	Deloitte & Touche LLP
Davis	Mark S	Deloitte Consulting LLP
Davis	Matt A	Deloitte & Touche LLP
Davis	Matthew F.	Deloitte Tax LLP
Davis	Michelle K	Deloitte Tax LLP
Davis	Morgan John Blanshard	Deloitte Consulting LLP
Davis	Timothy R.	Deloitte & Touche LLP
Dawe	Jeremy M	Deloitte Tax LLP
Dawson	David R.	Deloitte & Touche LLP
de Freitas	Hamish A.	Deloitte & Touche LLP
de Gortari	Jessica Slenger	Deloitte Tax LLP
De Jager	Bernard	Deloitte & Touche LLP
De Jong	Christina M	Deloitte & Touche LLP
De Kay	Timothy A.	Deloitte & Touche LLP
De la Torre	Hernan A	Deloitte Consulting LLP
DeAngelis	Anthony Lawrence	Deloitte Consulting LLP
Deano	Darwin Tagoylo	Deloitte Consulting LLP
Debasio	Todd M	Deloitte Consulting LLP
Dechamps	Matthew R	Deloitte & Touche LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Decroix	Keith	Deloitte & Touche LLP
DeFrancis Munn	Diane	Deloitte & Touche LLP
DeFreese	Jeanine Candace Dore	Deloitte LLP
DeGregory	Lauren	Deloitte Consulting LLP
Degulis	Michael Joseph	Deloitte Tax LLP
Delaney	Stephen M.	Deloitte & Touche LLP
DeLone	Michael James	Deloitte Consulting LLP
Delpizzo	Michele Leigh	Deloitte & Touche LLP
Demeke	Maria Tegest dorothy	Deloitte Consulting LLP
DenBraber Jr.	Martin D.	Deloitte & Touche LLP
Dennis	Vincent William	Deloitte Consulting LLP
Denny	Bradley James	Deloitte Consulting LLP
Depp	Lawrence R	Deloitte & Touche LLP
Desai	Amit Prakash	Deloitte Consulting LLP
Desai	Ratnang D.	Deloitte Consulting LLP
Desai	Tejas Vijay	Deloitte Consulting LLP
Desai	Urnav Ashok	Deloitte Consulting LLP
DeSantis	Joseph M	Deloitte & Touche LLP
Deshpande	Tejaswini Ramakant	Deloitte Tax LLP
DeSisto	James J	Deloitte Tax LLP
Dettmar	Susan Leah	Deloitte Consulting LLP
Deutsch	Jennifer Bacon	Deloitte Tax LLP
Deyulio	Randolph J	Deloitte & Touche LLP
Dhar	Asif Jeelani	Deloitte Consulting LLP
Dhir	Varun	Deloitte Consulting LLP
Di Censo	Giovanni F.	Deloitte Tax LLP
Diamond	Wendy H	Deloitte Tax LLP
Diasselliss IV	John L	Deloitte & Touche LLP
Dickerson	Valerie C	Deloitte Tax LLP
Dihu	Habeeb J.	Deloitte Consulting LLP
DiMambro	Anthony A	Deloitte & Touche LLP
DiMarzio	Martin Joseph	Deloitte Consulting LLP
Dimitroff	Colleen M.	Deloitte Tax LLP
Dimopoulos	Jason Dimitrios	Deloitte Tax LLP
Dinamani	Anant Lingadahalli	Deloitte Consulting LLP
Dineen	Sean G.	Deloitte Transactions and Business Analytics LLP
Dinh	Viet Trung	Deloitte Tax LLP
DiObilda	Kristin Mary	Deloitte Consulting LLP
Dissanayake	Mohana P	Deloitte & Touche LLP
Distefano	Patrick J	Deloitte & Touche LLP
Divakaran	Louis-Albert Ashoka	Deloitte Consulting LLP
Dixon	John Thomas	Deloitte Consulting LLP
Dokshukin	Valeriy G	Deloitte & Touche LLP
Dolan	Stephanie Renee	Deloitte Consulting LLP
Dollar	Benjamin R	Deloitte Consulting LLP
Donahoe	Gregory Bernard	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Donahue Jr.	Charles William	Deloitte & Touche LLP
Dong	Weichao	Deloitte Tax LLP
Donnan	Craig A.	Deloitte & Touche LLP
Donovan	Amy Katherine	Deloitte Consulting LLP
Dooling	Patrick David	Deloitte & Touche LLP
Doonan	Jacqueline	Deloitte Tax LLP
Dorenwendt	Heiko	Deloitte Consulting LLP
Dorfhuber	Christina M.	Deloitte Consulting LLP
Dortch	Matthew Farrell	Deloitte Consulting LLP
Doty	Brian	Deloitte Consulting LLP
Douce	Brian M	Deloitte & Touche LLP
Dougherty	Edward H	Deloitte Tax LLP
Downing	Jason W.	Deloitte Consulting LLP
Downs	Pamela E	Deloitte Tax LLP
Doyle	David Michael	Deloitte Consulting LLP
Doyle	John N	Deloitte & Touche LLP
Doyle	Julie Marie	Deloitte Tax LLP
Dozier	Kristine Leigh Price	Deloitte Tax LLP
Driscoll	Thomas J.	Deloitte Tax LLP
Drujak	Brian Matthew	Deloitte Tax LLP
D'Souza	Desiree Anne	Deloitte Consulting LLP
D'Souza	Mary Elizabeth	Deloitte Consulting LLP
Dudum	Tarik A.	Deloitte Tax LLP
Dueck	Kevin M	Deloitte & Touche LLP
Duflo	Timothy D	Deloitte & Touche LLP
Duncan	Shelley Pratt	Deloitte & Touche LLP
Dunlap	Gregory R.	Deloitte Tax LLP
Dunlop	Amelia Frances	Deloitte Consulting LLP
Dunne IV	William Gilbert	Deloitte & Touche LLP
Dutt	Debanjan	Deloitte Consulting LLP
Dutt	Deborshi	Deloitte Consulting LLP
Duttgupta	Rakesh	Deloitte Consulting LLP
Duzik	Pamela J	Deloitte & Touche LLP
Dworak	Joseph H	Deloitte Consulting LLP
Dye	Kathryn Ann	Deloitte Consulting LLP
Dyer	Allison R	Deloitte & Touche LLP
Dzepina	Eric W	Deloitte Consulting LLP
Dzickowski	Michael Joseph	Deloitte & Touche LLP
Earley	David Francis	Deloitte Tax LLP
Easom	Howard Anthony	Deloitte Consulting LLP
Easterday	John Matthew	Deloitte Tax LLP
Eaton	Kraig Nicholas	Deloitte Consulting LLP
Eaton	Martin S	Deloitte Tax LLP
Edattel	Ann Mary	Deloitte Tax LLP
Edell	Laura E	Deloitte Tax LLP
Edlbi Sr.	Mhd Radwan	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Edsall	Daniel Lawrence	Deloitte Consulting LLP
Edwall	Christina Noel	Deloitte Tax LLP
Edwards	Banks	Deloitte Tax LLP
Ehrsam	Karl J	Deloitte & Touche LLP
Eichelberger	Thomas A	Deloitte & Touche LLP
Eighme	Erik C	Deloitte Tax LLP
Eisenberg	Aaron P.	Deloitte Consulting LLP
Eisenreich	Joel	Deloitte Tax LLP
Ekstrom	Erik	Deloitte & Touche LLP
Elcik	Andrew	Deloitte & Touche LLP
Eliaz	Shay	Deloitte Consulting LLP
Ellis	Jeffrey E.	Deloitte & Touche LLP
Elrod	Brian Matthew	Deloitte Tax LLP
Emerson	Peter	Deloitte Consulting LLP
Emerson	Tamara Leigh	Deloitte Consulting LLP
Engelbrecht	William S	Deloitte Consulting LLP
Engerran	James	Deloitte LLP
England	John	Deloitte & Touche LLP
England	John S	Deloitte & Touche LLP
Engle Jr.	Carl Nichols	Deloitte Consulting LLP
Englert	Jonathan Peter	Deloitte Consulting LLP
Epps	Theodore David	Deloitte Consulting LLP
Epstein	Michael	Deloitte Transactions and Business Analytics LLP
Eric	Sasa	Deloitte Consulting LLP
Erickson	Scott Ryan	Deloitte & Touche LLP
Ertler	Jennifer Lynn	Deloitte Consulting LLP
Eshman	David Allen	Deloitte & Touche LLP
Esper	Susan M.	Deloitte & Touche LLP
Estilo	William P.	Deloitte & Touche LLP
Etherington	Kristina N.	Deloitte & Touche LLP
Evangelides	Michael C	Deloitte Consulting LLP
Evans	Deeann E	Deloitte Tax LLP
Ewing	Bethany Renee	Deloitte Consulting LLP
Ewing	Miles Ward	Deloitte Consulting LLP
Faas	Mark E.	Deloitte & Touche LLP
Fabio	Robert C	Deloitte & Touche LLP
Fackler IV	George H	Deloitte & Touche LLP
Fahey	James G	Deloitte & Touche LLP
Falkenhayn	Carrie-Ann M.	Deloitte Tax LLP
Faloon	Raymond F	Deloitte & Touche LLP
Falterman	Troy G.	Deloitte & Touche LLP
Fancher	J. Donald	Deloitte Financial Advisory Services LLP
Farber	David A	Deloitte Tax LLP
Farber	Trevor	Deloitte & Touche LLP
Farhat	Isa I	Deloitte & Touche LLP
Faris	Michael Joseph	Deloitte Tax LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Farley	Mark W	Deloitte & Touche LLP
Farlow	Kathleen W	Deloitte Tax LLP
Farrall	Frank Scott	Deloitte Consulting LLP
Farris	Michael J.	Deloitte Tax LLP
Faulkner	Mark A	Deloitte Tax LLP
Faver	Alan D	Deloitte & Touche LLP
Fedele	Sarah Mann	Deloitte & Touche LLP
Fegler	Jonathan Mark	Deloitte & Touche LLP
Fehl	Christopher Brian	Deloitte & Touche LLP
Fein	Bradley A	Deloitte Tax LLP
Feinberg	Andrew	Deloitte Consulting LLP
Feinblum	Danielle Mara	Deloitte Consulting LLP
Feirn	Amy Shaw	Deloitte Consulting LLP
Feit	Terry L	Deloitte & Touche LLP
Fekete	Thomas J	Deloitte & Touche LLP
Felker	Kimberly K	Deloitte & Touche LLP
Fellows	William Patrick	Deloitte & Touche LLP
Fennedy	Susan Denise	Deloitte & Touche LLP
Fennessey	Elizabeth Leah	Deloitte Consulting LLP
Fera	William Anthony	Deloitte Consulting LLP
Ferguson	Scott R.	Deloitte Tax LLP
Fernandes	Eileen P	Deloitte Consulting LLP
Fernandez	Michael O.	Deloitte Consulting LLP
Fernandez	Tom H	Deloitte Tax LLP
Fernandez Suarez	Santiago Abel	Deloitte & Touche LLP
Ferrara	Mary Kathleen	Deloitte & Touche LLP
Ferraro	Vincent L	Deloitte Tax LLP
Feucht	Katherine H	Deloitte & Touche LLP
Fezza	Thomas J	Deloitte Consulting LLP
Fici	Douglas M	Deloitte & Touche LLP
Fike	Andrew L	Deloitte & Touche LLP
Fineberg	Justin S	Deloitte Tax LLP
Fineberg	Steve I	Deloitte & Touche LLP
Finnegan	Brian Patrick	Deloitte & Touche LLP
Finnerty	David J	Deloitte & Touche LLP
Firestone	Patrick C	Deloitte Tax LLP
Fischer	Erich Michel	Deloitte Consulting LLP
Fisher	Frank V	Deloitte Tax LLP
Fisher	Jeffrey S	Deloitte & Touche LLP
Fisher	Simon Richard Vincent	Deloitte & Touche LLP
Fitts	Emily Lou	Deloitte & Touche LLP
Fitzgerald	Joseph Christopher	Deloitte Consulting LLP
Fitzgerald	Paul J	Deloitte Consulting LLP
Fitzgerald	Peter C	Deloitte Transactions and Business Analytics LLP
Fitzgerald	Robert L	Deloitte & Touche LLP
Fitzgerald	Ryan Paul	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
FitzPatrick	Timothy J	Deloitte Consulting LLP
Flanigan	Kevan K.	Deloitte Transactions and Business Analytics LLP
Flegel	Jason T.	Deloitte & Touche LLP
Fleshman	Robert L.	Deloitte & Touche LLP
Fletcher	Wendy K.	Deloitte & Touche LLP
Flicker	Scott R	Deloitte Tax LLP
Flinn	Jason D	Deloitte & Touche LLP
Flood	Francis J	Deloitte & Touche LLP
Flood	Sally Ann	Deloitte & Touche LLP
Florio	Nathan C	Deloitte Transactions and Business Analytics LLP
Florness	Patricia A	Deloitte Tax LLP
Flynn	Charlotte Anne	Deloitte Tax LLP
Flynn	Jason T.	Deloitte Consulting LLP
Flynn	Ryan P	Deloitte Consulting LLP
Foley	Thomas J	Deloitte Consulting LLP
Fonseca	Miguel A	Deloitte Tax LLP
Ford	Brad Lipsey	Deloitte Tax LLP
Ford	Jeffrey Louis	Deloitte Consulting LLP
Forestal	Marjorie	Deloitte & Touche LLP
Forkan III	John T	Deloitte Tax LLP
Forlini Jr.	Emidio James	Deloitte Tax LLP
Forman	Elizabeth A	Deloitte & Touche LLP
Forrest	Jonathan I	Deloitte Tax LLP
Forsyth	Katherine A	Deloitte Tax LLP
Forsythe IV	William E	Deloitte Consulting LLP
Foster	Bridget Ann	Deloitte Tax LLP
Foster	Bryan	Deloitte Transactions and Business Analytics LLP
Foster	Gregory L.	Deloitte & Touche LLP
Foster	Joseph E	Deloitte & Touche LLP
Foutty	Janet E.	Deloitte USA LLP
Fowler	Jonathan Lee	Deloitte & Touche LLP
Fox	Eric	Deloitte Tax LLP
Fox	Jaime Ann	Deloitte & Touche LLP
Fox	Michael E.	Deloitte & Touche LLP
Francis	Kerry L.	Deloitte Financial Advisory Services LLP
Francois	Kent J	Deloitte & Touche LLP
Francone	Vito A.	Deloitte Tax LLP
Frank	Brian S	Deloitte Consulting LLP
Frank	Daniel Patrick	Deloitte & Touche LLP
Frank	Wendy Lynne	Deloitte & Touche LLP
Frasca	Michael R	Deloitte Tax LLP
Fraser	R Virginia	Deloitte Consulting LLP
Frazier	Kimberly Anne	Deloitte Consulting LLP
Frazzini	Robert C.	Deloitte Consulting LLP
Freer	Kc	Deloitte & Touche LLP
Freitas	David M.	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Frey	Rachel L.	Deloitte Consulting LLP
Fried	Kevin W.	Deloitte & Touche LLP
Friedline	David	Deloitte Tax LLP
Friedman	David Andrew	Deloitte Consulting LLP
Friedman	Scott Eric	Deloitte Consulting LLP
Friedman	Todd S	Deloitte & Touche LLP
Friedrich	Glenn A.	Deloitte & Touche LLP
Friedrichs	Lynn A	Deloitte & Touche LLP
Frishman	Scott P.	Deloitte Tax LLP
Fritz	Jack Williams	Deloitte Consulting LLP
Fritz	Joseph Oliver	Deloitte Consulting LLP
Fritz	Peter	Deloitte Consulting LLP
Fronza	Meridith Trelease	Deloitte Tax LLP
Fumai	Frank Michael	Deloitte & Touche LLP
Funkhouser	Bryan R	Deloitte Consulting LLP
Furman	David A	Deloitte Consulting LLP
Gabbai	David E	Deloitte LLP
Gabbianelli	Dominic Francis	Deloitte Tax LLP
Gabriel	Robert B	Deloitte Tax LLP
Gaffaney	Kelly C	Deloitte Tax LLP
Gaglio	Joseph J.	Deloitte & Touche LLP
Gainer	Jacqueline M.	Deloitte & Touche LLP
Gala	Sejal S	Deloitte Consulting LLP
Galito	Luis F.	Deloitte Consulting LLP
Galizia	Thomas M.	Deloitte Consulting LLP
Gallagher	Michelle Anne	Deloitte Tax LLP
Gallagher	Nicole J	Deloitte Consulting LLP
Gallagher	Patrick Ryan	Deloitte Consulting LLP
Gallagher	Paul M.	Deloitte & Touche LLP
Gallucci	Stephen E	Deloitte & Touche LLP
Galotto Jr.	John Anthony	Deloitte LLP
Gandhi	Malika Bipin	Deloitte Consulting LLP
Gandhi	Sonali S	Deloitte Tax LLP
Gannon	Donald J	Deloitte & Touche LLP
Gantcheva	Dimitrina Zarkova	Deloitte Consulting LLP
Gantzer	Daniel Jeffrey	Deloitte Consulting LLP
Garbacz	Laura Ruth	Deloitte Consulting LLP
Garcia Castelao	Andrea	Deloitte Tax LLP
Gareau	Matthew E	Deloitte Tax LLP
Garg	Vinay Lalit	Deloitte & Touche LLP
Garibaldi	Christopher C	Deloitte Consulting LLP
Garner	Kristen	Deloitte & Touche LLP
Garrett	George N.	Deloitte & Touche LLP
Garrett	Robert B	Deloitte & Touche LLP
Garrison	Whitney Horner	Deloitte Consulting LLP
Gattuso	Maria	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Gauchat	Michelle Louise	Deloitte Consulting LLP
Gauer	Rodney L.	Deloitte & Touche LLP
Gaus	Timothy Emmanuel	Deloitte Consulting LLP
Gauthier	Kevin M	Deloitte & Touche LLP
Gay	Tyler Burns	Deloitte & Touche LLP
Gebreyes	Kulleni	Deloitte Consulting LLP
Gecas-Mccarthy	Irena R	Deloitte & Touche LLP
Gee	Alison Kimberly	Deloitte & Touche LLP
Geffner	Glenn N.	Deloitte Tax LLP
Gehrig	William S	Deloitte & Touche LLP
Gehrke	Jenny Chan	Deloitte Tax LLP
Geller	Jason H.	Deloitte Consulting LLP
Gelling	Eugene E	Deloitte & Touche LLP
Gemus	Jonathan Michael	Deloitte Tax LLP
Gentile	Matthew	Deloitte Transactions and Business Analytics LLP
Georgiou	Christopher A.	Deloitte Financial Advisory Services LLP
Geratz	Hans Haiko	Deloitte Tax LLP
Gerstel	Kenneth A	Deloitte Tax LLP
Gest	Darren Michael	Deloitte Consulting LLP
Gharapetian	Alin	Deloitte & Touche LLP
Ghattas	Adam Walid	Deloitte Consulting LLP
Ghosh	Shanto	Deloitte Tax LLP
Giannuzzi	John L.	Deloitte & Touche LLP
Gibian	Craig	Deloitte Tax LLP
Gill	Jagjeet Singh	Deloitte Consulting LLP
Gill	Jasmeet S	Deloitte Consulting LLP
Gill	Kelly Ann	Deloitte Tax LLP
Gillam	Timothy J	Deloitte & Touche LLP
Gillespie	Derek N	Deloitte & Touche LLP
Gillespie	Matthew Peter	Deloitte Tax LLP
Gilmer	John	Deloitte & Touche LLP
Gilmore	Patrick Matthew	Deloitte & Touche LLP
Gilson	Michael J	Deloitte Tax LLP
Gioffre	Anthony Francis	Deloitte & Touche LLP
Giorgio	Peter Aloysius	Deloitte Consulting LLP
Giovanelli	Casey Marie	Deloitte Tax LLP
Giro	Antonio M	Deloitte & Touche LLP
Girzadas	Jason M.	Deloitte Consulting LLP
Gisby	Simon J	Deloitte Transactions and Business Analytics LLP
Gish	Douglas D.	Deloitte Consulting LLP
Giuca	Philip Victor	Deloitte Tax LLP
Giuliant	Carin A	Deloitte Tax LLP
Glass	Donna M.	Deloitte & Touche LLP
Glass	John Paul	Deloitte Consulting LLP
Glazier	Faith Rachel	Deloitte Consulting LLP
Glover	James Paul	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Glover	Victoria Anne	Deloitte Tax LLP
Gocke III	John Thomas	Deloitte & Touche LLP
Godfrey	Richard J.	Deloitte & Touche LLP
Gogerty	Sean A	Deloitte Tax LLP
Gold	Andrew D.	Deloitte Tax LLP
Goldbach	Steven Edward	Deloitte Consulting LLP
Goldberg	Robert Haakon	Deloitte & Touche LLP
Goldberg	Ronald Scott	Deloitte Consulting LLP
Goldblatt	Joel	Deloitte & Touche LLP
Goldblatt	Jonathan M	Deloitte Tax LLP
Goldblum	Corey B	Deloitte Transactions and Business Analytics LLP
Golden	Deborah L	Deloitte & Touche LLP
Goldsmith	Susan	Deloitte Consulting LLP
Goldstein	Beth Alyse	Deloitte & Touche LLP
Gonzalez	E Jon	Deloitte & Touche LLP
Good	Donald Keith	Deloitte Consulting LLP
Goodarzi	Abdi	Deloitte Consulting LLP
Goodwin	Jeffrey T	Deloitte & Touche LLP
Goodwin	William Christopher	Deloitte & Touche LLP
Gopalan	Gayathri	Deloitte Consulting LLP
Goray	Nikhil	Deloitte Consulting LLP
Gorayeb	James G	Deloitte & Touche LLP
Gordon	John B	Deloitte & Touche LLP
Gordon	Ryan Eugene	Deloitte Consulting LLP
Gordon	Tanneasha Patricia	Deloitte & Touche LLP
Gorman	Allyson Michelle	Deloitte Consulting LLP
Gorman	Louella Marie	Deloitte & Touche LLP
Gorretta	David A.	Deloitte & Touche LLP
Goss	Clifford D	Deloitte & Touche LLP
Goto	Akira	Deloitte & Touche LLP
Goul	Jay C.	Deloitte & Touche LLP
Govindarajan	Sendhil Anand	Deloitte Consulting LLP
Goyanes	John Michael	Deloitte Consulting LLP
Graetz	John W	Deloitte & Touche LLP
Graf	William P.	Deloitte & Touche LLP
Graham	Mark Andrew	Deloitte Tax LLP
Graham	Robert F.	Deloitte Consulting LLP
Graham Jr.	Thomas A	Deloitte & Touche LLP
Gramss	Robert D.	Deloitte & Touche LLP
Grande	Mary Catherine	Deloitte Tax LLP
Grant	Christian	Deloitte Consulting LLP
Grant	Sheryl L	Deloitte & Touche LLP
Grasso	Robert G.	Deloitte & Touche LLP
Gray	Donna Marie	Deloitte Consulting LLP
Grayson	Dan Richard	Deloitte Consulting LLP
Greathouse	Marc Philip	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Green	David C	Deloitte Tax LLP
Green	Jonathan Kinsey	Deloitte & Touche LLP
Green	Jonathan L	Deloitte Consulting LLP
Green	Joseph Alexander	Deloitte Tax LLP
Green	Michael D	Deloitte Consulting LLP
Greenberg	Brian Stephen	Deloitte Consulting LLP
Gregory	Evan Gage	Deloitte & Touche LLP
Gregory	Kevin Eliot	Deloitte Consulting LLP
Gregory Jr.	Wallace Dupre	Deloitte LLP
Gretczko	Michael Keith	Deloitte Consulting LLP
Grevelding	Craig A	Deloitte & Touche LLP
Grewal	Nick	Deloitte Consulting LLP
Gribens	Bruce K	Deloitte Tax LLP
Griffin	Casey P.	Deloitte & Touche LLP
Griffin	Christopher M	Deloitte & Touche LLP
Griffin	Kim Y	Deloitte & Touche LLP
Griffiths	Jeffrey Edward	Deloitte Transactions and Business Analytics LLP
Griffiths	Michael	Deloitte Consulting LLP
Grim	Jeffrey S	Deloitte Tax LLP
Gross	Timothy Clarke	Deloitte Consulting LLP
Grosso	Robert F	Deloitte & Touche LLP
Grundman	Erich B	Deloitte & Touche LLP
Gruyaert	Evert	Deloitte Consulting LLP
Guanzini	Amanda Li	Deloitte & Touche LLP
Guarnieri	Robert	Deloitte Tax LLP
Guastella	Joseph	Deloitte Consulting LLP
Guber	Brett M	Deloitte & Touche LLP
Guberman	Andrew Scott	Deloitte Tax LLP
Gulati	Dipti Sheth	Deloitte & Touche LLP
Guleria	Jairaj Singh	Deloitte Tax LLP
Gullo	Randall J.	Deloitte & Touche LLP
Gulotta	Kirsten Anne	Deloitte Tax LLP
Gummer	Mary K.	Deloitte & Touche LLP
Gunasekarampulle	Denesh R	Deloitte LLP
Gunderson	Cameron Brock	Deloitte Tax LLP
Gupta	Kamal	Deloitte Consulting LLP
Gupta	Ravi	Deloitte Tax LLP
Gupta	Sandeep	Deloitte & Touche LLP
Gupta	Vineet Kumar	Deloitte Consulting LLP
Gurumurthy	Raguvir	Deloitte Consulting LLP
Gustafson	Kristopher	Deloitte Tax LLP
Gustafson	Timothy D	Deloitte Consulting LLP
Gutierrez	David Jude	Deloitte Tax LLP
Guyler	Hugh Walter James	Deloitte & Touche LLP
Guzairova	Yulia Zufarovna	Deloitte & Touche LLP
Haas	Renetta K	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Haber	Jeralyn J	Deloitte & Touche LLP
Hackett	Kristen Kerr	Deloitte & Touche LLP
Haddad	Nidal G	Deloitte & Touche LLP
Hagan	Alison	Deloitte Consulting LLP
Hahn	Christopher	Deloitte Consulting LLP
Hahn	Erich	Deloitte Tax LLP
Haims	Joshua I	Deloitte Consulting LLP
Haines	David L.	Deloitte & Touche LLP
Haines	Kathryn A.	Deloitte & Touche LLP
Hajj	Ramsey	Deloitte & Touche LLP
Hakim	Luis Felipe	Deloitte Consulting LLP
Halfacre	Dean A	Deloitte Tax LLP
Hall	Charles Allan	Deloitte & Touche LLP
Hall	Dana Elaine	Deloitte Tax LLP
Hall	Nicola Marie	Deloitte Consulting LLP
Hall	Tara Veronica	Deloitte Consulting LLP
Halley	Devon Patrick	Deloitte Consulting LLP
Hallman	Robert Andrew	Deloitte Consulting LLP
Hamilton	Amanda Lee	Deloitte & Touche LLP
Hamilton	Derek Jon	Deloitte Consulting LLP
Hamilton	Jesse Jack	Deloitte Consulting LLP
Hammond	Courtney	Deloitte Consulting LLP
Handler	Benjamin	Deloitte Tax LLP
Handrinou	Nikolaos Nikitas	Deloitte Consulting LLP
Hanna	Joshua Adam	Deloitte Transactions and Business Analytics LLP
Hanna	Marc Alyn	Deloitte Consulting LLP
Hannah Jr.	Gordon Leonard	Deloitte & Touche LLP
Hannibal	Edward Patrick	Deloitte Tax LLP
Hans	Samir	Deloitte & Touche LLP
Hansen	Brian P	Deloitte & Touche LLP
Hansen	David Brian	Deloitte Tax LLP
Hansen	Douglas C	Deloitte Tax LLP
Hanulak	Mark Alexander	Deloitte & Touche LLP
Hardesty	Terry M	Deloitte & Touche LLP
Hardy	Edmond J.	Deloitte & Touche LLP
Harfouche	Prince Nasr	Deloitte Consulting LLP
Harman	James Ronald	Deloitte Consulting LLP
Harris	Bradley G	Deloitte & Touche LLP
Harris	Christopher Matthew	Deloitte & Touche LLP
Harris	Ethan David	Deloitte Tax LLP
Harris	Jennifer A	Deloitte & Touche LLP
Harris	Kara D.H	Deloitte Consulting LLP
Harris	Marq Jeremi	Deloitte Tax LLP
Harrison	Amy	Deloitte LLP
Harrison	David B	Deloitte & Touche LLP
Harrison	Edward G	Deloitte Tax LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Harrison	Stephen C.	Deloitte Tax LLP
Harrs	Andrew E	Deloitte Financial Advisory Services LLP
Hart	Douglas W.	Deloitte & Touche LLP
Hartley	Meghann Beth	Deloitte & Touche LLP
Harvey	Karen Elizabeth	Deloitte Consulting LLP
Hasegawa	Masaichi	Deloitte Consulting LLP
Haseley	Alexander David	Deloitte & Touche LLP
Haskell	Jennifer E.	Deloitte & Touche LLP
Hasler	Gregory	Deloitte Tax LLP
Haslip	David W.	Deloitte & Touche LLP
Hassin	David S	Deloitte Tax LLP
Hatch	Alicia	Deloitte Consulting LLP
Hatcher	Jesse L.	Deloitte Consulting LLP
Hatfield	Steven W	Deloitte Consulting LLP
Hathaway	Lee H	Deloitte & Touche LLP
Hatzis	Peter	Deloitte Tax LLP
Hawkins	Danielle Anne	Deloitte Consulting LLP
Hawkins	Robert A	Deloitte Tax LLP
Hayama	Motoyuki	Deloitte & Touche LLP
Hayes	Richard J	Deloitte Consulting LLP
Haynes	Daniel S.	Deloitte Consulting LLP
Hayri	Aydin	Deloitte Tax LLP
Heath	Tracy A	Deloitte Consulting LLP
Hecimovich	Gary L.	Deloitte Tax LLP
Heeman	Matthew Gary	Deloitte Tax LLP
Hegde	Jayee Anand	Deloitte & Touche LLP
Heinzer	Louis Joseph	Deloitte Consulting LLP
Heisler	Donald A	Deloitte & Touche LLP
Helfrich	Daniel D	Deloitte Consulting LLP
Helock	Katie Jo	Deloitte & Touche LLP
Henchock	Steven J	Deloitte Tax LLP
Henderson	Misty Bonita	Deloitte Tax LLP
Henderson	Patricia Anne	Deloitte Consulting LLP
Heng	Winson K	Deloitte Consulting LLP
Henry	Nishita Doshi	Deloitte Consulting LLP
Henry	Patrick J	Deloitte & Touche LLP
Henry-Freeman	Keturah Anne	Deloitte & Touche LLP
Herbert	Garrett M	Deloitte & Touche LLP
Herchuk	Jannie P	Deloitte & Touche LLP
Herman IV	William A	Deloitte & Touche LLP
Hermes	Joel W	Deloitte Tax LLP
Hernandez	Lisa	Deloitte & Touche LLP
Herod	Kelly Elizabeth	Deloitte Consulting LLP
Heron	Peter	Deloitte Consulting LLP
Herrmann	Christopher	Deloitte & Touche LLP
Herrygers	Sandra L	Deloitte & Touche LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Hersch	Dale Robert	Deloitte Consulting LLP
Hersch	Karl W	Deloitte Consulting LLP
Hertzig	Timothy M	Deloitte Consulting LLP
Heys Jr.	Edward S.	Deloitte & Touche LLP
Hickey	Andrew T.	Deloitte & Touche LLP
Hickey	David W	Deloitte & Touche LLP
Hicks	Thomas B	Deloitte & Touche LLP
Hielscher	Kai	Deloitte Tax LLP
Higdon	Shad A.	Deloitte & Touche LLP
Higgins	Duane K	Deloitte & Touche LLP
Hildebrand	Rebecca S	Deloitte Consulting LLP
Hildt	Curtis A.	Deloitte Tax LLP
Hill	Jody R	Deloitte Consulting LLP
Hill	Kenneth B	Deloitte Tax LLP
Hill Jr.	Roger Douglas	Deloitte & Touche LLP
Hillman	BreeAnn Elizabeth	Deloitte & Touche LLP
Hills	H Robert	Deloitte Consulting LLP
Hilsher	Phillip J	Deloitte & Touche LLP
Hilton	H Schaffer	Deloitte Consulting LLP
Himmelman	Matthew D	Deloitte & Touche LLP
Hirsch	Stuart Charles	Deloitte LLP
Hirsh	Jason Alan	Deloitte & Touche LLP
Hitchcock	Consuelo Justine	Deloitte & Touche LLP
Hitchcock	Larry R.	Deloitte Consulting LLP
Hix Jr.	Samuel	Deloitte Tax LLP
Ho	Andy Austin	Deloitte Consulting LLP
Ho	Sze Man Julie	Deloitte & Touche LLP
Hoag	Donald A	Deloitte Consulting LLP
Hobbs	Joseph Dean	Deloitte Consulting LLP
Hoberman	Jerrold B	Deloitte Consulting LLP
Hobson	Richard A	Deloitte & Touche LLP
Hoda	Omar	Deloitte Consulting LLP
Hodgins	Stacy Bea	Deloitte Consulting LLP
Hodson	Thomas E.	Deloitte Consulting LLP
Hoeser	Vince Patrick	Deloitte Consulting LLP
Hoffman	David N	Deloitte Tax LLP
Hoffman	Matthew R.	Deloitte & Touche LLP
Hogan	Susan C	Deloitte Consulting LLP
Hogue Jr.	James A	Deloitte Tax LLP
Holbeck	Natasha H	Deloitte & Touche LLP
Holcomb	Amy M	Deloitte & Touche LLP
Holcomb	Scott Winslow	Deloitte Consulting LLP
Hollack	Claudine L	Deloitte & Touche LLP
Holland	Christopher Richard	Deloitte Consulting LLP
Hollingsworth	Robert L	Deloitte & Touche LLP
Holloway	Jessica Renee	Deloitte Consulting LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Holmes	James C.	Deloitte & Touche LLP
Holocher	Robert B	Deloitte Tax LLP
Holt	Nichola	Deloitte Tax LLP
Holthaus	Daniel P.	Deloitte Tax LLP
Holtz	Richard Eugene	Deloitte & Touche LLP
Holwig	Brian E	Deloitte Consulting LLP
Holzer	Marcus P	Deloitte & Touche LLP
Homer	Scott E.	Deloitte & Touche LLP
Hood	Jeffrey Frank	Deloitte Consulting LLP
Hoogmoed Jr.	Walter L	Deloitte & Touche LLP
Hoover	Michael Thomas	Deloitte Tax LLP
Horak	Paul L	Deloitte & Touche LLP
Horany II	Ernest E.	Deloitte Consulting LLP
Horbal	Lauren Ann	Deloitte & Touche LLP
Hormozian	Edwin	Deloitte & Touche LLP
Horn	Mark C.	Deloitte Consulting LLP
Horst	Geoffrey T	Deloitte Tax LLP
Hotaling	Erin Regan	Deloitte Tax LLP
Hott	Christopher David	Deloitte Consulting LLP
Houdaigui	Mehdi	Deloitte & Touche LLP
Hough	Lindsay Musser	Deloitte Consulting LLP
Houghton	Brendan J	Deloitte & Touche LLP
Hourin	Matthew William	Deloitte & Touche LLP
Houser	Christopher S.	Deloitte Tax LLP
Houser	Nathan T.	Deloitte Consulting LLP
Houston III	John D.	Deloitte Consulting LLP
Howard	Jonathan W.	Deloitte & Touche LLP
Howard	Patrick J.	Deloitte Consulting LLP
Howard	Robert A.	Deloitte & Touche LLP
Howell	Dennis J	Deloitte & Touche LLP
Howenstein	Steven Marc	Deloitte Tax LLP
Huang	Wendy Yuan-Yi	Deloitte Consulting LLP
Huber	Amy Jo	Deloitte & Touche LLP
Huber Broege	Jessica Samantha	Deloitte Tax LLP
Huber III	Merrill B.	Deloitte & Touche LLP
Hubner	John P	Deloitte & Touche LLP
Hudgens	Daniel P.	Deloitte & Touche LLP
Hueber	Philip W	Deloitte & Touche LLP
Huelsman	Trina Juliana	Deloitte & Touche LLP
Huesing	Michael A.	Deloitte Tax LLP
Hugill	John R.	Deloitte Consulting LLP
Hullstrung	Lynda J	Deloitte & Touche LLP
Humbert	Suzanne M	Deloitte & Touche LLP
Humphreys	Matthew Winn	Deloitte Consulting LLP
Hungerford	Dennis Chad	Deloitte Tax LLP
Huntley	Ernest John	Deloitte Transactions and Business Analytics LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Hurley	Timothy R.	Deloitte Transactions and Business Analytics LLP
Hurwitz	Scott E.	Deloitte & Touche LLP
Hussa Jr.	William	Deloitte Tax LLP
Hussain	Faraz	Deloitte Tax LLP
Huston	Michael D	Deloitte Tax LLP
Hutchison	Roy V.	Deloitte Tax LLP
Hutnick	Christopher A	Deloitte & Touche LLP
Hutton	Matthew F	Deloitte & Touche LLP
Huynh	Phong	Deloitte Consulting LLP
Hyman	Johannes Gysbert	Deloitte Consulting LLP
Hyman	Richard S.	Deloitte Tax LLP
Hyman	Todd A	Deloitte Tax LLP
Ice	Michael Thomas	Deloitte Consulting LLP
Idnani	Nitish S	Deloitte & Touche LLP
Ignacio	Raymond Thomas	Deloitte Consulting LLP
Iida	Nicole Kimiko	Deloitte & Touche LLP
Ikeda	Toshiro	Deloitte Tax LLP
Imp	Steven G.	Deloitte Tax LLP
Ingenito	Michael R	Deloitte & Touche LLP
Iosifov	Nikolay	Deloitte & Touche LLP
Irwin	Francis J	Deloitte Consulting LLP
Ishida	Tetsuya	Deloitte Tax LLP
Issa	Haissam S	Deloitte Consulting LLP
Itah	Yariv	Deloitte Consulting LLP
Ivanick	Shilpa Pai	Deloitte & Touche LLP
Ivers	Lauren Ratcliff	Deloitte Tax LLP
Ivy	Parrish E	Deloitte Tax LLP
Iyengar	Vishal	Deloitte Consulting LLP
Izzi	Carmine Gaspare	Deloitte Consulting LLP
Jackson	Alexander Mark	Deloitte & Touche LLP
Jackson	Anthony J.	Deloitte Transactions and Business Analytics LLP
Jackson	Wendy Sue	Deloitte Tax LLP
Jackson II	Thomas E	Deloitte Consulting LLP
Jacobs	Jason Marcus	Deloitte Tax LLP
Jacobson	Sheryl	Deloitte Consulting LLP
Jacoby	Robert Breckenridge	Deloitte Consulting LLP
Jaeger	James M	Deloitte Tax LLP
Jagiello	Alan P	Deloitte & Touche LLP
Jagst	Melissa M.	Deloitte & Touche LLP
Jain	Chetan	Deloitte Consulting LLP
Jaleel-Khan	Rumy M	Deloitte & Touche LLP
Janes	Craig L.	Deloitte Tax LLP
Janiak	Stacy R.	Deloitte & Touche LLP
Janisch	Alicia Marie	Deloitte Tax LLP
Janota	Toni L	Deloitte & Touche LLP
Jardim	Anthony J	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Jarecke	Bonnie S	Deloitte & Touche LLP
Jariwala	Chirag Manharlal	Deloitte Consulting LLP
Jasek	Roger P.	Deloitte & Touche LLP
Jeakle	Kevin T	Deloitte Tax LLP
Jehu	Leonard	Deloitte Consulting LLP
Jekov	Dale-Anne	Deloitte & Touche LLP
Jenkins	Jeffrey Todd	Deloitte & Touche LLP
Jennings	Stephen Michael	Deloitte Consulting LLP
Jennings III	John J	Deloitte Tax LLP
Jensen	Steven M.	Deloitte & Touche LLP
Jermain	Dana C.	Deloitte & Touche LLP
Jeschke	Michael Alan	Deloitte Consulting LLP
Jiang	Nan	Deloitte Tax LLP
Jobe	Brian W.	Deloitte & Touche LLP
John	Alan Scott	Deloitte Consulting LLP
Johnson	Amit Samuel	Deloitte Consulting LLP
Johnson	Antonio Deon	Deloitte Consulting LLP
Johnson	Brett A.	Deloitte & Touche LLP
Johnson	Christie Michelle holtz	Deloitte Consulting LLP
Johnson	Edward Walter	Deloitte Consulting LLP
Johnson	Eric L	Deloitte Tax LLP
Johnson	Eric N	Deloitte & Touche LLP
Johnson	Jared Wilton	Deloitte Tax LLP
Johnson	Jonathan A	Deloitte Consulting LLP
Johnson	Joseph Michael	Deloitte Tax LLP
Johnson	Kelly L	Deloitte Tax LLP
Johnson	Kyle A.	Deloitte Transactions and Business Analytics LLP
Johnson	Larissa L	Deloitte & Touche LLP
Johnson	Mark S	Deloitte Tax LLP
Johnson	Nicola	Deloitte Consulting LLP
Johnson	Robert Scott	Deloitte Consulting LLP
Johnson	Thomas A.	Deloitte Tax LLP
Johnson - Bartoli	John G	Deloitte & Touche LLP
Johnson Jr.	Kemp Beardall	Deloitte Tax LLP
Johnston	Brian H	Deloitte Consulting LLP
Jonash	Benjamin Gilmore	Deloitte Consulting LLP
Jones	Benjamin J.	Deloitte Consulting LLP
Jones	Brandon R	Deloitte & Touche LLP
Jones	Eira Morris	Deloitte Tax LLP
Jones	Jack Edward	Deloitte & Touche LLP
Jones	Robin Elaine Goodman	Deloitte Consulting LLP
Jones	Russell L	Deloitte & Touche LLP
Jones	Ryan C	Deloitte Consulting LLP
Jones	Sandra Lee	Deloitte Consulting LLP
Jordan	Jeffrey Fidler	Deloitte Consulting LLP
Joseph	Thomas	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Joshi	Varun	Deloitte Consulting LLP
Joyce	Patrick A	Deloitte Consulting LLP
Juergens	Michael E.	Deloitte & Touche LLP
Junaideen	A Amry	Deloitte & Touche LLP
Juravich	Timothy Stephan	Deloitte Consulting LLP
Juron	Nancy Lynn	Deloitte LLP
Kaese	Eric W	Deloitte Consulting LLP
Kagan	Allan	Deloitte Consulting LLP
Kah	Blaise C.	Deloitte Tax LLP
Kakar	Puneet	Deloitte Consulting LLP
Kalish	Kent J	Deloitte Tax LLP
Kamasky	Ann L	Deloitte Tax LLP
Kamat	Pradeep Prakash	Deloitte Consulting LLP
Kamen	Martin Mitchell	Deloitte Consulting LLP
Kammerer	William Matthew	Deloitte Consulting LLP
Kane	Mickey D	Deloitte Tax LLP
Kantamneni	Siva P	Deloitte Consulting LLP
Kanter	Brian Marc	Deloitte Consulting LLP
Kanter	Kristin Beth	Deloitte Consulting LLP
Kao	Suzanne Yu-Shiang	Deloitte Tax LLP
Kaplan	Ami	Deloitte & Touche LLP
Kaplan	Howard A	Deloitte & Touche LLP
Kaplan	Jason Warren	Deloitte Tax LLP
Kaplan	Jennifer Lacks	Deloitte Consulting LLP
Kaplan	Kristi Page	Deloitte Consulting LLP
Kapoor	Pawan	Deloitte Consulting LLP
Kapreilian	Samuel C	Deloitte Consulting LLP
Kapur	Aditya	Deloitte Consulting LLP
Kapur	Vishal	Deloitte Consulting LLP
Karam	Nicholas C	Deloitte Consulting LLP
Karan	Ozan	Deloitte & Touche LLP
Karellas	Lauren Nalu	Deloitte & Touche LLP
Karen	John	Deloitte & Touche LLP
Karia	Siddharth Ramesh	Deloitte Consulting LLP
Karich	Kathy Marie	Deloitte Consulting LLP
Karnik	Chandan Ashok	Deloitte Consulting LLP
Karp	Marlo L.	Deloitte & Touche LLP
Kasuya II	Alexander Nobuji	Deloitte Consulting LLP
Kats	Matvey	Deloitte Tax LLP
Katyal	Vivek	Deloitte & Touche LLP
Kaul	Michael Everett	Deloitte Tax LLP
Kaunert	Robert J	Deloitte Consulting LLP
Kawaminami	Lynn T	Deloitte Tax LLP
Kaye	David	Deloitte Consulting LLP
Kaye	Robert Scott	Deloitte Consulting LLP
Kazemi Bejestani	Seyed Hanif	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Kearney	Michael E.	Deloitte & Touche LLP
Keating	Janice M	Deloitte & Touche LLP
Keefe	Thomas L	Deloitte & Touche LLP
Keel	Christopher James	Deloitte Consulting LLP
Kelley	Darrin	Deloitte & Touche LLP
Kelliher	Brian Francis	Deloitte Tax LLP
Kelly	Gregory T.	Deloitte Consulting LLP
Kelly	Kevin P.	Deloitte Consulting LLP
Kemp	Stacy Marie	Deloitte Consulting LLP
Kemper	William B	Deloitte Tax LLP
Kenawell	Edward	Deloitte Tax LLP
Kennedy	Jeffrey W.	Deloitte Transactions and Business Analytics LLP
Keppen	Kyle Michael	Deloitte Tax LLP
Kerneck	Gregory P	Deloitte Tax LLP
Kerns	Kevin C	Deloitte & Touche LLP
Kerr Jr.	Robert Charles	Deloitte & Touche LLP
Ketcher	Keith Lane	Deloitte Consulting LLP
Keyes	John	Deloitte & Touche LLP
Khan	Sameer A	Deloitte Consulting LLP
Khanna	Joy Paul	Deloitte Consulting LLP
Khoury	Alexander Riad	Deloitte Tax LLP
Khwaja	Aref	Deloitte Consulting LLP
Kimble	Steven J	Deloitte Tax LLP
Kimmel	Matthew G.	Deloitte Transactions and Business Analytics LLP
Kimsey II	Richard Lee	Deloitte & Touche LLP
Kin	William B	Deloitte Consulting LLP
King	Brian P	Deloitte & Touche LLP
King	Elizabeth P	Deloitte & Touche LLP
King	Scott E.	Deloitte & Touche LLP
Kingsley	Dean Robert	Deloitte & Touche LLP
Kingsley	Edward D	Deloitte & Touche LLP
Kinsella Jr.	Daniel C.	Deloitte & Touche LLP
Kinzler	Daniel J.	Deloitte Consulting LLP
Kirkland IV	Thomas Jefferson	Deloitte & Touche LLP
Kirschling	Reed Christopher	Deloitte Tax LLP
Kirschner	Kenneth Otto	Deloitte & Touche LLP
Kizawa	Tomoko	Deloitte & Touche LLP
Klaja	Joseph M.	Deloitte Consulting LLP
Kleczynski	Rochelle F	Deloitte Tax LLP
Klei	Hugh	Deloitte & Touche LLP
Klein	Carol Hilary	Deloitte Consulting LLP
Klein	Sara E	Deloitte & Touche LLP
Kleinhammer	Rodney Wayne	Deloitte Consulting LLP
Kleinheksel	Chip R	Deloitte Consulting LLP
Klenk	Juergen Achim	Deloitte Consulting LLP
Kletter	David Brian	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Klinger	Kara A	Deloitte & Touche LLP
Klink	Susan D	Deloitte & Touche LLP
Klinova	Alina	Deloitte Consulting LLP
Knabe	Andrea Christa	Deloitte Consulting LLP
Knachel	Eric C	Deloitte & Touche LLP
Knapp	S Clark	Deloitte Consulting LLP
Knappenberger	Daniel A	Deloitte Transactions and Business Analytics LLP
Knell III	Charles John	Deloitte Consulting LLP
Knickerbocker	Jennifer Jill	Deloitte Tax LLP
Knight	Michael Justin	Deloitte Tax LLP
Knight	Shahira ElBogdady	Deloitte Consulting LLP
Knowles	Kevin M	Deloitte Consulting LLP
Knudtson	Katharine M	Deloitte & Touche LLP
Kocaj	Veneranda	Deloitte & Touche LLP
Koenigsknecht	Jack G.	Deloitte & Touche LLP
Koeppen	Mark Reed	Deloitte Consulting LLP
Kohn	Barry E.	Deloitte & Touche LLP
Kohn	Isaac Vita	Deloitte & Touche LLP
Konersmann	Todd	Deloitte Consulting LLP
Korol	Jonathan K	Deloitte & Touche LLP
Korva	Kristine	Deloitte Consulting LLP
Kosal	Charles Frederick	Deloitte Tax LLP
Koslow	Gregory J.	Deloitte & Touche LLP
Kosmowski	Jessica F	Deloitte Consulting LLP
Kosonog	Michael S.	Deloitte & Touche LLP
Kottkamp	Jeffrey M	Deloitte & Touche LLP
Kounkel	Suzanne M	Deloitte Consulting LLP
Kovacevich	Todd Richard	Deloitte Consulting LLP
Kovesdy	Geoffrey A	Deloitte & Touche LLP
Kowalski	Kristen L	Deloitte Tax LLP
Kracht	Dominic	Deloitte Tax LLP
Kraft	Paul T	Deloitte & Touche LLP
Kramer	Shannon	Deloitte & Touche LLP
Krasnoff	Adam J	Deloitte & Touche LLP
Krawiec	Robert John	Deloitte Consulting LLP
Kreder Jr.	Paul James	Deloitte Consulting LLP
Kresse	Philip J	Deloitte Tax LLP
Krieger	Paul S	Deloitte & Touche LLP
Krikhaar	Joost J	Deloitte Consulting LLP
Krinshpun	Ariel	Deloitte Tax LLP
Krishnamurthy	Girija	Deloitte Consulting LLP
Kroll	Amy Chantell	Deloitte & Touche LLP
Kronmiller	Colin	Deloitte & Touche LLP
Krul	Allan D.	Deloitte Consulting LLP
Krumkachev	Pavel	Deloitte Consulting LLP
Krumm	Kevin R	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Kryger	Michael David	Deloitte & Touche LLP
Krzymowek	Kerry A	Deloitte LLP
Kuch	Edward James	Deloitte Tax LLP
Kuckelman	Craig P.	Deloitte Tax LLP
Kucyk	David J	Deloitte Transactions and Business Analytics LLP
Kuder	David J	Deloitte Consulting LLP
Kudumala	Aditya	Deloitte Consulting LLP
Kulans	Arthur A	Deloitte & Touche LLP
Kulick	Sandie Kim	Deloitte & Touche LLP
Kulik	Brandon G	Deloitte Consulting LLP
Kulju	Eric R.	Deloitte & Touche LLP
Kumar	Gaurav	Deloitte & Touche LLP
Kumar	Raaj	Deloitte Tax LLP
Kunchala	Venkat Vikram Reddy	Deloitte & Touche LLP
Kunisch	Brian R.	Deloitte & Touche LLP
Kunkel	Tony M	Deloitte Tax LLP
Kuperschmid	Jordan	Deloitte & Touche LLP
Kurowski	Susan M	Deloitte & Touche LLP
Kutty	Santosh K	Deloitte Consulting LLP
Kuty Jr.	Thomas R	Deloitte Consulting LLP
Kwan	Alice M.	Deloitte Consulting LLP
Kwan	Anne	Deloitte Consulting LLP
Kwederis	Joseph J	Deloitte & Touche LLP
La Salle	Justin B	Deloitte Tax LLP
Laaper	Stephen	Deloitte Consulting LLP
LaBelle	Todd A	Deloitte Tax LLP
LaCroix	Christine P.	Deloitte & Touche LLP
Lacy	Mark V	Deloitte & Touche LLP
Lademan	Sara A	Deloitte & Touche LLP
Lai	Lawrence Linn	Deloitte & Touche LLP
Lakhanpal	Alexander Krishna	Deloitte & Touche LLP
Lala	Nikhil I	Deloitte Tax LLP
Lalani	Monica K	Deloitte & Touche LLP
Lalchand	Satish Choith	Deloitte Transactions and Business Analytics LLP
Lam	William Blaine	Deloitte Consulting LLP
Lam	Winnie	Deloitte & Touche LLP
Lamberta	Matthew Graham	Deloitte Tax LLP
Lamirata	Deanna Beth	Deloitte Tax LLP
Landers	David G	Deloitte Tax LLP
Landi	Richard E	Deloitte Tax LLP
Lane	Kevin L.	Deloitte Transactions and Business Analytics LLP
Langan	Jason A	Deloitte & Touche LLP
Lange	Daniel S	Deloitte Tax LLP
Langford	Guy A	Deloitte & Touche LLP
Langhals	Alan J	Deloitte Consulting LLP
Langkowski	Lars	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Langmack	Bjoern	Deloitte Consulting LLP
Langsett	Melanie P	Deloitte Consulting LLP
Lapetina	Timothy James	Deloitte Tax LLP
Larkworthy	Richard J	Deloitte & Touche LLP
Larsen	Peter Christian	Deloitte Tax LLP
Larson	Bethany K	Deloitte & Touche LLP
Larson	Jennifer Lyn	Deloitte Financial Advisory Services LLP
Larson	Matthew C	Deloitte Transactions and Business Analytics LLP
Larson	Patrick Michael	Deloitte & Touche LLP
Lassen	Richard D.	Deloitte & Touche LLP
Lauck	Robert E	Deloitte & Touche LLP
Laughlin	James William	Deloitte Consulting LLP
Laughlin	Nicholas A	Deloitte Consulting LLP
Laughlin	Stephen P	Deloitte & Touche LLP
Laughman	Steven R	Deloitte & Touche LLP
Laughridge	Kevin W	Deloitte Consulting LLP
Laverty	Neil James	Deloitte & Touche LLP
Lawnin	William Carter	Deloitte Tax LLP
Layden	Michael P	Deloitte Tax LLP
Le	Daniel Q	Deloitte & Touche LLP
Lea Doyle	Anna Y.	Deloitte Consulting LLP
Leadstrom III	Peter D	Deloitte & Touche LLP
Leavay	Kerri Anne	Deloitte & Touche LLP
Leber	Matthew J	Deloitte & Touche LLP
LeCour	Pablo Agustin	Deloitte Tax LLP
Ledger	Daniel Jacob	Deloitte Consulting LLP
Lee	Chedmond T'S	Deloitte & Touche LLP
Lee	Christopher F	Deloitte & Touche LLP
Lee	Ho Duk	Deloitte & Touche LLP
Lee	Jonathan S.	Deloitte & Touche LLP
Lee	Joshua	Deloitte Consulting LLP
Lee	Linda S.	Deloitte & Touche LLP
Lee	Li-Shen	Deloitte Consulting LLP
Lee	Robert P	Deloitte & Touche LLP
Legere	Paul F	Deloitte Consulting LLP
Leininger	Michael John	Deloitte Tax LLP
Lesser	Neil I.	Deloitte Consulting LLP
Leste	Teresa	Deloitte Consulting LLP
Levatino	Catherine A.	Deloitte & Touche LLP
Leverenz	Timothy R	Deloitte Tax LLP
Levi	Jeffrey A	Deloitte Consulting LLP
Levin	Gary J.	Deloitte Financial Advisory Services LLP
Levine	Abigail S	Deloitte Consulting LLP
Levinson	Gary S	Deloitte & Touche LLP
Levis	John M	Deloitte Consulting LLP
Levy	Jeffrey D	Deloitte Tax LLP

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Last Name	First Name	Legal Entity
Levy	Victoria Margarita	Deloitte Consulting LLP
Lewarne	Stephen Mark	Deloitte Consulting LLP
Lewell Knesaurek	Janet Elizabeth	Deloitte Consulting LLP
Lewis	Christopher M.	Deloitte & Touche LLP
Lewis	Justin Tyler	Deloitte & Touche LLP
Lewis Jr.	Raymond L	Deloitte & Touche LLP
Li	Timothy	Deloitte & Touche LLP
Liakopoulos	Andrew E	Deloitte Consulting LLP
Liassidis	Dimitrios	Deloitte Consulting LLP
Librandi IV	Louis John	Deloitte Consulting LLP
Liepold	Cory R	Deloitte & Touche LLP
Lightle	Brian L	Deloitte & Touche LLP
Lilly	Daniel John	Deloitte Consulting LLP
Lim	Rosa veronica B	Deloitte & Touche LLP
Limbirt	Christian Taylor	Deloitte & Touche LLP
Lind	Kathleen E	Deloitte & Touche LLP
Lindow	Paul E	Deloitte & Touche LLP
Lindsey	Christopher Andrew	Deloitte Transactions and Business Analytics LLP
Lindsey	Todd K.	Deloitte & Touche LLP
Lingenfelder	Daniel James	Deloitte Tax LLP
Linn	Kevin D.	Deloitte Tax LLP
Lippstreu	Scott R.	Deloitte Consulting LLP
Lipskar	Leah Bensen	Deloitte LLP
Litteken	Corey S	Deloitte Tax LLP
Little	Brian D	Deloitte Tax LLP
Little	Eileen F	Deloitte & Touche LLP
Little	John Wade	Deloitte Transactions and Business Analytics LLP
Littleford	Joel D.	Deloitte Tax LLP
Littleton	Richard	Deloitte Tax LLP
Littmann	Daniel B.	Deloitte Consulting LLP
Litwin	Mark S	Deloitte Consulting LLP
Livingston	Andrew G	Deloitte & Touche LLP
Livingston	Steven R.	Deloitte & Touche LLP
Lo	Jonathan B	Deloitte Consulting LLP
Lobaugh	Kasey M	Deloitte Consulting LLP
Lobo	Aldila Martinha	Deloitte Consulting LLP
Lochbichler	Thomas	Deloitte & Touche LLP
Locker	Michal Lee	Deloitte Consulting LLP
Lockwood	Mark A.	Deloitte Consulting LLP
Lofredo	Thomas P	Deloitte & Touche LLP
Logudic	Joseph	Deloitte Tax LLP
Lohrey	Rebecca Anne	Deloitte & Touche LLP
Lombardo	Michael	Deloitte & Touche LLP
Londergan	Laurie H.	Deloitte & Touche LLP
Long	Stephani L.	Deloitte Consulting LLP
Longenberger	Caleb Dean	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Loo	Elaine Y	Deloitte Consulting LLP
Loomis	Brian Travis	Deloitte Tax LLP
Losavio Jr.	Stephen Charles	Deloitte Tax LLP
Loscalzo	Joseph A.	Deloitte & Touche LLP
Lostumbo	Nicola Francesco	Deloitte Tax LLP
Lott	James	Deloitte Consulting LLP
Loubert	Brett	Deloitte Consulting LLP
Louderback	Todd B	Deloitte & Touche LLP
Lougheed	Geoffrey Wayne	Deloitte Consulting LLP
Loughran	Kristin Y	Deloitte & Touche LLP
Loughry	Samuel B	Deloitte & Touche LLP
Loveless	Scott Alan	Deloitte & Touche LLP
Lowenthal	Samuel	Deloitte Tax LLP
Lowery	Bret A	Deloitte Tax LLP
Lowrie	Nnamdi T.	Deloitte Consulting LLP
Lu	John	Deloitte & Touche LLP
Lucas	Kendall Ashley	Deloitte Consulting LLP
Lucenti	Robert M.	Deloitte & Touche LLP
Luecke	Thomas Schilling	Deloitte & Touche LLP
Luft	Nicole Suzanne	Deloitte & Touche LLP
Lukan	Boris R	Deloitte Consulting LLP
Lunan	Leola Stephane Renee	Deloitte Tax LLP
Lund	Michael D	Deloitte & Touche LLP
Lundberg	Michael J	Deloitte & Touche LLP
Lurken	Catharina	Deloitte Consulting LLP
Lush	Mark Steven	Deloitte Consulting LLP
Lynch	Jennifer Ryan	Deloitte & Touche LLP
Lynch	Kathryn	Deloitte Consulting LLP
Lynch	Taryn C.	Deloitte & Touche LLP
Lyons	Diane M.	Deloitte & Touche LLP
Lyons	Peter J.	Deloitte Consulting LLP
Ma	Diane Tewan	Deloitte Consulting LLP
Ma	Yuanzheng Michael	Deloitte & Touche LLP
MacArthur	Brian P	Deloitte Tax LLP
Macdonald	Carrie E	Deloitte & Touche LLP
Macdonald	Kenneth	Deloitte Consulting LLP
MacIntosh	Iain Brownlie	Deloitte Tax LLP
Mada	Nidish K.	Deloitte Consulting LLP
Maddalon	John W	Deloitte Consulting LLP
Mager	Scott B	Deloitte Consulting LLP
Magick	Jonathon	Deloitte Consulting LLP
Magzen	Scott D	Deloitte Tax LLP
Mah	Douglas Edward	Deloitte Consulting LLP
Majors	Edward Alan	Deloitte Consulting LLP
Maki	Andrew J	Deloitte Tax LLP
Makovec	Michael Francis	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Malatesta	Jennifer	Deloitte & Touche LLP
Maldonado	Dominic V	Deloitte Tax LLP
Malhan	Viraj V	Deloitte Tax LLP
Malhotra	Rohit	Deloitte Consulting LLP
Malik	Muhammad Adnan Afzal	Deloitte & Touche LLP
Malikowski	John T	Deloitte Consulting LLP
Mallaro	Brian A	Deloitte & Touche LLP
Mallios	Carl C.	Deloitte Tax LLP
Malm	Scott Christopher	Deloitte Consulting LLP
Malmberg	Derek T.	Deloitte & Touche LLP
Malmberg	Scott T.	Deloitte & Touche LLP
Malone	William P	Deloitte Tax LLP
Maloney	Brian Joseph	Deloitte & Touche LLP
Maloney	Kerri Dawn	Deloitte Consulting LLP
Man	Jimmy K.	Deloitte Consulting LLP
Man	Jimmy T	Deloitte Tax LLP
Mancher	James	Deloitte Consulting LLP
Mandel	Seth I	Deloitte Consulting LLP
Mangosong	Tzarni Panajon	Deloitte Consulting LLP
Maniar	Anuj	Deloitte Consulting LLP
Maniscalco	Peter C	Deloitte Tax LLP
Mano	Patrice M	Deloitte Tax LLP
Manos	Irene	Deloitte Tax LLP
Manstof	Jason Michael	Deloitte Consulting LLP
Mantha	Kiran K	Deloitte & Touche LLP
Manusky	Andrew	Deloitte Consulting LLP
Mapgaonkar	David J	Deloitte & Touche LLP
Marcello	Raphael	Deloitte Consulting LLP
Marchese	Kelly K.	Deloitte Consulting LLP
Margate	Jonathan Thaddeus	Deloitte & Touche LLP
Maria	Michael A	Deloitte Tax LLP
Mariani	Michael Renato	Deloitte Tax LLP
Markarian	Raffi	Deloitte Tax LLP
Markiewicz	Daniel William	Deloitte Tax LLP
Marmo	Jason P	Deloitte Tax LLP
Marnin	Gil	Deloitte Tax LLP
Marquez	Harry	Deloitte Tax LLP
Marquis	Timara J	Deloitte & Touche LLP
Marriott	Thomas M	Deloitte Consulting LLP
Marsella	Mark P	Deloitte Tax LLP
Marsh	Matthew M	Deloitte & Touche LLP
Martin	Bryan	Deloitte & Touche LLP
Martin	Chad A.	Deloitte & Touche LLP
Martin	Jonathan B	Deloitte & Touche LLP
Martin	Ryan Peter	Deloitte & Touche LLP
Martin	William H	Deloitte & Touche LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Martinez	Matthew Herbert	Deloitte & Touche LLP
Martinez	Ricardo Pablo	Deloitte & Touche LLP
Martini	Natalie Jo	Deloitte & Touche LLP
Martorello	Maria	Deloitte Tax LLP
Martyny	David W	Deloitte Consulting LLP
Marx	Michael S	Deloitte Tax LLP
Marzelli	Michael T	Deloitte & Touche LLP
Mashburn	Brian C.	Deloitte & Touche LLP
Masone	Mark Gerard	Deloitte & Touche LLP
Masood	Kamran	Deloitte Financial Advisory Services LLP
Masoud	Raed A.	Deloitte Consulting LLP
Massey	Robert L	Deloitte Tax LLP
Massucco	Joseph Peter	Deloitte Tax LLP
Masuko	Takashi	Deloitte & Touche LLP
Mathew	Jojoy Vaniss	Deloitte Consulting LLP
Mathew	Roy V.	Deloitte Consulting LLP
Mathew	Sajin Abraham	Deloitte & Touche LLP
Mathews	Clifton T	Deloitte & Touche LLP
Mathison	Andrew R	Deloitte & Touche LLP
Matjucha	Karen A.	Deloitte Consulting LLP
Matley	John Douglas	Deloitte Consulting LLP
Matrullo	Joseph	Deloitte Consulting LLP
Matthews	Tara H	Deloitte & Touche LLP
Mauthe	Christopher	Deloitte Tax LLP
Mawhinney	Tiffany Mary Estee	Deloitte Consulting LLP
Maxson	Shawn Douglas	Deloitte Consulting LLP
May	Darlon Christopher	Deloitte Transactions and Business Analytics LLP
May	Justin Ryan	Deloitte & Touche LLP
May	Olivier Gaston	Deloitte Consulting LLP
May	Sean Ryan	Deloitte & Touche LLP
May	Tyson S	Deloitte & Touche LLP
Maynard	Paul A.	Deloitte & Touche LLP
Mazer	Karen S	Deloitte Consulting LLP
Mazor	Arthur H	Deloitte Consulting LLP
Mazor	Christine M.	Deloitte & Touche LLP
McAdams	Mark R	Deloitte Tax LLP
McAleer	Thomas	Deloitte Consulting LLP
McAlister	Lyndsey Annalee	Deloitte & Touche LLP
McAllister	Brian J	Deloitte & Touche LLP
McAteer	Daria	Deloitte Consulting LLP
McCabe	Kimberly	Deloitte Consulting LLP
McCarter	Kevin Q	Deloitte Consulting LLP
McCarthy	Brian Charles	Deloitte Consulting LLP
McCaulley	Douglas M	Deloitte Tax LLP
McClearn	Cameron	Deloitte Consulting LLP
McClelland	Scott Michael	Deloitte LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
McCormick	Jonas R	Deloitte Consulting LLP
McCormick	Michael Ryan	Deloitte Consulting LLP
McCormick Jr.	Gerard F	Deloitte Consulting LLP
McCoy	Brett Sutherland	Deloitte Consulting LLP
McCoy	Ollie Lee	Deloitte Consulting LLP
McCracken	Laura D	Deloitte & Touche LLP
McCrorey	Thomas E.	Deloitte & Touche LLP
McCue	David B	Deloitte & Touche LLP
McCutchen	Diana J	Deloitte Tax LLP
McCutcheon	David M	Deloitte & Touche LLP
McDonald	Dion A.	Deloitte & Touche LLP
McDonald	Gordon	Deloitte & Touche LLP
McDonald	Jamia Rae	Deloitte Consulting LLP
McEachern	Bradford James	Deloitte & Touche LLP
McElroy	Karen Briggs	Deloitte & Touche LLP
McElroy	Thomas	Deloitte Consulting LLP
McElroy II	Martin Matthew	Deloitte & Touche LLP
McFarland	Jeffrey M.	Deloitte & Touche LLP
McFarland	William F	Deloitte & Touche LLP
McGann	Omar Karl	Deloitte Consulting LLP
McGinnis	John Byron Thomas	Deloitte Consulting LLP
McGovern	Kevin M.	Deloitte & Touche LLP
McGovern	Paul M.	Deloitte Consulting LLP
Mcgrath	Matthew K	Deloitte Tax LLP
McGrath Jr.	Joseph Anthony	Deloitte & Touche LLP
McGuigan	Denise Marie	Deloitte Consulting LLP
McHugh	Daniel C	Deloitte Consulting LLP
McKee	Darin K	Deloitte Tax LLP
McKenna	Shawn P	Deloitte Tax LLP
McKenzie	Keri J	Deloitte Financial Advisory Services LLP
McKibbin	Brendon James	Deloitte Tax LLP
McKnight	Amelia Standefer	Deloitte Tax LLP
McLain	Simon C	Deloitte Consulting LLP
McLaurin III	Barry E.	Deloitte & Touche LLP
McLean	Ken D.	Deloitte Consulting LLP
McLean	Russell I	Deloitte Consulting LLP
McLean	Scot A	Deloitte Tax LLP
Mcmahon	Brian J	Deloitte & Touche LLP
Mcmillan	Ezekiel	Deloitte & Touche LLP
McNaughton	Gail A.	Deloitte & Touche LLP
McNeill	Robert J	Deloitte & Touche LLP
McTeague	Jerry P.	Deloitte Tax LLP
McVey	Sean P.	Deloitte & Touche LLP
McWhorter	Ryan William	Deloitte & Touche LLP
McWhorter II	Jesse J.	Deloitte Tax LLP
McWilliams	Lori Scott	Deloitte Financial Advisory Services LLP

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Last Name	First Name	Legal Entity
Meagher	Kevin Michael	Deloitte Consulting LLP
Meagher	Mary Elizabeth	Deloitte Consulting LLP
Meberg	Brian A	Deloitte & Touche LLP
Medina	Christine Dianne	Deloitte Consulting LLP
Medlock	Maureen Gibbons	Deloitte Consulting LLP
Meehan	Julia M	Deloitte Consulting LLP
Meeker	Brian C.	Deloitte Consulting LLP
Meenan	Peter	Deloitte Tax LLP
Mehr	Jeffrey Fredric	Deloitte Tax LLP
Mehrotra	Rajat	Deloitte & Touche LLP
Mehta	Maunil Rejendrabhai	Deloitte Consulting LLP
Mehta	Nishit Narendra	Deloitte Tax LLP
Mehta	Raju N.	Deloitte & Touche LLP
Mehta	Simmi Pradipkumar	Deloitte Consulting LLP
Mehta	Vishal	Deloitte Consulting LLP
Meisels	Michelle Lee	Deloitte Consulting LLP
Melito	Mark M	Deloitte & Touche LLP
Mello	Charles R	Deloitte & Touche LLP
Melton	Grace M.	Deloitte Tax LLP
Melvin	Lucy Elizabeth	Deloitte Consulting LLP
Mendel	Joseph Scott	Deloitte Transactions and Business Analytics LLP
Mendelson	Tina Mlakar	Deloitte Consulting LLP
Menghi	Jason	Deloitte & Touche LLP
Mennella	Anthony	Deloitte Tax LLP
Menon	Prateep	Deloitte Transactions and Business Analytics LLP
Menon	Sudhir V	Deloitte Consulting LLP
Meono	Melissa G	Deloitte & Touche LLP
Mercadante	Kevin Charles	Deloitte Consulting LLP
Mercer	Matthew R	Deloitte Tax LLP
Merizzi	Nicholas	Deloitte Consulting LLP
Messer	Adam Benjamin	Deloitte Consulting LLP
Metinko	Kathleen L	Deloitte Tax LLP
Metke	Kevin M	Deloitte Tax LLP
Metoyer	Stephen	Deloitte Tax LLP
Metzger	Marlin E	Deloitte Consulting LLP
Meyer	Kenneth L.	Deloitte Consulting LLP
Meyers	Jarret Mathew	Deloitte Consulting LLP
Mi	Zhaoquan	Deloitte & Touche LLP
Micca	Peter J	Deloitte & Touche LLP
Miceli	Gerald Barnes	Deloitte & Touche LLP
Midha	Ashish Kr.	Deloitte Consulting LLP
Milano	Frank R	Deloitte & Touche LLP
Milazzo	Cathlene Fuino	Deloitte Consulting LLP
Millar	Kerry James	Deloitte Consulting LLP
Miller	Brian Austin	Deloitte Consulting LLP
Miller	Christian Laurence	Deloitte Tax LLP

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Last Name	First Name	Legal Entity
Miller	Jennifer C.	Deloitte & Touche LLP
Miller	Julie Enise	Deloitte Consulting LLP
Miller	Kristen Elizabeth	Deloitte Consulting LLP
Miller	Kyle Matthew	Deloitte Consulting LLP
Miller	Mark Ian	Deloitte Tax LLP
Miller	Matthew W	Deloitte Consulting LLP
Miller	Rachel S.	Deloitte Consulting LLP
Miller	Reid T.	Deloitte Consulting LLP
Miller	Scott E	Deloitte & Touche LLP
Mills	Adrian E.	Deloitte & Touche LLP
Mills	James J.	Deloitte & Touche LLP
Milo	Richard E.	Deloitte & Touche LLP
Minessale	James M	Deloitte & Touche LLP
Minick	Jeffrey M	Deloitte & Touche LLP
Mirkow	Alejandro	Deloitte Consulting LLP
Mishkin	Robyn Cara	Deloitte & Touche LLP
Mitchell	Kwasi	Deloitte Consulting LLP
Mitchell	Nathan	Deloitte & Touche LLP
Mitra	Arindam	Deloitte Tax LLP
Mitrovich	Lisa Michelle	Deloitte & Touche LLP
Mittal	Nitin	Deloitte Consulting LLP
Mizoguchi	Traci L	Deloitte & Touche LLP
Mlynarski	Paul	Deloitte Tax LLP
Moehring	Adam L	Deloitte Tax LLP
Mohan	Rubin	Deloitte Consulting LLP
Mok	Anna W M	Deloitte & Touche LLP
Moline	David J	Deloitte & Touche LLP
Moller	Christoffel Schoeman	Deloitte & Touche LLP
Monacelli Jr.	Eugene C	Deloitte Consulting LLP
Monson	Jay Fredrick	Deloitte & Touche LLP
Monson	Scott D	Deloitte Tax LLP
Monteilh	Christopher J	Deloitte & Touche LLP
Montgomery	Chad S.	Deloitte Consulting LLP
Montgomery	Seth T	Deloitte Consulting LLP
Monti	Eric M.	Deloitte Consulting LLP
Mooraj	Hussain	Deloitte Consulting LLP
Moore	David Evan	Deloitte Consulting LLP
Moore	Gairy R	Deloitte & Touche LLP
Moore	Ryan James	Deloitte & Touche LLP
Moorehead	Jonathan P	Deloitte & Touche LLP
Moran	Janet Elizabeth	Deloitte Tax LLP
Moran	Kelly	Deloitte Consulting LLP
Morfeld	Toni Lynn	Deloitte Tax LLP
Morgan	Anthony Francis	Deloitte Consulting LLP
Morgan	Brandon	Deloitte & Touche LLP
Morimoto	Lance Ken	Deloitte Consulting LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Morris	Bryan	Deloitte & Touche LLP
Morris	James D.	Deloitte Tax LLP
Morris	Robert H.	Deloitte & Touche LLP
Morris	Sean Daniel	Deloitte Consulting LLP
Morrison	Andrew William	Deloitte & Touche LLP
Morrison	Sally Ann	Deloitte Tax LLP
Morrison	Thomas P	Deloitte Consulting LLP
Morrison-Howe	Alexis Alden	Deloitte Tax LLP
Morrisroe	Thomas C	Deloitte Tax LLP
Morrissey	Michael J	Deloitte & Touche LLP
Morrow	Claire	Deloitte Tax LLP
Mortenson	Curtis W.	Deloitte Consulting LLP
Morton	Jason A	Deloitte Consulting LLP
Morton	Michael J.	Deloitte & Touche LLP
Moss	Kevin B	Deloitte Financial Advisory Services LLP
Moss	Stuart J.	Deloitte & Touche LLP
Mossburg	Emily J	Deloitte & Touche LLP
Motyka	Marlene M.	Deloitte Transactions and Business Analytics LLP
Mou	Michael	Deloitte Tax LLP
Moulton	Shandra Mentaril	Deloitte Tax LLP
Mountjoy	Reid William	Deloitte & Touche LLP
Mowen Jr.	William J	Deloitte & Touche LLP
Moyer	Denny L	Deloitte & Touche LLP
Moynihan	Robert O	Deloitte & Touche LLP
Mraz	Jeffrey R.	Deloitte & Touche LLP
Mueller	Beth A	Deloitte Tax LLP
Mueller	Robert M	Deloitte Tax LLP
Mueller Jr.	Daniel T	Deloitte Tax LLP
Mueth	Brian Edward	Deloitte Tax LLP
Mukherjee	Joydeep	Deloitte Consulting LLP
Mulcahy	Denis P	Deloitte & Touche LLP
Mullapudi	Madhav Satya Phani	Deloitte Consulting LLP
Mullick	Jishnu	Deloitte Consulting LLP
Mulliner	Samuel J	Deloitte & Touche LLP
Mund	R Scott	Deloitte Tax LLP
Mundy	Timothy S	Deloitte & Touche LLP
Muniz	Anthony W	Deloitte & Touche LLP
Munnings	Avery A	Deloitte & Touche LLP
Munsch	Boake D	Deloitte Tax LLP
Murahari	Maniraja	Deloitte Consulting LLP
Murali	Ramya Sumithra	Deloitte Consulting LLP
Muratovic	Faruk	Deloitte Consulting LLP
Murphy	George Michael	Deloitte & Touche LLP
Murphy	Kaki M	Deloitte & Touche LLP
Murray	Sarah E	Deloitte Tax LLP
Murrell	Brian C	Deloitte & Touche LLP

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Musante	Stephen P	Deloitte Tax LLP
Mussomeli	Adam B.	Deloitte Consulting LLP
Myers	Kimberly Shawnta	Deloitte Consulting LLP
Myers	Kristin Renee	Deloitte Tax LLP
Myers	Ryan M	Deloitte Consulting LLP
Nace	Mark Christopher	Deloitte Consulting LLP
Nagaraj	Kiran	Deloitte & Touche LLP
Naik	Subodh K	Deloitte & Touche LLP
Nakamoto	Yohei	Deloitte & Touche LLP
Nanda	Ruchir	Deloitte Consulting LLP
Naple	Melissa Marie	Deloitte & Touche LLP
Narasimhamurti	Vadhirajan	Deloitte Consulting LLP
Nash	Leon L	Deloitte & Touche LLP
Nasman	Ian A	Deloitte & Touche LLP
Natesan	Arunachalam	Deloitte Consulting LLP
Navele	Narasimhan B	Deloitte & Touche LLP
Ncho-Oguie	Jean Denis Michel	Deloitte & Touche LLP
Neary Jr.	John P	Deloitte & Touche LLP
Neeley	Charles Christian	Deloitte & Touche LLP
Nehoray	Homayoon E.	Deloitte Tax LLP
Nelson	Adam D	Deloitte & Touche LLP
Nelson	Erica K	Deloitte & Touche LLP
Nelson	Joshua N	Deloitte Consulting LLP
Nelson-Carlisle	Anissa B	Deloitte & Touche LLP
Nemeth	Shan L.	Deloitte & Touche LLP
Nemirov	Boris	Deloitte Tax LLP
Nevin	Edward P	Deloitte Tax LLP
Newkirchen	Stephanie K	Deloitte Consulting LLP
Newman	Kevin Pearce	Deloitte Consulting LLP
Nguyen	Marissa Phuong-Thi	Deloitte Tax LLP
Nicholls	Norah	Deloitte Tax LLP
Nicholson	Adam Gary	Deloitte & Touche LLP
Nicholson	Mark Wayne	Deloitte & Touche LLP
Nicholson	Rachelle McKee	Deloitte & Touche LLP
Niciforo	Michael	Deloitte Consulting LLP
Nick	Jeffrey Thomas	Deloitte & Touche LLP
Nickell	Jeffrey T	Deloitte & Touche LLP
Nickerson	Brent T.	Deloitte & Touche LLP
Nicolosi	Thomas A	Deloitte & Touche LLP
Niedzielski	Bradley	Deloitte & Touche LLP
Niklus	June E.	Deloitte & Touche LLP
Nisbet	Joshua Robert	Deloitte Consulting LLP
Nix	Philip A	Deloitte & Touche LLP
Noble	Jodi Lynn	Deloitte & Touche LLP
Nockolds	David R	Deloitte Tax LLP
Noel	Daniel Burton	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Normington	Matthew J	Deloitte Tax LLP
Norton	Kieran S	Deloitte & Touche LLP
Norvell	Douglas Killian	Deloitte Consulting LLP
Nosrat	Amin R	Deloitte Tax LLP
Novotny	Nicole Ellen	Deloitte Consulting LLP
Nowak	David M	Deloitte & Touche LLP
Nussbaum	Brian L	Deloitte & Touche LLP
Nuttycombe	Wallace R	Deloitte & Touche LLP
Oberst	David Andrew	Deloitte & Touche LLP
Obey	Anthony H	Deloitte Consulting LLP
Obradovich	Carl Paul	Deloitte Tax LLP
Obrecht	Kristine M	Deloitte & Touche LLP
O'Brien	Garrett James	Deloitte & Touche LLP
O'Brien	Joanne Betty	Deloitte Tax LLP
O'Brien	Laureen M	Deloitte & Touche LLP
O'Brien	Robert Thomas	Deloitte & Touche LLP
O'Connor	Katherine Dee	Deloitte & Touche LLP
O'Connor	Timothy D	Deloitte Consulting LLP
Octavio	Tamara	Deloitte & Touche LLP
O'Dell	Jennifer H	Deloitte & Touche LLP
O'Dell	Kathleen Lynne	Deloitte Consulting LLP
Odom	Dan A.	Deloitte & Touche LLP
O'Donnell	Ivan J.	Deloitte & Touche LLP
O'Donnell	Patrick M.	Deloitte & Touche LLP
Odusote	Ayotomiwa Olayinka	Deloitte Consulting LLP
O'Dwyer	Jerald D.	Deloitte Consulting LLP
Oehl	Frank P	Deloitte & Touche LLP
Oeler	Clark B	Deloitte & Touche LLP
Ogiamien	Omosede Esohe	Deloitte & Touche LLP
O'Hara	Michael W	Deloitte & Touche LLP
Ohri	Lokesh	Deloitte Consulting LLP
Oleksyk	Jon M.	Deloitte Tax LLP
Olesin	Michael W	Deloitte & Touche LLP
Oliver	Christine M.	Deloitte & Touche LLP
Oliver	Douglas A.	Deloitte Consulting LLP
Oliver	James E	Deloitte & Touche LLP
Ollila	Eric Paul	Deloitte & Touche LLP
Omar	Fatin S	Deloitte Tax LLP
O'Mara	Susan	Deloitte & Touche LLP
Omberg	Thomas Chalmers	Deloitte & Touche LLP
O'Meara	Robert	Deloitte Consulting LLP
Opdyke	Karina Lee	Deloitte Consulting LLP
Orawski	Nadia Katherine	Deloitte Consulting LLP
Ordway	Erika	Deloitte & Touche LLP
O'Reilly	Monica B	Deloitte & Touche LLP
Orkin III	Theodore S	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
O'Rourke	Olive Martina	Deloitte Consulting LLP
Osmanoglu	Ertem	Deloitte & Touche LLP
Osterberg	Annika Loraine	Deloitte Consulting LLP
Ostrander	Christopher Adam	Deloitte Consulting LLP
Oswald	James Anthony	Deloitte Tax LLP
Oveissi Field	Carmen	Deloitte LLP
Oven	Carey L	Deloitte & Touche LLP
Overly	David Hyatt	Deloitte Tax LLP
Owenby	Michael H.	Deloitte Tax LLP
Owusu-Aduomi	Kwasi Obeng	Deloitte & Touche LLP
Padha	Aditya Pratap	Deloitte Consulting LLP
Paek	John Chulsoo	Deloitte Tax LLP
Page	Oliver Henry	Deloitte Consulting LLP
Pagliaro	Anthony	Deloitte Consulting LLP
Painter	Margaret M	Deloitte Consulting LLP
Pajula	Seema	Deloitte & Touche LLP
Pakiela	Matthew J	Deloitte Tax LLP
Pal	Vipul	Deloitte Consulting LLP
Paley	Douglas R	Deloitte & Touche LLP
Palme	Gregory J.	Deloitte & Touche LLP
Palmer	Douglas Victor	Deloitte Consulting LLP
Panasik	Paul A.	Deloitte Tax LLP
Pangam	Apurva Narayan	Deloitte Consulting LLP
Panisko	John Francis	Deloitte Tax LLP
Panitch	Irwin B	Deloitte Tax LLP
Paradis	Andrew Ulderic	Deloitte Consulting LLP
Pardo III	Peter V	Deloitte & Touche LLP
Parent	David A	Deloitte Consulting LLP
Parenti	Eva	Deloitte Tax LLP
Parette	Paul N.	Deloitte & Touche LLP
Parikh	Dipen R	Deloitte Consulting LLP
Parish	Samantha I	Deloitte Financial Advisory Services LLP
Park	Amy J	Deloitte & Touche LLP
Park	Christopher H	Deloitte Consulting LLP
Park	Daniel	Deloitte Tax LLP
Park	Robert	Deloitte Consulting LLP
Parker	Amy Michelle	Deloitte & Touche LLP
Parker	Anesa Diaz Uda	Deloitte Consulting LLP
Parker	Matthew L	Deloitte & Touche LLP
Parker	Scott A.	Deloitte Consulting LLP
Parmar	Ashok	Deloitte & Touche LLP
Parmelee	Michele Elizabeth	Deloitte Consulting LLP
Parrish	Adam	Deloitte & Touche LLP
Partridge	Timothy Eric	Deloitte Consulting LLP
Pasha	Sunnah	Deloitte Consulting LLP
Patel	Amy E	Deloitte Tax LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Patel	Ankit B	Deloitte Tax LLP
Patel	Chirag Vinu	Deloitte & Touche LLP
Patel	Jagat	Deloitte Consulting LLP
Patel	Khelan Babubhai	Deloitte Consulting LLP
Patel	Stephanie Arnold	Deloitte Tax LLP
Patil	Ashwin Vijay	Deloitte Consulting LLP
Patil	Siddharth Sanjay	Deloitte Consulting LLP
Patri	Prashant Seshagirirao	Deloitte & Touche LLP
Patrick	Michael Joseph	Deloitte & Touche LLP
Pattadar	Saikat	Deloitte Consulting LLP
Patterson	Nicole Denise	Deloitte Consulting LLP
Patterson	Sarah Jeanne	Deloitte & Touche LLP
Patti-Oliveira	Allison M	Deloitte & Touche LLP
Patton	Christopher J.	Deloitte & Touche LLP
Patwari	Parth Himanshu	Deloitte Consulting LLP
Paul	Richard C.	Deloitte & Touche LLP
Pauls	William Robert	Deloitte Tax LLP
Pavlik	Greg	Deloitte Consulting LLP
Pavlovsky	Kathryn D	Deloitte Financial Advisory Services LLP
Pawczuk	Linda Kay	Deloitte Consulting LLP
Paynter	Nathaniel C	Deloitte Consulting LLP
Pearce	Jonathan R	Deloitte Consulting LLP
Pearl	Allen T	Deloitte Tax LLP
Pearson	Mark Eugene	Deloitte Financial Advisory Services LLP
Pearson	Samuel Claude	Deloitte Consulting LLP
Peasley	Sean M.	Deloitte & Touche LLP
Peckham	Daniel M.	Deloitte Transactions and Business Analytics LLP
Pederson	Russell	Deloitte Consulting LLP
Peek	Zachary C.	Deloitte Tax LLP
Peel	Eric W.	Deloitte Tax LLP
Peirson Jr.	John Robert	Deloitte & Touche LLP
Pelekanos	Ioannis	Deloitte Consulting LLP
Pemberton	Tricia K.	Deloitte & Touche LLP
Penkoski	Richard J.	Deloitte Consulting LLP
Penshorn	Robert Stephen	Deloitte & Touche LLP
Perazza	Michael C	Deloitte & Touche LLP
Pereira	Rohit Neil	Deloitte Consulting LLP
Pereira Chakka	Ramona	Deloitte Consulting LLP
Perez	Jessica Naomi	Deloitte & Touche LLP
Perez	Lissa T	Deloitte & Touche LLP
Perez	Rick L	Deloitte Consulting LLP
Perinkolam	Arun Narayanan	Deloitte & Touche LLP
Perisho	Jeremy M.	Deloitte Financial Advisory Services LLP
Perkins	Richard J	Deloitte Tax LLP
Perler	Gary M	Deloitte Tax LLP
Pernenkil	Lakshman	Deloitte Consulting LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Perrone Goldstein	Stephanie Marie	Deloitte Consulting LLP
Perry	Jay D	Deloitte Tax LLP
Perry	Robert Anthony	Deloitte & Touche LLP
Pesa	Lauren Marie	Deloitte & Touche LLP
Petersen	Adrienne Keeble	Deloitte Consulting LLP
Peterson Jr.	James R	Deloitte Transactions and Business Analytics LLP
Peto	John D	Deloitte Consulting LLP
Petrella	Martin Enrique	Deloitte Transactions and Business Analytics LLP
Petrie	James C	Deloitte Tax LLP
Petrovich	John Daniel	Deloitte Consulting LLP
Petteys	Kasey C	Deloitte & Touche LLP
Pettit	Philip J	Deloitte LLP
Pfrang	Philip E	Deloitte & Touche LLP
Phelan	Michael D.	Deloitte Consulting LLP
Phelps	Anne Elizabeth	Deloitte & Touche LLP
Phillips	Benjamin	Deloitte Consulting LLP
Phillips	Henry M	Deloitte & Touche LLP
Phillips	Joan M	Deloitte & Touche LLP
Piazza	James M	Deloitte Tax LLP
Pick	Keri M	Deloitte & Touche LLP
Pickett	James R	Deloitte Tax LLP
Pickette	James F.	Deloitte & Touche LLP
Pidgeon	Andrew Wilson	Deloitte & Touche LLP
Pierro	Todd C	Deloitte & Touche LLP
Pighini	Mark F.	Deloitte Transactions and Business Analytics LLP
Pilgrim	Bronson Archibald	Deloitte & Touche LLP
Pinazza	Nicole Anne	Deloitte Tax LLP
Pinto	Brian K	Deloitte Tax LLP
Pinto	Sarah Katherine	Deloitte & Touche LLP
Pipala	Michael A	Deloitte & Touche LLP
Piros	Matthew David	Deloitte & Touche LLP
Pitman	Kathleen P	Deloitte Tax LLP
Plaut	Thomas L	Deloitte Tax LLP
Plourde	Jeffrey G	Deloitte & Touche LLP
Plowman	Jeffrey S.	Deloitte & Touche LLP
Plowman	Tiffany Danielle	Deloitte Consulting LLP
Plows	Ian Anthony	Deloitte Consulting LLP
Plumb	Katherine Tropoli	Deloitte Tax LLP
Plunkett	Robert W	Deloitte Tax LLP
Plunkey	Mark A	Deloitte Consulting LLP
Poe	Steven F.	Deloitte Financial Advisory Services LLP
Poignant	Robert C.	Deloitte Tax LLP
Poindexter	Heath R	Deloitte & Touche LLP
Poliquin	Daniel	Deloitte & Touche LLP
Pollard	William J.	Deloitte & Touche LLP
Pollari	Kevin	Deloitte Consulting LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Polli	Matthew	Deloitte Tax LLP
Ponton	Mindy J	Deloitte & Touche LLP
Poole	Bradley W	Deloitte & Touche LLP
Popken	Alfred C	Deloitte & Touche LLP
Porell	Mark A	Deloitte Consulting LLP
Porter	Karima Michelle	Deloitte Consulting LLP
Porter	Kimberly A.	Deloitte Consulting LLP
Porter	Stanley E.	Deloitte Consulting LLP
Porter II	Walter P	Deloitte Consulting LLP
Posey	William D.	Deloitte Tax LLP
Possin	David James	Deloitte & Touche LLP
Potetz	Daniel R.	Deloitte & Touche LLP
Potter	Timothy Samuel	Deloitte Consulting LLP
Potts	Jeffrey D	Deloitte & Touche LLP
Powalisz	Lauren Rosenbaum	Deloitte Consulting LLP
Powderly	Gerald Robert	Deloitte & Touche LLP
Powers	Edward W.	Deloitte & Touche LLP
Powers	John D.	Deloitte Consulting LLP
Powrie	Jeffrey Scott	Deloitte Consulting LLP
Pozzi	Jeffrey Richard	Deloitte LLP
Prabhakar	Kavitha	Deloitte Consulting LLP
Prabhu	Ajit M	Deloitte Consulting LLP
Prasad	Arun K	Deloitte Consulting LLP
Prast	Joseph Ronald	Deloitte & Touche LLP
Pratt	Steven	Deloitte Consulting LLP
Prendeville	Kevin Patrick	Deloitte Consulting LLP
Pressler	Lori A.	Deloitte & Touche LLP
Preston	William H	Deloitte Consulting LLP
Prevost	Traci Quercia	Deloitte Consulting LLP
Prewitt	Michael J.	Deloitte Tax LLP
Price	Ashley James	Deloitte Tax LLP
Price	Mark A.	Deloitte Consulting LLP
Primeaux	Gina Z	Deloitte & Touche LLP
Procopio	Rosalba	Deloitte & Touche LLP
Proctor	Brian A	Deloitte Consulting LLP
Proietti	Patricia Wilkie	Deloitte Tax LLP
Pronley	Timothy J	Deloitte Tax LLP
Prophet-Reese	Beth Ann	Deloitte & Touche LLP
Puckett	Anthony S	Deloitte & Touche LLP
Puglia	Christopher Michael	Deloitte Tax LLP
Purowitz	Mark A.	Deloitte Consulting LLP
Purtill	Kathleen Renee	Deloitte Consulting LLP
Pushchinsky	George	Deloitte Consulting LLP
Qua	James Michael	Deloitte Consulting LLP
Quackenbush	Dennis M	Deloitte & Touche LLP
Quagliana	Harold V.	Deloitte Tax LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Qualander	Mohamed N.R.	Deloitte & Touche LLP
Quarm	Mark A.	Deloitte & Touche LLP
Queler	Matthew	Deloitte Financial Advisory Services LLP
Quinby	Gillian Bearfield	Deloitte & Touche LLP
Quinlan	Joseph McLaren	Deloitte LLP
Quinones Cardona	Angel Luis	Deloitte Consulting LLP
Quirk	Kevin	Deloitte Consulting LLP
Racek	Martin	Deloitte & Touche LLP
Radia	Nehal	Deloitte Tax LLP
Radich	Bryan Milosh	Deloitte & Touche LLP
Radin	Jennifer M.	Deloitte Consulting LLP
Radis	Eileen Schreiber	Deloitte Consulting LLP
Rafique	Ayesha	Deloitte & Touche LLP
Rafla	Andrew Zarif	Deloitte & Touche LLP
Raghavan	Ashish R	Deloitte & Touche LLP
Raghunathan	Savita	Deloitte Consulting LLP
Rahamatullah	Kashif	Deloitte Consulting LLP
Raimondi	Alexa S	Deloitte & Touche LLP
Rains	David	Deloitte & Touche LLP
Rajagopalan	Swaminathan	Deloitte Consulting LLP
Ralston	Wendy J.	Deloitte & Touche LLP
Ramachandra	Hemant G	Deloitte Consulting LLP
Ramakrishna	Samir B	Deloitte Tax LLP
Ramasubramaniam	Kaushik	Deloitte Consulting LLP
Ramchandran	Asish	Deloitte Consulting LLP
Ramcharan	Anil Dave	Deloitte & Touche LLP
Ramos	Amy	Deloitte Tax LLP
Ramsey	Karen	Deloitte Consulting LLP
Ramunno	Louis A	Deloitte Tax LLP
Rangaprasad	Vasudha	Deloitte Tax LLP
Rangel	Heather Ann	Deloitte Tax LLP
Ranjan	Raghav	Deloitte Consulting LLP
Rao	Ayyadevera Kishore	Deloitte Consulting LLP
Rao	Ranjit	Deloitte Consulting LLP
Raphael	Jonathan W.	Deloitte & Touche LLP
Rasmussen	Paul Lewis	Deloitte Tax LLP
Rathore	Aprajita	Deloitte Consulting LLP
Rattenbury	Kirby J	Deloitte & Touche LLP
Ravn	Thomas	Deloitte Consulting LLP
Ray	Jennifer Anne	Deloitte Tax LLP
Ray	Laura B	Deloitte Tax LLP
Read	Leslie Merrideth	Deloitte Consulting LLP
Read	Scott C	Deloitte Transactions and Business Analytics LLP
Reaugh	Daniel William	Deloitte & Touche LLP
Redding	Kelly Proch	Deloitte & Touche LLP
Reddy	Deval Mahendra	Deloitte Tax LLP

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Last Name	First Name	Legal Entity
Redmond	James B	Deloitte & Touche LLP
Reed	Justin Thomas	Deloitte & Touche LLP
Reese	Jason Peter	Deloitte Consulting LLP
Regelbrugge	Adam Scott	Deloitte & Touche LLP
Reh	Gregory Karl	Deloitte Consulting LLP
Reiber	Ryan Lincoln	Deloitte & Touche LLP
Reichel	Kenneth D	Deloitte Tax LLP
Reichert	Michael R	Deloitte Tax LLP
Reichheld	Elizabeth Ashley	Deloitte Consulting LLP
Reilly	Adam	Deloitte & Touche LLP
Reilly	Heather Towhidian	Deloitte Consulting LLP
Reilly	Jason A	Deloitte Consulting LLP
Reilly	Kate Shannon	Deloitte Consulting LLP
Reiss	Adam Jason	Deloitte Consulting LLP
Renjen	Punit	Deloitte LLP
Renner	Barbara L	Deloitte Tax LLP
Reno	Melinda Williams	Deloitte Consulting LLP
Rescober	Shelley	Deloitte Consulting LLP
Ressler	Daniel William	Deloitte & Touche LLP
Reuter	Richard Jeremy	Deloitte Consulting LLP
Revault	Pierre-Henri	Deloitte Tax LLP
Rewal	Sameer	Deloitte Consulting LLP
Reynolds	Maureen O	Deloitte & Touche LLP
Rhodes	John D	Deloitte & Touche LLP
Rhodes	Kirsten Bowen	Deloitte & Touche LLP
Rial	Edward A	Deloitte Financial Advisory Services LLP
Riaz	Kashif	Deloitte & Touche LLP
Ribaudo	William J	Deloitte & Touche LLP
Rich	Amy Louise	Deloitte Consulting LLP
Richard	Christopher	Deloitte Consulting LLP
Richards	Kevin S	Deloitte & Touche LLP
Richter	Jason Charles	Deloitte Tax LLP
Ricks	Edward Adams	Deloitte & Touche LLP
Ried	Robert Ronald	Deloitte Consulting LLP
Rieger	John A	Deloitte Tax LLP
Riess	Ryder Francis	Deloitte Consulting LLP
Riggs	Donald P	Deloitte & Touche LLP
Rigsby	Jason L	Deloitte & Touche LLP
Riisberg	Kristine	Deloitte Tax LLP
Riley	Sean Edward	Deloitte Transactions and Business Analytics LLP
Rinn	Elijah Daniel	Deloitte & Touche LLP
Rissanen	Jason O	Deloitte & Touche LLP
Rivera III	Aurelio	Deloitte Consulting LLP
Rivshin	Bella	Deloitte & Touche LLP
Rizzi	Lori Marrah	Deloitte Consulting LLP
Rizzo	David E	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Rizzo	Jonathan C	Deloitte & Touche LLP
Roberts	James D	Deloitte & Touche LLP
Roberts	Ryan Cole	Deloitte & Touche LLP
Robertson	Jason Christopher	Deloitte Tax LLP
Robinson	Andrew Jay	Deloitte Tax LLP
Robinson	Christine Anne	Deloitte & Touche LLP
Robu	Nicoleta Liliana	Deloitte Consulting LLP
Rodgers	Blake R	Deloitte & Touche LLP
Rodrigues	Glen Francisco	Deloitte Consulting LLP
Rodrigues	Prajval Stephen	Deloitte Consulting LLP
Rodriguez	Isabelle M	Deloitte & Touche LLP
Rodriguez	Karen M	Deloitte Tax LLP
Roe-Karrenbauer	Sarah	Deloitte Tax LLP
Roger	Nicholas A	Deloitte & Touche LLP
Rogers	Christopher Franklin David	Deloitte & Touche LLP
Rogers	Paul R	Deloitte & Touche LLP
Rogers	Zach Alan	Deloitte Consulting LLP
Rogowski	Amy L	Deloitte Tax LLP
Rohrig	Michael A.	Deloitte & Touche LLP
Romeo	Louis A.	Deloitte & Touche LLP
Rooney	Daniel Timothy	Deloitte & Touche LLP
Rooney	Thomas W	Deloitte Tax LLP
Roop	John D	Deloitte & Touche LLP
Roper	Brenan Joseph	Deloitte Consulting LLP
Rosato	Thomas S	Deloitte Consulting LLP
Rosdahl	Vincent M.	Deloitte Tax LLP
Rose	Alicia	Deloitte & Touche LLP
Rose	Brian D.	Deloitte Tax LLP
Rose	Christopher	Deloitte Consulting LLP
Rose	Kevin	Deloitte Consulting LLP
Rose Jr.	Robert C.	Deloitte Consulting LLP
Rosenbaum	Joshua David	Deloitte Transactions and Business Analytics LLP
Rosenberg	Lawrence S	Deloitte & Touche LLP
Rosenberger	Scott Alan	Deloitte Consulting LLP
Rosenstein	Elizabeth R	Deloitte Consulting LLP
Rosenthal	Richard Alan	Deloitte & Touche LLP
Rosko	Greg Matthew	Deloitte Tax LLP
Rosner	David	Deloitte Consulting LLP
Ross	Mark Alan	Deloitte Tax LLP
Rosshirt	Daniel E	Deloitte Consulting LLP
Roth	Adam S	Deloitte Tax LLP
Rothe	Eric J	Deloitte & Touche LLP
Rothman	Jonathan S	Deloitte & Touche LLP
Roveto	Donald Roger	Deloitte Tax LLP
Rowan III	James Clark	Deloitte Consulting LLP
Roy	Gavin T.	Deloitte Tax LLP

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Last Name	First Name	Legal Entity
Royall	Maritza Vazquez	Deloitte Tax LLP
Ruane	Kevin M	Deloitte Tax LLP
Ruben	Brian D.	Deloitte & Touche LLP
Rubidge	Julie Rose	Deloitte Tax LLP
Rubin	Eric Matthew	Deloitte & Touche LLP
Rubinstein	Jenna Lee	Deloitte & Touche LLP
Ruckman	Andy	Deloitte Transactions and Business Analytics LLP
Rucks	Bruce J	Deloitte & Touche LLP
Rudegeair	Thomas S.	Deloitte Tax LLP
Rudini	David F.	Deloitte Consulting LLP
Ruggeri	Chris A.	Deloitte Transactions and Business Analytics LLP
Ruhl	Kevin P	Deloitte Consulting LLP
Ruiz	J.R.	Deloitte Consulting LLP
Ruiz de Gamboa	Abigail Athena	Deloitte Consulting LLP
Ruiz Yeomans	Samantha	Deloitte Consulting LLP
Rupilius	Karl Heinrich	Deloitte Consulting LLP
Russell	Ruth Forder	Deloitte & Touche LLP
Russi	John F	Deloitte LLP
Russo	Anthony Frank	Deloitte & Touche LLP
Rutke	Rive R	Deloitte Tax LLP
Ryan	Amy D	Deloitte & Touche LLP
Ryan	Dawn C	Deloitte LLP
Ryan	Deirdre A.	Deloitte Consulting LLP
Rydberg	Darren Keith	Deloitte LLP
Saake	Ronald D.	Deloitte Tax LLP
Sachdev	Upen Ashok	Deloitte & Touche LLP
Sachtleben	Courtney Dawn	Deloitte & Touche LLP
Sacoolas	David Michael	Deloitte & Touche LLP
Saddock	Alicia	Deloitte Consulting LLP
Safra	Michael E	Deloitte Tax LLP
Saha	Satrajit	Deloitte Tax LLP
Saia	Charles A	Deloitte & Touche LLP
Saif	Irfan I	Deloitte & Touche LLP
Saiki	Shellie A.	Deloitte & Touche LLP
Saint-Onge	Christian Kenneth	Deloitte Consulting LLP
Sakr	Sherif	Deloitte & Touche LLP
Salata	John D	Deloitte & Touche LLP
Salazar Araiz	Francisco Javier	Deloitte Consulting LLP
Salgueiro	Jorge I.	Deloitte & Touche LLP
Salvatore	Jeffrey M.	Deloitte & Touche LLP
Salz	Andre P	Deloitte & Touche LLP
Salzetti	Jason M.	Deloitte Consulting LLP
Samano	Larry D.	Deloitte & Touche LLP
Samonds	Matthew R	Deloitte Tax LLP
Samonds	Timothy M	Deloitte Tax LLP
Sampat	Piyush Surendra	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Samson	Todd A	Deloitte Tax LLP
Sanders	David N	Deloitte Tax LLP
Sandler	Stacy B	Deloitte Consulting LLP
Sandoval	Jorge Fernando	Deloitte Tax LLP
Sandoval	Julieth Carolina	Deloitte & Touche LLP
Sanford	Laura	Deloitte Tax LLP
Santella	Vania	Deloitte & Touche LLP
Sapio	Robert Francis	Deloitte Consulting LLP
Sarabacha	David Michael	Deloitte & Touche LLP
Sarabia	Jose	Deloitte & Touche LLP
Sarer	Baris	Deloitte Consulting LLP
Sarno	John L.	Deloitte & Touche LLP
Sauders	Kelly	Deloitte & Touche LLP
Sauer	Scott M.	Deloitte & Touche LLP
Savage	Wendy M.	Deloitte & Touche LLP
Saviano	Micaela Klein	Deloitte Tax LLP
Saviet	Jonathan David	Deloitte Tax LLP
Savoy	Eric J	Deloitte Tax LLP
Sawyer	Jason Edward	Deloitte Tax LLP
Saxe	Dana Leslie	Deloitte & Touche LLP
Scaggs	Kenneth A.	Deloitte Consulting LLP
Scalese	Anthony	Deloitte & Touche LLP
Scalese Jr.	Mark J	Deloitte & Touche LLP
Scanlon	Erin	Deloitte & Touche LLP
Scaramella	Michael Anthony	Deloitte Tax LLP
Schaberg	Jeffrey D.	Deloitte & Touche LLP
Scharnweber	David Lee	Deloitte Tax LLP
Schaub	Alan J	Deloitte & Touche LLP
Scheibel	Patrick John	Deloitte & Touche LLP
Scheidler	Gretchen E	Deloitte Tax LLP
Scheinrock	Marc David	Deloitte Consulting LLP
Scherer	Katherine M.	Deloitte Tax LLP
Scheuerman	Ann M	Deloitte Tax LLP
Schiavon	Mauro	Deloitte Consulting LLP
Schirber Rolquin	Mary Jane	Deloitte Financial Advisory Services LLP
Schlachtenhaufen	Joel Benjamin	Deloitte Consulting LLP
Schlachter Jr.	Anthony Albert	Deloitte & Touche LLP
Schlect	Michael Neal	Deloitte Tax LLP
Schlimer	Marshall A.	Deloitte & Touche LLP
Schmidt	Chris F.	Deloitte Consulting LLP
Schmidt	Michael John	Deloitte Tax LLP
Schmidtetter	Gregg R	Deloitte & Touche LLP
Schneider	Darren Joel	Deloitte Consulting LLP
Schneider	Tessa Carolyn	Deloitte & Touche LLP
Schneidman	Jordan B	Deloitte Consulting LLP
Schoenbaum	Brent S.	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Schoenwaelder	Thomas Otto	Deloitte Consulting LLP
Schoenwetter	Patrick J	Deloitte & Touche LLP
Schor	Michael B	Deloitte & Touche LLP
Schramm	Charles M.	Deloitte Tax LLP
Schraw	Derek C	Deloitte Tax LLP
Schreiber	Steven	Deloitte & Touche LLP
Schroeck	Maximilian	Deloitte Consulting LLP
Schulhof	Kenneth T	Deloitte Tax LLP
Schultz	Dennis Paul	Deloitte Consulting LLP
Schultz	James D	Deloitte & Touche LLP
Schutt	Nikki A	Deloitte & Touche LLP
Schwartz	Adrian B.	Deloitte & Touche LLP
Schwartz	Avi D	Deloitte Transactions and Business Analytics LLP
Schwartz	Daniel R	Deloitte Tax LLP
Schwartz	Evan	Deloitte LLP
Schwartz	Jeffrey G	Deloitte & Touche LLP
Schwartz	Ron J	Deloitte Financial Advisory Services LLP
Schwarz	Timothy E	Deloitte Tax LLP
Schweller	Daniel T	Deloitte & Touche LLP
Schwenderman	Matthew J.	Deloitte Consulting LLP
Schwenk	William F	Deloitte & Touche LLP
Schwerdtfeger	Kathryn A	Deloitte & Touche LLP
Schwindt	Karen Louise	Deloitte LLP
Scollin	Lindsay Joy	Deloitte Consulting LLP
Scott	Brian C.	Deloitte Consulting LLP
Scott	Christine V	Deloitte Transactions and Business Analytics LLP
Scriber	Kenneth J	Deloitte & Touche LLP
Seabrook	John Lewis	Deloitte Tax LLP
Seaman	Samuel Mitchell	Deloitte Tax LLP
Sedivy	Peter J	Deloitte Consulting LLP
Seelagy	Greg S	Deloitte & Touche LLP
Seestedt	Ellyn Marie	Deloitte Consulting LLP
Segoria	Joseph M.	Deloitte Tax LLP
Sehgal	Pankaj	Deloitte Consulting LLP
Seifert	Dremeco D	Deloitte & Touche LLP
Sekhar	Sundhar G	Deloitte Consulting LLP
Selig	Carolyn Kolling	Deloitte & Touche LLP
Sell	Kyle M.	Deloitte & Touche LLP
Sembhi	Rakinder Singh	Deloitte Consulting LLP
Senawi	Dounia	Deloitte Consulting LLP
Seng	Michael John	Deloitte & Touche LLP
Seshaadri	Venkatramanan	Deloitte Consulting LLP
Sethi	Rochak	Deloitte Consulting LLP
Sethi	Sachin S.	Deloitte & Touche LLP
Setola	Orlando	Deloitte Transactions and Business Analytics LLP
Seykora	Steven James	Deloitte Consulting LLP

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Last Name	First Name	Legal Entity
Seymour	Thomas Palmer	Deloitte Consulting LLP
Shact	Laura Sarina	Deloitte Consulting LLP
Shafer	Scott A.	Deloitte Tax LLP
Shafik	Messiha F.	Deloitte Tax LLP
Shah	Hiral	Deloitte & Touche LLP
Shah	Kajal Pramodkumar	Deloitte & Touche LLP
Shah	Kunal S	Deloitte Consulting LLP
Shah	Mohammad Khalid	Deloitte & Touche LLP
Shah	Nayan	Deloitte Consulting LLP
Shah	Rajiv	Deloitte Consulting LLP
Shah	Sanjay B	Deloitte Consulting LLP
Shah	Shahid Ahmed	Deloitte & Touche LLP
Shaikh	Faisal	Deloitte Consulting LLP
Shaikh	Mohammadmatin Ahemadhu	Deloitte & Touche LLP
Shanks	Robert	Deloitte & Touche LLP
Sharps	Kevin J	Deloitte Consulting LLP
Shatto	David Paul	Deloitte Consulting LLP
Shaw	Aaron Michael	Deloitte & Touche LLP
Shaw	Gary N	Deloitte & Touche LLP
Shaw	Jeffrey M.	Deloitte Tax LLP
Shaw	Jenna R	Deloitte & Touche LLP
Shea	Evan R.	Deloitte Tax LLP
Sheehan	Evan E	Deloitte Consulting LLP
Sheehan	Thomas C	Deloitte LLP
Shehadeh	Patrick	Deloitte Consulting LLP
Shekell	Scott L.	Deloitte Tax LLP
Shelley	Patrick J	Deloitte & Touche LLP
Shepard	Michael Drew	Deloitte Transactions and Business Analytics LLP
Shepley	Steven C.	Deloitte Consulting LLP
Sher	Anton	Deloitte Consulting LLP
Shields	Lisa VanMeter	Deloitte Tax LLP
Shilling	Mark	Deloitte Consulting LLP
Shimer	Peter A	Deloitte & Touche LLP
Shin	Hannah Hyunjung	Deloitte Tax LLP
Shingledecker	Thomas R	Deloitte Tax LLP
Shippey	Michael F.	Deloitte & Touche LLP
Shirk	Scott S	Deloitte & Touche LLP
Shoemake	Barry L	Deloitte & Touche LLP
Shopoff	Christine Stearns	Deloitte Tax LLP
Shopp	Jade M	Deloitte & Touche LLP
Shoupp	Douglas S.	Deloitte Consulting LLP
Shrank	David Lee	Deloitte Consulting LLP
Shudes	Christopher Joseph	Deloitte Consulting LLP
Shurin	Alexander Sandy	Deloitte Tax LLP
Shurland	Temano Kemuel	Deloitte & Touche LLP
Siblik	Kevin D.	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Siddiqui	Khurram	Deloitte & Touche LLP
Sides	Rodney R	Deloitte Consulting LLP
Sidher	Sajeev K.	Deloitte Tax LLP
Sidi	Hanif Hamir	Deloitte Consulting LLP
Siegel	Adam R	Deloitte & Touche LLP
Siegel	Brian H	Deloitte Consulting LLP
Siegel	Daniel M.	Deloitte Consulting LLP
Siegel	Trisha Erin	Deloitte & Touche LLP
Siena	Christina Margaret	Deloitte & Touche LLP
Sierra	Gretchen Therese	Deloitte Tax LLP
Sieverding	Keith A	Deloitte Tax LLP
Silber	Justin Alan	Deloitte & Touche LLP
Sills	Deborah G	Deloitte Consulting LLP
Silva	Michelle M	Deloitte & Touche LLP
Silver	Paul Jeffrey	Deloitte & Touche LLP
Silverglate	Paul H	Deloitte & Touche LLP
Silverman	Joybell	Deloitte Consulting LLP
Silvers	Samuel	Deloitte Consulting LLP
Silverstein	Scott Evan	Deloitte LLP
Simeone	George M	Deloitte & Touche LLP
Simeonidis	Peter J	Deloitte Tax LLP
Simjee	Hashim	Deloitte Consulting LLP
Simmonds	Daniel Lee	Deloitte Consulting LLP
Simmons	Brian D	Deloitte & Touche LLP
Simmons	Kevin O	Deloitte Consulting LLP
Simons	A. Christine	Deloitte & Touche LLP
Simpson	Christopher Warren	Deloitte Tax LLP
Simpson	Jeffrey	Deloitte Consulting LLP
Simpson	Michele L	Deloitte & Touche LLP
Simpson	Timothy Glenn	Deloitte Tax LLP
Sindle	Guy T.	Deloitte & Touche LLP
Singer	Mark	Deloitte Consulting LLP
Singh	Kushagr	Deloitte & Touche LLP
Singh	Maria Carina Ruiz	Deloitte & Touche LLP
Singh	Ranjit	Deloitte Consulting LLP
Singh	Ranjit Bawa	Deloitte Consulting LLP
Singh	Sudeep Satyendra	Deloitte Consulting LLP
Singhal	Rajeev	Deloitte & Touche LLP
Sinha	Alok K	Deloitte & Touche LLP
Sinha	Avijeet	Deloitte Consulting LLP
Sinwell	Stephen C.	Deloitte & Touche LLP
Sirken	Daniel Whitmore	Deloitte Tax LLP
Sirower	Mark Lee	Deloitte Consulting LLP
Six	Kevin T.	Deloitte Tax LLP
Skelton	Jan L	Deloitte Tax LLP
Skillrud	Ion James	Deloitte Consulting LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Skirvin	Cindy Helen	Deloitte Consulting LLP
Skowron	John F	Deloitte Consulting LLP
Slark	Abigail Treworgy	Deloitte Consulting LLP
Slattery	Michael J	Deloitte Tax LLP
Slavin	Mark A	Deloitte & Touche LLP
Sliman	John T.	Deloitte & Touche LLP
Sloan	Nathan Turner	Deloitte Consulting LLP
Slovensky	April Bittner	Deloitte Consulting LLP
Slyh	John W	Deloitte & Touche LLP
Smith	Alexander David	Deloitte & Touche LLP
Smith	Andrea Jean	Deloitte Tax LLP
Smith	Bradley A	Deloitte Tax LLP
Smith	Bradley R	Deloitte Consulting LLP
Smith	Brian Mitchell	Deloitte Consulting LLP
Smith	Christopher C.	Deloitte & Touche LLP
Smith	Erik David	Deloitte Consulting LLP
Smith	Gordon Walker	Deloitte Consulting LLP
Smith	Gregg D.	Deloitte LLP
Smith	Jeffrey J	Deloitte & Touche LLP
Smith	Kenneth J	Deloitte Consulting LLP
Smith	Robin Lea	Deloitte & Touche LLP
Smith	Sandra Marie	Deloitte Consulting LLP
Smith	Scott G	Deloitte & Touche LLP
Smith	Stephen H.	Deloitte & Touche LLP
Smith	Thalia Savonne	Deloitte & Touche LLP
Smith	Timothy F.	Deloitte Consulting LLP
Smith	Timothy Paul	Deloitte Consulting LLP
Smith	Tod B.	Deloitte Tax LLP
Smith III	Kelly Miller	Deloitte & Touche LLP
Smith Jr.	David Lee	Deloitte Consulting LLP
Smith Jr.	George Wyndham	Deloitte & Touche LLP
Smyczek	Jason Thomas	Deloitte Tax LLP
Snaidauf	Derek	Deloitte Transactions and Business Analytics LLP
Snodgrass	Lori L	Deloitte & Touche LLP
Snow	Kelly L	Deloitte & Touche LLP
Snyder	Bill L.	Deloitte & Touche LLP
Snyder	Glenn H	Deloitte Consulting LLP
Sobhani	Deepak	Deloitte Consulting LLP
Sodano	Mark A	Deloitte & Touche LLP
Soderberg	Matthew D	Deloitte Consulting LLP
Sogoloff	Randall S	Deloitte & Touche LLP
Sohail	Omer	Deloitte Consulting LLP
Sohigian	James P	Deloitte Consulting LLP
Sokol	James Jeff	Deloitte Tax LLP
Sokoll	Walter Anthony	Deloitte Consulting LLP
Solomon	Jason D	Deloitte & Touche LLP

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Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Solomon	Marshall S.	Deloitte Tax LLP
Sommer IV	George N j	Deloitte & Touche LLP
Sondhi	Sachin	Deloitte Consulting LLP
Sonenthal	Ronald S.	Deloitte Tax LLP
Sonigo	Julie E	Deloitte & Touche LLP
Sontz	Robert M	Deloitte Tax LLP
Soo	Daniel	Deloitte & Touche LLP
Sorgen	David L	Deloitte LLP
Soucy	Anita	Deloitte Tax LLP
Sowar Jr.	James W.	Deloitte Tax LLP
Sowers	Wesley C	Deloitte & Touche LLP
Spain	Adam Joshua	Deloitte Consulting LLP
Spalding	Tyler Cooke	Deloitte Tax LLP
Spangrud	Chad Robert	Deloitte & Touche LLP
Spann	Jason P	Deloitte Tax LLP
Spatoliatore	Lucian V.	Deloitte Tax LLP
Spelman	Simona Zambuto	Deloitte Consulting LLP
Spence Jr.	William Thomas	Deloitte & Touche LLP
Spiers	R Gregory	Deloitte & Touche LLP
Spiess	Brian Joseph	Deloitte Consulting LLP
Springs	Christanna Renee	Deloitte Tax LLP
Srinivasan	Gopal	Deloitte Consulting LLP
Srinivasan	Srivatsan	Deloitte Consulting LLP
Srinivasareddy	Udayasekar	Deloitte Consulting LLP
Srivastava	Pavan Kumar	Deloitte Consulting LLP
Staat	Jeffrey Randall	Deloitte & Touche LLP
Stachura	Stephanie Kathryn	Deloitte Consulting LLP
Stack	Amber L	Deloitte & Touche LLP
Stacy	Nancy A	Deloitte Tax LLP
Stafford-Sigg	Ellen	Deloitte Consulting LLP
Stahler	David A.	Deloitte & Touche LLP
Stakel	Jeffrey Barben	Deloitte Consulting LLP
Stallings	David L.	Deloitte Tax LLP
Standifer	Derek T.	Deloitte & Touche LLP
Staner	Lynn Keathley	Deloitte & Touche LLP
Staner	Robert R.	Deloitte & Touche LLP
Stanley	Benjamin F	Deloitte & Touche LLP
Stansbury	Martin John	Deloitte Consulting LLP
Starck	Amy M.	Deloitte Consulting LLP
Starna	Stefanie D.	Deloitte & Touche LLP
Starnes	Richard Norman	Deloitte Consulting LLP
Starodub	Kristin	Deloitte Consulting LLP
Startsev	Dennis	Deloitte Consulting LLP
Starzecki Jr.	Richard T.	Deloitte & Touche LLP
Stastny Jr.	T.Glenn	Deloitte & Touche LLP
Steck	Oliver	Deloitte & Touche LLP

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Last Name	First Name	Legal Entity
Stecz	Ryan J.	Deloitte Tax LLP
Steel	Jody Lee	Deloitte & Touche LLP
Steele	Amy Michele	Deloitte & Touche LLP
Steele	Michael Simmons	Deloitte Tax LLP
Steele	Susan Michelle	Deloitte Tax LLP
Steele Jr.	John Elder	Deloitte Consulting LLP
Stefanis	Stavros	Deloitte Consulting LLP
Stefanita	Cristina	Deloitte Consulting LLP
Steiger	Mark	Deloitte Tax LLP
Steinberg	Jeffrey A.	Deloitte Tax LLP
Steinbring	Wesley Scott	Deloitte Tax LLP
Steinmann	Jennifer	Deloitte Consulting LLP
Steinsaltz	Michael E	Deloitte Tax LLP
Stellakis	Victor L	Deloitte & Touche LLP
Stephan	Michael P	Deloitte Consulting LLP
Stephan Sr.	Anthony Rocco	Deloitte Consulting LLP
Stephane	Joanne	Deloitte Consulting LLP
Stephens	Jonathan Willis	Deloitte Tax LLP
Stephens	Robert Clay	Deloitte Consulting LLP
Stern	Jason J	Deloitte Tax LLP
Sterrett	Lynne R	Deloitte Consulting LLP
Stevens	Jason A	Deloitte Consulting LLP
Stevens	Thomas R.	Deloitte Tax LLP
Stevenson	Brad A	Deloitte & Touche LLP
Stewart	Blake A	Deloitte & Touche LLP
Stewart	Christopher Robert	Deloitte & Touche LLP
Stibich	Michael E.	Deloitte Tax LLP
Stier	Cary J	Deloitte & Touche LLP
Stiller	Benjamin Richard	Deloitte Consulting LLP
Stinger	K Clinton	Deloitte Transactions and Business Analytics LLP
Stockland	William F	Deloitte & Touche LLP
Stokx	Randy J.	Deloitte & Touche LLP
Stoler	Michael S	Deloitte Consulting LLP
Stollow	Darrin	Deloitte & Touche LLP
Stone II	Earl Collen	Deloitte & Touche LLP
Story III	Dana W	Deloitte Tax LLP
Stovall	Camille	Deloitte Financial Advisory Services LLP
Stradtman	Robert William	Deloitte Transactions and Business Analytics LLP
Streck	Eric Thomas	Deloitte LLP
Stuart	James W	Deloitte & Touche LLP
Stuart	Kristen	Deloitte Consulting LLP
Stucky	Vanessa Rae	Deloitte Tax LLP
Stulce	Marcella Albarado	Deloitte Tax LLP
Sturiale	Lisa A.	Deloitte Tax LLP
Subramanian	Srinivasan R	Deloitte & Touche LLP
Suckerman	Warren	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Suetholz	Steven M	Deloitte Tax LLP
Sugrue	Brendan S.	Deloitte Tax LLP
Suguna	Sundaravadivel P	Deloitte Consulting LLP
Suh	Jack Dean	Deloitte & Touche LLP
Suhrada	Sandee	Deloitte Consulting LLP
Sukumar	Karthik	Deloitte Consulting LLP
Sulayman	Marshal M	Deloitte Tax LLP
Sullivan	Brian J	Deloitte Tax LLP
Sullivan	Jennifer Alexis	Deloitte & Touche LLP
Sullivan	Kevin	Deloitte Consulting LLP
Sullivan	Meghan K	Deloitte Consulting LLP
Sullivan Jr.	Edward	Deloitte & Touche LLP
Summers	Jamie J.	Deloitte Tax LLP
Sundt Jr.	Daniel E	Deloitte Consulting LLP
Sunseri	Tina Tuyen Tran	Deloitte & Touche LLP
Surkov	Alexey F.	Deloitte & Touche LLP
Survant	Laura L	Deloitte & Touche LLP
Sutton	Amy L	Deloitte Tax LLP
Swanson	Richard A	Deloitte Consulting LLP
Swanson Switzer	Dana Carlyne	Deloitte Consulting LLP
Sweeney	James Patrick	Deloitte & Touche LLP
Sweeney	Oksana Kovalyova	Deloitte & Touche LLP
Sweeris	Todd A	Deloitte Tax LLP
Swieconeck	Meghan Winter	Deloitte Tax LLP
Syverson	Kortney Robert	Deloitte Consulting LLP
Szalony	Scott P	Deloitte & Touche LLP
Szatkowski-Zych	Donna M	Deloitte & Touche LLP
Tache	Robert	Deloitte Tax LLP
Tackett	Joseph E.	Deloitte & Touche LLP
Tadduni	Santino Sebastiano	Deloitte & Touche LLP
Talkington	Peter K	Deloitte Tax LLP
Taptelis	Ellias Efstratios	Deloitte Tax LLP
Tarrant	Stephen A	Deloitte Tax LLP
Tarzia	Dale	Deloitte & Touche LLP
Tarzia	Dayna Renee	Deloitte Tax LLP
Tasso	Nathan Kron	Deloitte Tax LLP
Tathireddy	Laxmanareddy	Deloitte & Touche LLP
Tavolieri	Richard J	Deloitte & Touche LLP
Tayal	Akash	Deloitte Consulting LLP
Taylor	Allison Doyle	Deloitte & Touche LLP
Taylor	Tania Lynn	Deloitte & Touche LLP
Tehan	Thomas Daniel	Deloitte & Touche LLP
Tello	Juan	Deloitte Consulting LLP
Tengberg	John-David	Deloitte Transactions and Business Analytics LLP
Teriba	Olufisayomi Adebawale	Deloitte & Touche LLP
Terzioglu	Atila	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Teska	Michael M.	Deloitte Consulting LLP
Teutsch	Neal David	Deloitte & Touche LLP
Tevis	Gregory Phillip	Deloitte Consulting LLP
Thayer	Courtney Lynn	Deloitte Consulting LLP
Theuer	Stephen R	Deloitte & Touche LLP
Thiebault	Beth A	Deloitte Consulting LLP
Thomas	Adam R	Deloitte & Touche LLP
Thomas	Christopher L	Deloitte Consulting LLP
Thomas	David	Deloitte Consulting LLP
Thomas	Edward D.	Deloitte Tax LLP
Thomas	Peter George	Deloitte Tax LLP
Thomas	Teresa	Deloitte & Touche LLP
Thomas	Trehear A.	Deloitte Consulting LLP
Thomas Jr.	Frederick Heid	Deloitte Tax LLP
Thompson	Michael L	Deloitte Tax LLP
Thompson	Michael S	Deloitte & Touche LLP
Thomson	James Irwin	Deloitte Consulting LLP
Thomson	Matthew R	Deloitte & Touche LLP
Thomson	Russell B.	Deloitte & Touche LLP
Thuppil	Kesavan	Deloitte & Touche LLP
Tian	Jiaojiao	Deloitte & Touche LLP
Tilghman	Noemie D	Deloitte Consulting LLP
Tobias	Matthew David	Deloitte Consulting LLP
Tobin	Joseph Lael	Deloitte Tax LLP
Tolley	Ryan Grant	Deloitte & Touche LLP
Tomar	Rahul	Deloitte Tax LLP
Tomlinson Jr.	Gregory B	Deloitte & Touche LLP
Tomsula	Melanie	Deloitte Tax LLP
Tone	Wolfe J	Deloitte Tax LLP
Toole	Jennifer L	Deloitte & Touche LLP
Toppin	Christopher J	Deloitte & Touche LLP
Torres	Anthony P	Deloitte & Touche LLP
Totillo	Gregory	Deloitte Tax LLP
Trachtenberg	Jack	Deloitte Tax LLP
Traeger	James A.	Deloitte & Touche LLP
Trainor	Edward P	Deloitte Transactions and Business Analytics LLP
Trampe	Philip Davis	Deloitte Tax LLP
Tran	Tuan Minh	Deloitte Consulting LLP
Traub	Jonathan G.	Deloitte Tax LLP
Traylor	Anastasia Z	Deloitte & Touche LLP
Treiber	John S.	Deloitte & Touche LLP
Tremaglio	Tamika Langley	Deloitte Transactions and Business Analytics LLP
Trichel	Jonathan B	Deloitte Consulting LLP
Tross	Robert James	Deloitte Consulting LLP
Trotman	Sean P	Deloitte Tax LLP
Truesdell	Allen B.	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Trump	Christopher Liller	Deloitte Tax LLP
Tsalikis	Andreas	Deloitte & Touche LLP
Tsumura	Minoru K	Deloitte & Touche LLP
Tubiana	Bernard	Deloitte Consulting LLP
Tucker	Andrew Richard	Deloitte Consulting LLP
Tucker	Holly Humphrey	Deloitte Financial Advisory Services LLP
Tucker	Robert T	Deloitte & Touche LLP
Tuff	Geoffrey	Deloitte Consulting LLP
Tully	Maryna	Deloitte & Touche LLP
Turco	Thomas M.	Deloitte Consulting LLP
Turensine	Aaron Marc	Deloitte Tax LLP
Turner Stephens	Yvette Chrishawn	Deloitte Consulting LLP
Tweardy	John Ramo	Deloitte Consulting LLP
Tye	Craig K m	Deloitte Consulting LLP
Tyler	Rebecca Ann	Deloitte & Touche LLP
Tyrrell	Christopher John	Deloitte & Touche LLP
Tzavelis	Elias	Deloitte Tax LLP
Tzouganatos	Katerina A	Deloitte & Touche LLP
Uczoglu	Joseph Brandon	Deloitte USA LLP
Udenze	Kenneth C	Deloitte & Touche LLP
Uejio	Ruth Fukunaga	Deloitte & Touche LLP
Uhl	Nathan Robert	Deloitte & Touche LLP
Uhl	Robert	Deloitte & Touche LLP
Ulleweit	Michael L	Deloitte Tax LLP
Ullrich	James T	Deloitte & Touche LLP
Umberhauer	Brian K.	Deloitte Consulting LLP
Unkel	Gary R	Deloitte Tax LLP
Upadhya	Preeti	Deloitte Consulting LLP
Uppal	Samir	Deloitte Consulting LLP
Urbanczyk	Mark Stephen	Deloitte Consulting LLP
Urgo	Lee John	Deloitte & Touche LLP
Usdin	Matthew S	Deloitte Consulting LLP
Vaccaro	Damon	Deloitte Consulting LLP
Vadapalli	Rupesh R	Deloitte Tax LLP
Vaitla	Seshkumar	Deloitte Consulting LLP
Vakili	Mojgan	Deloitte & Touche LLP
Valdick	Mark W	Deloitte & Touche LLP
Valencia	Julian Wah	Deloitte & Touche LLP
Valenti	Jonathan Daniel	Deloitte Consulting LLP
Valerie	Karen C.	Deloitte & Touche LLP
Vamaraju	Srinath	Deloitte Consulting LLP
Van Buren IV	Edward Morris	Deloitte Consulting LLP
Van Compernelle	Karen C.	Deloitte & Touche LLP
Van Cott	Joel D	Deloitte & Touche LLP
Van daele	Brian Thomas	Deloitte Consulting LLP
Van Dalen	Britton Yates	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Van Deusen	Mark Christopher	Deloitte Tax LLP
Van Dyke	Douglas J.	Deloitte Tax LLP
Van Egdome	Jeff J	Deloitte Tax LLP
Van Gelder	Jeffrey P.	Deloitte Tax LLP
Van Houtte	Andrew J	Deloitte & Touche LLP
Van Laten	John C	Deloitte Tax LLP
Van Wagner	Adam M	Deloitte & Touche LLP
Van Wieren	Dwayne	Deloitte Tax LLP
Vanderslice	Peter Thomas Aquinas	Deloitte Consulting LLP
Vanfossen	Adam E	Deloitte & Touche LLP
Vann	Cory Ryan	Deloitte & Touche LLP
Vannis	Lisa Anne	Deloitte & Touche LLP
Vanscoy	Angela Marie	Deloitte & Touche LLP
Vanuga	Christopher Paul	Deloitte & Touche LLP
VanVleet	Emily	Deloitte Tax LLP
Varenchik	Troy A.	Deloitte Tax LLP
Vargas	Gina Michelle	Deloitte Consulting LLP
Vasquez	Valerie A	Deloitte & Touche LLP
Vaz	Andrew P	Deloitte Consulting LLP
Vecchiarelli	Timothy A	Deloitte & Touche LLP
Vega	Joris	Deloitte Consulting LLP
Velayo	Julie Dobmeier	Deloitte & Touche LLP
Venneman	Barbara	Deloitte Consulting LLP
Venugopal	Benush	Deloitte Consulting LLP
Verducci	John A.	Deloitte & Touche LLP
Verma	Ashish	Deloitte Consulting LLP
Vero	Michael Anthony	Deloitte Consulting LLP
Verpoorten	Gregory	Deloitte Tax LLP
Vichot	Julie A.	Deloitte & Touche LLP
Vickman	Scott J	Deloitte Tax LLP
Viger	Kristin Elisabeth	Deloitte Consulting LLP
Vigh	Tracy Andrew	Deloitte & Touche LLP
Vij	Aman	Deloitte Consulting LLP
Vijayananda	Sagun	Deloitte Tax LLP
Villegas	Maria Francisca	Deloitte Consulting LLP
Vincent	Gauthier Pierre	Deloitte Consulting LLP
Vineyard	Bradley E	Deloitte & Touche LLP
Vinogradov	Paul Andre	Deloitte Consulting LLP
Vintzel	Timothy J.	Deloitte & Touche LLP
Vitola	Paul J.	Deloitte Tax LLP
Vlasic	Steven J	Deloitte Tax LLP
Voelkel	John R.	Deloitte & Touche LLP
Vogel	Christopher J.	Deloitte & Touche LLP
Vogt	Nicole	Deloitte & Touche LLP
Vollertsen	Troy A	Deloitte & Touche LLP
Voorhees	Jennifer A	Deloitte Tax LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Vorhies III	William L	Deloitte & Touche LLP
Vosen	Kirsten J	Deloitte & Touche LLP
Vroonland	Eric J	Deloitte Consulting LLP
Vuong	Bach Quan	Deloitte Consulting LLP
Waals	Johannes L.	Deloitte Consulting LLP
Waas	Previn Colin	Deloitte & Touche LLP
Wadsworth	Algernon Henry	Deloitte Tax LLP
Waelter	Anthony M.	Deloitte & Touche LLP
Wagner	Darryl G.	Deloitte Consulting LLP
Wagner	Thomas J.	Deloitte & Touche LLP
Wahrman	Julie C.	Deloitte & Touche LLP
Wainstein	Jason	Deloitte Consulting LLP
Walcott	Jennifer J	Deloitte Consulting LLP
Waldow	Roburt Jon	Deloitte Tax LLP
Waldrop	Keith Robert	Deloitte & Touche LLP
Walgren	Alison Baker	Deloitte Consulting LLP
Walkenfeld	Elliot Mark	Deloitte & Touche LLP
Walker	Arthur Carleton	Deloitte Tax LLP
Walker	David M.	Deloitte Tax LLP
Walker	Jeffrey Deon	Deloitte Consulting LLP
Walker	John A.	Deloitte Transactions and Business Analytics LLP
Walker	Joseph M	Deloitte & Touche LLP
Walker	Joseph R	Deloitte Consulting LLP
Walker	Lisa Katrin	Deloitte Consulting LLP
Walker	Richard	Deloitte Consulting LLP
Walker	Thomas Nathan	Deloitte & Touche LLP
Wallace	Diane O.	Deloitte & Touche LLP
Walley	Robert E	Deloitte & Touche LLP
Wallis	David Mark	Deloitte Financial Advisory Services LLP
Wallis	Mark E	Deloitte & Touche LLP
Walsh	Mark A.	Deloitte Consulting LLP
Walsh	Philip D	Deloitte & Touche LLP
Walsh	Thomas Harold	Deloitte Consulting LLP
Walsh	Timothy Robert	Deloitte Consulting LLP
Walters	Amanda Katherine	Deloitte Consulting LLP
Walton	Matthew Charles	Deloitte Tax LLP
Wander	Steven N	Deloitte Consulting LLP
Wang	Weiwei	Deloitte Tax LLP
Wangard	Matthew T.	Deloitte & Touche LLP
Wankhede	Unmesh	Deloitte Consulting LLP
Ward	Kenneth Brady	Deloitte Tax LLP
Ward	Lori A	Deloitte & Touche LLP
Ward	Scott R	Deloitte & Touche LLP
Warner	Alan J	Deloitte & Touche LLP
Warner	Clark Douglas	Deloitte Tax LLP
Warner	Debra S.	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Warthen	Emily T.	Deloitte LLP
Waslo	Rene	Deloitte & Touche LLP
Watkinson	Troy S.	Deloitte Tax LLP
Watson	Court Joel Richard	Deloitte & Touche LLP
Watson	Declan T.	Deloitte Consulting LLP
Watson	James R	Deloitte Tax LLP
Watson	Rayneisha Antoinette	Deloitte Consulting LLP
Waz	Roland Souhel	Deloitte Consulting LLP
Weaver	Jason C	Deloitte & Touche LLP
Webb	James L.	Deloitte & Touche LLP
Webb	Jeffrey J	Deloitte Tax LLP
Weber	Chris T	Deloitte & Touche LLP
Weekley	William Michael	Deloitte & Touche LLP
Wegener	Stephen R	Deloitte Tax LLP
Wei	Jian	Deloitte Consulting LLP
Weinert McDonnell	Lesley Anne	Deloitte & Touche LLP
Weirens	Jeffery M	Deloitte Consulting LLP
Weiss	Christopher A	Deloitte & Touche LLP
Weiss	Estee	Deloitte Tax LLP
Weiss	Gregory M	Deloitte Tax LLP
Weissenberg	Adam F.	Deloitte & Touche LLP
Welch	Doug	Deloitte Consulting LLP
Welch	Kimberly J.	Deloitte Tax LLP
Welder	Rena L	Deloitte Tax LLP
Wellener IV	Paul L.	Deloitte Consulting LLP
Weller	Curtis L.	Deloitte & Touche LLP
Wells	John Michael	Deloitte Tax LLP
Welteroth	Brendan M	Deloitte & Touche LLP
West	John W	Deloitte & Touche LLP
Westcott	Kevin Alistair	Deloitte Consulting LLP
Weston	Deron E	Deloitte Consulting LLP
Westra	Richard S.	Deloitte Consulting LLP
Whalen	Richard A.	Deloitte Transactions and Business Analytics LLP
Wheeler	Tina J	Deloitte & Touche LLP
Whelehan	Daniel James	Deloitte & Touche LLP
Whisnant	Brian Wade	Deloitte & Touche LLP
White	Craig Robert	Deloitte Consulting LLP
White	Elaine Pereira	Deloitte Consulting LLP
White	John B	Deloitte Consulting LLP
White	Justin Reid	Deloitte Consulting LLP
White	Mark	Deloitte Consulting LLP
White	Matthew T.	Deloitte & Touche LLP
White	Neil R.	Deloitte & Touche LLP
Whitmore	Colleen Margaret	Deloitte & Touche LLP
Whitney	Randy A	Deloitte & Touche LLP
Wichard Jr.	John E	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Wichmann	Gregory S	Deloitte Tax LLP
Widener	China L	Deloitte Consulting LLP
Widmer	Matthew A	Deloitte Transactions and Business Analytics LLP
Wietfeld	Lindsay Nicole	Deloitte Tax LLP
Wiggins	Ezrick K	Deloitte Consulting LLP
Wiggins	Jordan Patrick	Deloitte Consulting LLP
Wiggins	Scott Brumby	Deloitte Tax LLP
Wigginton	Craig W	Deloitte & Touche LLP
Wijayawickrama	Shalinda I	Deloitte & Touche LLP
Wilberts	Brent F	Deloitte & Touche LLP
Wilborn	Tonya A	Deloitte & Touche LLP
Wilde	John W	Deloitte & Touche LLP
Wilgenburg	Arie S	Deloitte & Touche LLP
Wilhelmy	Timothy J.	Deloitte & Touche LLP
Wilkin	Michael Patrick	Deloitte Consulting LLP
Wilkinson Jr.	Kent K.	Deloitte Consulting LLP
Williams	Bryan L.	Deloitte & Touche LLP
Williams	David S	Deloitte Financial Advisory Services LLP
Williams	Fiona Jane	Deloitte & Touche LLP
Williams	Jeffrey Logan	Deloitte Consulting LLP
Williams	R Kurt	Deloitte & Touche LLP
Williamson	Thomas D	Deloitte Consulting LLP
Wilson	Andrew A	Deloitte & Touche LLP
Wilson	Charmaine Kathryn	Deloitte & Touche LLP
Wilson	Darren A.	Deloitte & Touche LLP
Wilson	Michael David	Deloitte Consulting LLP
Wilson	Ray F	Deloitte Tax LLP
Wilson	Timothy L	Deloitte & Touche LLP
Winger	Julie K.	Deloitte & Touche LLP
Winn	Christopher D	Deloitte Consulting LLP
Winn III	Raymond L	Deloitte & Touche LLP
Winters	Andrew John	Deloitte & Touche LLP
Winters	Jacqueline Marie	Deloitte Consulting LLP
Wipf	Jesse P.	Deloitte & Touche LLP
Wise	Mark T	Deloitte & Touche LLP
Wisniewski	Joseph L	Deloitte Tax LLP
Witherspoon	James Anthony	Deloitte Consulting LLP
Witiw	Eric	Deloitte LLP
Woertz	Kevin David	Deloitte Financial Advisory Services LLP
Woitel	Kyle F	Deloitte Tax LLP
Wojdon	Kenneth Michael	Deloitte Consulting LLP
Wolfe	Stephanie C	Deloitte & Touche LLP
Womack	John T	Deloitte Tax LLP
Wood	Robert Joseph	Deloitte & Touche LLP
Woodson	John	Deloitte Consulting LLP
Woo-Miles	Karolyn A.	Deloitte & Touche LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

Please contact Melissa Atherton with any questions.

Last Name	First Name	Legal Entity
Wordham	Jeffrey Charles	Deloitte Consulting LLP
Wraith	Michael A.	Deloitte & Touche LLP
Wren Elerts	Lori	Deloitte Tax LLP
Wright	Andrew T	Deloitte & Touche LLP
Wright	Ian G	Deloitte Consulting LLP
Wright	Jeffery M	Deloitte Tax LLP
Wright	Sean Jason	Deloitte & Touche LLP
Wyatt	Michael Sean	Deloitte & Touche LLP
Wyman	Jason R	Deloitte Tax LLP
Yadavalli	Shashi Kiran	Deloitte Consulting LLP
Yagiz	Cengiz Cemal	Deloitte & Touche LLP
Yahr	Justin Michael	Deloitte & Touche LLP
Yamamoto	Akira	Deloitte & Touche LLP
Yanagi	Eigen	Deloitte Tax LLP
Yang	Thomas	Deloitte Consulting LLP
Yankovitz	David	Deloitte Consulting LLP
Yantosca	Casey Dugan	Deloitte Tax LLP
Yaros	David Alan	Deloitte Tax LLP
Yates	Chloe Alexandra	Deloitte Tax LLP
Yauch Jr.	Glenn J	Deloitte & Touche LLP
Yee	Melinda H.	Deloitte & Touche LLP
Yeomans	Wesley	Deloitte & Touche LLP
Yi	Chih Wei	Deloitte & Touche LLP
Yoder	Cort Allen	Deloitte Tax LLP
Yong	Doyoung	Deloitte Tax LLP
Yoo	Emily Creson	Deloitte Consulting LLP
Yoo	Jonathan Young	Deloitte Consulting LLP
Yoo	Peter S	Deloitte Tax LLP
Yore	Pete	Deloitte & Touche LLP
Young	Daniel P	Deloitte Tax LLP
Young	Jason Lamar	Deloitte Consulting LLP
Young	Joseph A.	Deloitte & Touche LLP
Young	Roland Sanford	Deloitte LLP
Young	Tiffany	Deloitte Tax LLP
Young	Timothy Kevin	Deloitte Consulting LLP
Younossi	Alexandria	Deloitte Consulting LLP
Yousuf	Faisal Shehzad	Deloitte Consulting LLP
Yu	Frances	Deloitte Consulting LLP
Yu	James S.	Deloitte & Touche LLP
Yu	May Yuet	Deloitte & Touche LLP
Yuan	Kelsey E	Deloitte & Touche LLP
Yuldasheva	Aziza	Deloitte Tax LLP
Yung	Jeanette F	Deloitte Consulting LLP
Yusuf	Ibrahim Olanrewaju	Deloitte & Touche LLP
Yusufi	Sofyan Jehanzeb	Deloitte & Touche LLP
Zager	David B	Deloitte Consulting LLP

Deloitte**Listing of Partners and Principals as of September 18, 2021**

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Last Name	First Name	Legal Entity
Zale	Joseph	Deloitte Consulting LLP
Zamora	John	Deloitte & Touche LLP
Zant	Christopher Jon	Deloitte Consulting LLP
Zebian	Firas Mahmoud	Deloitte Tax LLP
Zeikel	Christine M	Deloitte Transactions and Business Analytics LLP
Zellers	Mary M	Deloitte Tax LLP
Zeoli	Kimberly Ann	Deloitte & Touche LLP
Zhang	Sha	Deloitte Tax LLP
Zheng	Lili	Deloitte Tax LLP
Zhu	Yu	Deloitte Consulting LLP
Ziegler	Heather K.	Deloitte & Touche LLP
Zielinski	Ronald John	Deloitte Tax LLP
Zinn	Catherine M	Deloitte Tax LLP
Zinser	Kevin A.	Deloitte Tax LLP
Zipprich Jr.	Thomas Anthony	Deloitte Consulting LLP
Zoumas	Konstadine G	Deloitte & Touche LLP
Zucker	Jannine L	Deloitte Consulting LLP
Zwerling	Stuart H	Deloitte Tax LLP

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DELOITTE CONSULTING LLP DBA DELOITTE CONSULTI
4022 SELLS DR
HERMITAGE TN 37076-2930

8464-1

DETACH BEFORE POSTING



BUSINESS LICENSE

STATE OF WASHINGTON
Limited Liability Partnership

issue Date: Jan 28, 2022
Unified Business ID#: 602356799
Business ID#: 001
Location: 0001
Expires: Jan 31, 2023

DELOITTE CONSULTING LLP DBA DELOITTE CONSULTING LLP OF
DELAWARE
DELOITTE CONSULTING LLP
925 4TH AVE STE 3300
SEATTLE WA 98104-1126

UNEMPLOYMENT INSURANCE - ACTIVE INDUSTRIAL INSURANCE - ACTIVE
TAX REGISTRATION-ACTIVE

CITY ENDORSEMENTS:
OLYMPIA GENERAL BUSINESS - NON-RESIDENT #18166 -ACTIVE

LICENSING RESTRICTIONS:
Not licensed to hire minors without a Minor Work Permit.

This document lists the registrations, endorsements, and licenses authorized for the business named above. By accepting this document, the licensee certifies the information on the application was complete, true, and accurate to the best of his or her knowledge, and that business will be conducted in compliance with all applicable Washington state, county, and city regulations.

Director, Department of Revenue

STATE OF WASHINGTON

UBI: 602356799 001 0001

Expires: Jan 31, 2023

DELOITTE CONSULTING LLP DBA DELOITTE CONSULTING LLP OF DELAWARE
DELOITTE CONSULTING LLP
925 4TH AVE STE 3300
SEATTLE WA 98104-1126
UNEMPLOYMENT INSURANCE - ACTIVE
INDUSTRIAL INSURANCE - ACTIVE
TAX REGISTRATION - ACTIVE
OLYMPIA GENERAL BUSINESS - NON - RESIDENT #18166 • ACTIVE



Director, Department of Revenue
202212-PRR-44



WASHINGTON STATE DEPARTMENT OF SOCIAL AND HEALTH SERVICES (DSHS)

ACES Maintenance and Operations
REQUEST FOR PROPOSAL | #2223-808

Attachment 07: Bid Submission Letter

September 12, 2022 | 3:00 p.m. Pacific Time

MAKING AN
IMPACT THAT
MATTERS
since 1845

September 12, 2022

Deloitte Consulting LLP
711 Capitol Way South, Suite 102
Olympia, WA 98501
Tel: +1 916 761 6466
Fax: +1 916 288 3627
rduttagupta@deloitte.com
Rakesh Duttgupta

Re: Response Submission for DSHS Competitive Solicitation #2223-808

Dear Solicitation Coordinator:

1. Enclosed please find the Response of Deloitte¹ (Bidder) with respect to the above Competitive Solicitation. This Response includes all of the submittals required in Section 4 of the solicitation Work Request. In addition to these completed Attachments, the response includes the following additional materials (if any):

2223-808_Attachment_DC1_ACES_Replatforming_Activities_Deloitte
2223-808_Attachment_DC2_Sample Decomposition Plan_Deloitte
2223-808_Attachment 13_Contract Issues List_Deloitte

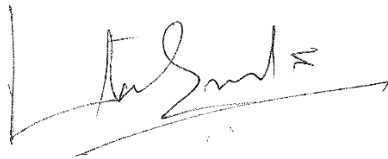
2. I am authorized to submit this Response on behalf of Bidder, to make representations on behalf of Bidder and to commit Bidder contractually.
3. I have read the Solicitation Document and Sample Contract. In submitting this Response, Bidder accepts all terms and conditions stated in the Solicitation Document, including those set forth in the following amendments which Bidder has downloaded:

Amendment Number(s)	Date(s) Issued
<u>Amendment #1</u>	<u>July 12, 2022</u>
<u>Amendment #2</u>	<u>August 8, 2022</u>
<u>Amendment #3</u>	<u>August 15, 2022</u>

¹ "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of our legal structure. Certain services may not be available to attest clients under the rules and regulations of public accounting.

4. Bidder represents that it meets all minimum qualifications set forth in this DSHS Competitive Solicitation and is capable, willing and able to perform the services described in the DSHS Competitive Solicitation within the time frames set forth for performance.
5. By my signature below, I certify that all statements and information provided in Bidder's Response are true and complete.
6. Deloitte confirms that the proposed staff in Section 4.3 Key Personnel and Resumes are not current or former state employees.

Sincerely,

A handwritten signature in black ink, appearing to read "Rakesh Duttagupta", with a long horizontal line extending to the right from the end of the signature.

Rakesh Duttagupta
Principal, Deloitte Consulting LLP

TABLE OF CONTENTS



Attachment 06: Contractor Intake Form

Attachment 07: Bid Submission Letter

Attachment 08: Bidder Certifications and Assurances

Attachment 09: Bidder Response Form

- 4.1 Executive Summary
- 4.2 Bidder Performance
- 4.3 Key Personnel and Resumes
- 4.4 Bidder Engagements
- 4.5 Bidder References
- 4.6 Bidder Questionnaire
- 4.7 Executive Order

Attachment 10: Bidder Pricing Workbook

Attachment 13: Contract Issues List

Additional Attachments:

- 2223-808 Attachment DC1 ACES Replatforming Activities
- 2223-808 Attachment DC2 Sample Decomposition Plan



WASHINGTON STATE DEPARTMENT OF SOCIAL AND HEALTH SERVICES (DSHS)

ACES Maintenance and Operations
REQUEST FOR PROPOSAL | #2223-808

Attachment 08: Bidder Certifications and Assurances

September 12, 2022 | 3:00 p.m. Pacific Time

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**Attachment 08:
Bidder Certifications and Assurances**

**DSHS Competitive Solicitation #2223-808
ACES Maintenance and Operations**

Under the penalties of perjury of the State of Washington, Bidder makes the following certifications and assurances as a required element of its Proposal to this Competitive Solicitation. Bidder affirms the truthfulness of these facts and acknowledges its current and continued compliance with these certifications and assurances as part of its Proposal and any resulting Work Order that may be awarded by DSHS.

1. Bidder declares that all answers and statements made in Bidder's Proposal are true and correct.
2. Bidder certifies that its Proposal is a firm offer for a period of 180 days following receipt by DSHS, and it may be accepted by DSHS without further negotiation (except where obviously required by lack of certainty in key terms) at any time within the 180-day period. In the case of a protest, the Bidder's Proposal will remain valid for 210 days or until the protest is resolved, whichever is later.
3. Bidder has not been assisted by any current or former DSHS employee whose duties relate (or did relate) to this Solicitation and who assisted in other than his or her official, public capacity. If there are any exceptions to these assurances or if Bidder has been assisted, Bidder will identify on a separate page attached to this document each individual by: (a) name, (b) current address and telephone number, (c) current or former position with DSHS, (d) dates of employment with DSHS, and (e) detailed description of the assistance provided by that individual.
4. Bidder certifies that Bidder is not currently bankrupt or a party to bankruptcy proceedings and has not made an assignment for benefit of creditors and authorizes DSHS to conduct a financial assessment of Bidder in DSHS' sole discretion.
5. Bidder acknowledges that DSHS will not reimburse Bidder for any costs incurred in the preparation of Bidder's Proposal. All Proposals shall be the property of DSHS. Bidder claims no proprietary right to the ideas, writings, items or samples submitted as part of its Proposal.
6. Bidder acknowledges that any Work Order award will incorporate terms set forth in the Sample Work Order, including its attachments and exhibits, as set forth as Attachment A to the Solicitation Document, or may, at DSHS' option, be negotiated further. DSHS may elect to incorporate all or any part of Bidder's Proposal into the Work Order.
7. Bidder certifies that it has made no attempt, nor will make any attempt, to induce any other person or firm to submit, or not submit, a Proposal for the purpose of restricting competition and that the prices and/or cost data contained in Bidder's Proposal: (a) have been determined independently, without consultation, communication or agreement with others for the purpose of restricting competition or influencing bid selection, and (b) have not been and will not be knowingly disclosed by the Bidder, directly or indirectly, to any other Bidder or competitor before Work Order award, except to the extent that Bidder has joined with other individuals or organizations for the purpose of preparing and submitting a joint Proposal or unless otherwise required by law.
8. Bidder acknowledges that if it is awarded a Work Order containing Business Associate requirements under the Health Insurance Portability and Accountability Act of 1996 (HIPAA), or any other Data Security requirements, that Bidder will incorporate the terms of such Business Associate or Data Security requirements into all related Work Orders.
9. Bidder acknowledges that if awarded a Work Order with DSHS, Bidder is required to comply with all applicable state and federal civil rights and other laws. Failure to comply may result in Work Order

termination. Bidder agrees to submit additional information about its nondiscrimination policies, at any time, if requested by DSHS.

10. Bidder certifies that Bidder has not, within the three-year period immediately preceding the date of release of this Competitive Solicitation, been determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment to have willfully violated state minimum wage laws (RCW 49.38.082; chapters 49.46, 49.48, or 49.52 RCW).

11. Bidder certifies within the last three years that Bidder has not willfully violated Washington State's wage payment laws.

12. Bidder certifies that it has a current Business License and agrees that it will promptly secure and provide a copy of its Washington State Business License, unless Bidder is exempted from being required to have one, if Bidder is awarded a Work Order.

13. Bidder authorizes DSHS to conduct a background check of Bidder and/or Bidder's proposed staff if DSHS considers such action necessary.

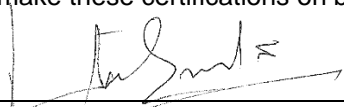
14. Bidder has not been convicted nor entered a plea of *nolo contendere* with respect to a criminal offense, nor has Bidder been debarred or otherwise restricted from participating in any public Contracts/Work Orders.

14. Bidder hereby grants permission to references indicated to share information about the Bidder's firm, whether positive, neutral or negative, and grant permission for DSHS to contact each of the references provided. Bidder further agrees to release and hold the references harmless from any liability resulting from the information provided.

15. Bidder acknowledges its obligation to notify DSHS of any changes in the certifications and assurances above.

I hereby certify, under penalty of perjury under the laws of the State of Washington, that the certifications herein are true and correct and that I am authorized to make these certifications on behalf of the firm listed herein.

Rakesh Dutttagupta
Printed Name


Signature

Principal
Title

Deloitte Consulting LLP
Organization Name

September 12, 2022
Date



WASHINGTON STATE DEPARTMENT OF SOCIAL AND HEALTH SERVICES (DSHS)

**ACES Maintenance and Operations
REQUEST FOR PROPOSAL | #2223-808**

Attachment 13: Contract Issues List

September 12, 2022 | 3:00 p.m. Pacific Time

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Attachment 13 – Contract Issues List

Washington State – Department of Social & Health Services Request for Proposals ACES Maintenance and Operations

Deloitte Consulting LLP (“Deloitte Consulting” or “Contractor”) is pleased to submit this proposal to the Washington State – Department of Social & Health Services (“DSHS” or “State”), in response to its Request for Proposal #2223-808 dated July 11, 2022 (the “RFP”) to assist the State with maintenance and operations of ACES.

Notwithstanding anything to the contrary in the RFP, our proposal and submission letter is being made subject to our exceptions below and the condition that Deloitte Consulting and DSHS subsequently reach and enter into a mutually agreeable definitive written agreement for the proposed services. In accordance with RFP, Section C.12, Deloitte Consulting formally takes exception to the referenced terms and conditions from the RFP, including Attachment 01 (Sample Contract), as set forth below. Our working relationship with the State of Washington (“State”) has proven that we have been successful in working together to reach agreements in the past. Should Deloitte Consulting be awarded this Contract, we look forward to expeditiously reaching agreement on the terms below.

Instructions. Issues, concerns, exceptions, or objections to any of the terms or conditions contained in the RFP must be documented by bidders in the Contract Issues List provided below. The Contract Issues List frames discussions between The Department of Social and Health Services (DSHS) and bidders regarding the terms and conditions contained in the Contract. In completing the Contract Issues List, bidders must describe, in business terms, a concern, exception, or objection and then propose a compromise that is reasonable in light of the commitment being sought by DSHS. The Contract Issues List must provide the reason or rationale supporting the issue.

- **Redlined Documents Will Not Be Reviewed.** Do not provide a redlined Contract, paragraph or clauses. Redlined text may result in DSHS making potentially inaccurate assumptions about what bidders’ specific issues or concerns might be.
- **Standard Bidder Contract Will Not Be Reviewed.** Do not provide a copy of a bidder's or a third party's standard contract or proposed language in the bid.
- **No Substantial Changes.** Bidders are reminded that this is a competitive solicitation for a public contract and that DSHS cannot accept a proposal or enter into a Contract that substantially changes the material terms and specifications published in this Competitive Solicitation. Bids that are contingent upon DSHS making substantial changes to material terms and specifications published in the Competitive Solicitation may be determined to be non-responsible. DSHS will consider the number and nature of the items on the bidders’ Contract Issues List in determining the likelihood of completing a Contract with a bidder.

Contract Issues List			
Item	Specify the Contract Section #	Issue	Bidder's Proposed Solution/Rationale
1.	Contract Duration (RFP, Section A.4.1, p. 7); Term (Attachment 01, Special Terms and Conditions ("Special T&Cs"), Section 1, p. 20)	Modify the provision so that both parties agree to an extension or renewal.	Any extension or renewal of the contract should be mutually agreed by the parties.
2.	Funding (RFP, Section A.4.2, p. 7), Consideration (Attachment 01, Special T&Cs, Section 16, p. 30); Billing and Payment (Attachment 01, Special T&Cs, Section 17, pp. 30-31)	We would request that the criteria for payment be based on objective acceptance criteria, such as "in accordance with the applicable specifications" as opposed to "satisfactory" determination by State. Additionally, we look forward to further clarifying the payment schedule as part of the SOW finalization.	Remove subjective standards for payment
3.	Background Checks (RFP, Section G4, p. 98); Personnel Requirements (Attachment 01, Special T&Cs, Section 10.c, p.28)	Deloitte Consulting appreciates the importance of background check procedures, and we have a process in place whereby employees and subcontractors go through a background check.	We propose leveraging our already implemented background check process.
	DSHS-Licensed Third-Party Software (RFP, Section I.6, p. 101)	We would like to further discuss any contractual assignments of DSHS licensed Third Party Software.	Understand the applicability of this provision.
	Definitions (Attachment 01, General Terms and Conditions ("General T&Cs"), Section 1, pp. 2 - 3)	Certain definitions may require modification or clarification based on the outcome of negotiations on the relevant provisions.	We seek clarity in the defined terms.
	Confidentiality (Attachment 01, General T&Cs, Section 6, pp. 4-5)	Deloitte Consulting requests that details of Contractor's confidentiality obligations be clarified during negotiations.	We seek to clarify both parties' obligations regarding confidentiality.
	Records Retention, Audit, and Access Requirements (Attachment 01, General T&Cs, Section 11, p. 6)	We believe that the audit rights as currently drafted requires modification to clarify the scope of the audits as appropriate based on the nature of the engagement.	Modify the provision to clarify the scope to apply to billing and payment records and other records as required by law, and to include reasonable limits on the audit rights.
	Stop Services (Attachment 01, General T&Cs, Section 15, p.7):	Contract Renegotiation, Suspension, or Termination due to Change in Funding: We would like to discuss these sections along with the termination sections to ensure that we have a cure period prior to termination and suspension. Additionally, we would seek to ensure that the parties address compensation for the delay, particularly if we need to hold our personnel on the project during the suspension.	Modify the provision as described.

Contract Issues List			
Item	Specify the Contract Section #	Issue	Bidder's Proposed Solution/Rationale
	Contractor Commitments, Representations, Covenants, and Warranties (Attachment 01, General T&Cs, Section 21, pp. 8-10)	Deloitte Consulting would like to clarify that only written commitments made in the contract (including via an amendment to the contract) are binding upon the parties.	Modify the provision as described.
	Disputes (Attachment 01, General T&Cs, Section 23, pp. 10-11); Termination or Expiration Procedure; Transition (Attachment 01, General T&Cs, Section 39, pp. 16-17); Critical Milestones (Special T&Cs, Section 9.d, pp. 26-27); Billing and Payment (Special T&Cs, Section 17, pp. 30-31)	Relative to these Sections and all other sections that make reference to withholding of payments, Deloitte Consulting would like to discuss the parties' rights and obligations relative to the amount and process for any withholding. We also want to clarify that each party's obligation to continue to perform in the event of a dispute is subject to the termination rights.	Clarify both parties obligations and rights during a dispute.
	Indemnification and Hold Harmless (Attachment 01, General T&Cs, Section 25, p. 11); Patent and Copyright Indemnification (Attachment 01, Additional General T&Cs, Section 31, pp. 13-14)	The indemnification obligations are overly broad and extend beyond reasonable, commercially standard indemnification obligations.	Modify this provision to reflect that we would agree to an indemnity for certain damages for third party claims for (a) bodily injury and physical damage to real or personal property to the extent directly and proximately caused by us, and (b) certain infringements by our deliverables of third party intellectual property rights.
	Insurance (Attachment 01, General T&Cs, Section 26, p. 11); (Attachment 01 Special T&Cs, Section 18, pp. 31-34)	The insurance provisions are not consistent with certain insurance policies that we currently maintain.	Modify the contract language to make the insurance requirements consistent with the insurance that we maintain, which we believe is consistent with insurance maintained by other large professional services firms.

Contract Issues List			
Item	Specify the Contract Section #	Issue	Bidder's Proposed Solution/Rationale
	Limitation of Liability (Attachment 01, General T&Cs, Section 28, p. 12)	We propose a commercially reasonable cap on damages.	We would propose that a limitation on liability be modified to place reasonable, commercially standard parameters on Contractor's liability obligations, to include a commercially reasonable cap on damages.
	Ownership/Rights (Attachment 01, General T&Cs, Section 30, p. 13); Treatment of Property (Attachment 01, General T&Cs, Section 40, p. 17); Bidder-Owned Software (RFP, Section I.5, p. 101 and I.7, p. 102)	Contractor IP is not protected under this clause; and the ownership/license rights should transfer on payment.	Modify the provision to clarify that while we would agree to assign ownership of work product specifically designed for and delivered to the State in connection with the engagement upon full and final payment and subject to the contract, we would retain rights in intellectual property developed prior to or outside of its work for the State, or as a tool in performing the services for the State, including modifications to such intellectual property.
	Subcontracting (Attachment 01, General T&Cs, Section 35, pp. 15)	Deloitte Consulting proposes further discussion and clarification regarding the required flow down provisions to its subcontractors, and whether the flow downs are applicable to the services being provided. Some flow down provisions may not be applicable to the subcontractor, depending on the size and scope of services being provided by the subcontractor as a component of Deloitte Consulting's services.	Modify this provision to clarify only applicable terms would be flowed to the subcontractors; to delete the obligation to always follow a competitive process; and to document the Department's consent for subcontracting to our affiliates and clarify that certain provisions therein shall not be applicable to Contractor's affiliates.

Contract Issues List			
Item	Specify the Contract Section #	Issue	Bidder's Proposed Solution/Rationale
	Subrecipients (Attachment 01, General T&Cs, Section 36, pp. 15 - 16)	Deloitte Consulting proposes further discussion and clarification regarding the required flow down provisions to its subcontractors, and whether the flow downs are applicable to the services being provided.	Some flow down provisions may not be applicable to the subcontractor, depending on the size and scope of services being provided by the subcontractor as a component of Deloitte Consulting's services.
	Termination for Default (Attachment 01, General T&Cs, Section 38, p. 16); Termination or Expiration Procedure; Transition (Attachment 01, General T&Cs, Section 39, p. 16-17);	We believe termination for cause should be mutual, based on a material breach of the contract and require adequate written notice with the breaching party being given an opportunity to cure such breach. We also propose deleting references to consequential or indirect damages in order to remove conflicts with the Limitation of Liability provision.	Modify the language as described.
	Preventing Disruption of Adult Care, Mental Health, Addiction, Disability Support, or Youth Services Due to Labor Management Disputes and Employee Unrest (Attachment 01, General T&Cs, Section 43, pp. 18-19):	We do not believe this section would be applicable.	Deloitte Consulting will warrant that the services under the contract will be performed in good faith and in a professional manner. However, we disclaim all other warranties, either express or implied, including warranties of merchantability and fitness for a particular purpose.
	Guiding Partnership Principles (Attachment 01, Special T&Cs, Section 4, p. 22); General Service Expectations (Attachment 01, Special T&Cs, Section 4, p. 22)	We look forward to further discussing these provision and to clarify the required quality standards as well as clarify that the Services provided will be those explicitly stated in the resulting Contract and SOW.	Modify the language as described.
	Service Level Requirements (SLRs) (Attachment 01, Special T&Cs, Section 6, pp. 22-24)	Deloitte Consulting proposes discussing the SLR sections during negotiations.	We propose that the SLRs reflect industry-standard SLRs and terms based upon the terms of the engagement as finally awarded.

Contract Issues List			
Item	Specify the Contract Section #	Issue	Bidder's Proposed Solution/Rationale
	Contractor Personnel (Attachment 01, Special T&Cs, Section 10, pp. 27-29)	Deloitte Consulting agrees that any changes to Key Personnel should be approved by the State however we request further discussion relative to the State's proposed ability to approve and to remove other Contractor personnel from the services. We would request that Deloitte Consulting be allowed to replace Key Personnel if there are circumstances in which certain employees may no longer be available, such as illness, disability, or separation from employment.	Rights to remove non-Key Personnel may hinder our ability to meet our other contractual obligations.
	Data Security Requirements (Attachment 01, Exhibit A, pp. 35-42)	Deloitte Consulting requests that any data security standards, requirements or related terms be subject to further discussion and clarification by the parties during contract negotiations.	We would like to clarify the requirements to align with the provided services.
	Federal Tax Information Security Requirements (Attachment 01, Exhibit B, pp. 43 – 45)	We would like to discuss further to determine the extent applicable this section is to our services.	We would like to clarify the requirements to align with the provided services.
	Statement of Work (Attachment 01, Exhibit C, pp. 46 – 71); Personnel Requirements (Attachment 01, Exhibit C, pp. 72 – 74); Service Level Requirements (Attachment 01, Exhibit C, pp. 75)	Deloitte Consulting looks forward to mutually finalizing these exhibits.	We would like to clarify the requirements to align with the provided services.

Figure 13-1. Contracts Issues List.

Deloitte.



WASHINGTON STATE DEPARTMENT OF SOCIAL AND HEALTH SERVICES (DSHS)

ACES Maintenance and Operations
REQUEST FOR PROPOSAL | #2223-808

Attachment DC1 ACES Replatforming Activities

September 12, 2022 | 3:00 p.m. Pacific Time

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Re-platforming Activities

2223-808_Attachment_DC1_ACES_Replatforming_Activities

Requirement 5.4 - The bidder should include an evaluation of activities relating to the ACES replatforming along with a separate itemized list of any assumptions and costs associated with such activities in their proposal. The M&O vendor will partner with DSHS during an initial twelve-month discovery period to outline the proposed plan and associated costs related to the ACES re-platforming. These ACES replatforming activities will not be a part of the evaluation scoring for this RFP.

Re-platforming Services

As requested in requirement 5.4, below is a list of high-level activities to perform ACES re-platforming services (labor only) from z13 to z15 to be completed in an **estimated two (2) month duration**:

- **Preparatory Phase**
 - Create IOCP Configuration for new z15 Processor
 - Review Third Party Software Compatibility for new z15 Processor
 - Finalize Planned Hardware Configuration and Features
 - Provide remote access to IBM Hardware Management Console (HMC)
- **Confirm installation of Hardware and components**
- **Hardware Verification**
 - Load the IOCP Configuration into the new z15 Processor
 - Initialize disk arrays
 - Using the z13, Copy the z/OS and System Volumes
 - Connect IBM Disk Subsystem
 - Connect and Validate Local Network Access is Functional
 - Map Production I/O Configuration Data Set (IOCDS) using Channel Path Identifier (CHPID) Mapping Tool
 - Install 1st IOCDS on new z15 Processor
 - Attach storage to new z15 Processor
 - Finalize and document Configuration
- **Prepare for Testing**
 - Synchronize data
 - Test Operator Console
 - Initialize Program Load (IPL) new z15 Processor
 - Validate All Production ACES Volumes are Online
 - Validate the Migration and maintain the RACF security database during the transition phase.
 - Apply Third Party Software Passwords for new z15 Processor

- **Infrastructure Team Testing**
 - Operations and Production Control Testing - all tools
 - Systems Teams Testing
 - Database Teams Testing
- **Application Team Testing**
 - ACES Team New System Test Environment Access
 - Application Regression Testing
 - Application Performance Testing
- **Remediate Application Testing Findings through the Change Control Process**
- **Cutover**

Non-Cost Assumptions

As requested in Requirement 5.4, we have provided a list of non-cost assumptions below.

- DSHS procures the new hardware and associated components with appropriate maintenance agreements.
- DSHS will upgrade or procure new software licenses to meet MIPS/MSU level of newz15 Processor
- The re-platforming plan will be coordinated with DSHS to confirm availability of any needed DSHS resources
- DSHS is responsible for deinstallation and disposal of replaced hardware

Cost Assumptions Location

As requested in Requirement 5.4, we have provided our cost assumptions in the 'Cost Assumptions' tab of the file **AMEND2-2223-808_Attachment_10_Pricing_Workbook_Deloitte**.



**WASHINGTON STATE DEPARTMENT OF SOCIAL
AND HEALTH SERVICES (DSHS)**

**ACES Maintenance and Operations
REQUEST FOR PROPOSAL | #2223-808**

Attachment DC2 Sample Decomposition Plan

September 12, 2022 | 3:00 p.m. Pacific Time

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Deloitte Sample Decomposition Plan

SYSTEM REQUIREMENTS

DOCUMENT CONTROL

Project Name:	Decomposition Plan Sample
Project Number:	XXX
Project Manager:	
Agency Division:	
Document Author:	
Date:	TBD

REVISION HISTORY

Version	Date	Summary of Changes
1.0	TBD	Initial Outline

TABLE OF CONTENTS

1	PURPOSE	3
2	AUDIENCE	3
3	PROJECT SUMMARY	3
4	IMPACT TO CURRENT BUSINESS PROCESS	3
5	GENERAL SYSTEM REQUIREMENTS	4
6	SPECIFIC SYSTEM REQUIREMENTS	5
7	REPORTING REQUIREMENTS	11
8	SECURITY REQUIREMENTS.....	11
9	REGULATORY REQUIREMENTS	11
10	EXCEPTIONS/ERROR REQUIREMENTS	11
11	DATA REQUIREMENTS	11
12	TRAINING REQUIREMENTS.....	11
13	PERFORMANCE REQUIREMENTS.....	11
14	USABILITY REQUIREMENTS.....	11
15	QUALITY REQUIREMENTS	11
16	TESTING REQUIREMENTS	11
17	OTHER REQUIREMENTS.....	12
18	ASSUMPTIONS AND CONSTRAINTS	12
19	SIGNOFF	12
20	APPENDIX	12

1 PURPOSE

This document specifies the business requirements for the project. It illustrates the various system features and functional details for the end-users and developers. Future documents in the software lifecycle will trace back to this document. Those documents will include the System Design, Test Plan, and Test Scripts. Traceability is noted in the numbered headings.

2 AUDIENCE

This document is intended for review and signoff by the Development Team, Business Analysts, and Project Management.

3 PROJECT SUMMARY

Current system will sunset as described below after all cases are converted to new System.

Current system will not accept any new applications or allow any updates after all cases are converted to the new system and will convert to read-only mode, for inquiry purposes.

The split/merge process will be terminated once all cases are converted to the new system. The day after final conversion, split-merge process will be in new system-direct mode for any records that currently pass through the split/merge process.

All current system batch jobs that run on a daily, weekly, monthly, quarterly and yearly basis, in addition to reports and ad-hoc jobs, will be terminated in a phased manner depending upon the business needs and after all cases are converted to the new system.

Similarly, all system reports that are generated on a daily, weekly, monthly, quarterly and yearly basis will be terminated once all cases are converted to the new system.

As a part of the data archival process, the current system project team will develop several extract programs that will retrieve current system cases, individuals, eligibility, budgets, claims, sanctions, TANF Clocks, TANF/SNAP issuances, individual demographics, audits, case comments, ABAWD, client notices, and IPV related data from current system databases (Mainframe IMS). All data extraction is based upon the retention requirements of State and it will be loaded into archival database (relational database tables is under consideration)(non-mainframe database).

As a part of data display process, current system screens selected by business units will be captured as it appears today and it will be displayed in a new current system archival portal.

4 IMPACT TO CURRENT BUSINESS PROCESS

- 4.1 Modify current system screens to operate in read-only mode when all cases have been converted to new system.

- 4.2 Stop running batch processes when they are no longer required to run.
- 4.3 Stop creating reports and extracts when there is no active data in the current system that requires reporting.
- 4.4 Terminate the split/merge process once all cases are converted to the new system. The day after final conversion, split-merge process will be in the new system-direct for any records that currently pass through the split/merge process.
- 4.5 Develop a process to extract XX years of current system data (for open and closed cases) from the cut-off date. If the sunset implementation date is xx/xx/xxxx the archival start date would be xx/xx/xxxx. We will extract all cases that are:
- Open in current system as of xx/xx/xxx.
 - Open or closed between xx/xx/xxxx and xx/xx/xxxx.

For example:

- If a case is open on XX/XX/XXXX and closed on XX/XX/XXXX - case will not be archived.
- If a case is opened XX/XX/XXXX and closed on XX/XX/XXXX - case will be archived
- If a case is opened XX/XX/XXXX and still open - case will be archived.
- If a case is opened XX/XX/XXXX and closed on XX/XX/XXXX – case will be archived.

This process will include cases, individuals, claims, sanctions and penalties, TANF Clock, TANF/SNAP issuances, eligibilities & corresponding budgets, individual demographics, audit, case comments, ABAWD, client notices, reference tables, help screens and related data.

Note: Cut-off date is the date when all current system cases have been converted to the new system and the current system starts the transition into sunset mode.

5 GENERAL SYSTEM REQUIREMENTS

Refer to Section 6 Specific System Requirements.

6 SPECIFIC SYSTEM REQUIREMENTS

The following sections define the specific system requirements for this project:

6.1 Convert current system into read-only mode

6.1.1 Modify the current system platform and corresponding screens to operate in read-only mode when all cases have been converted to the new system. Some user profiles of users who currently have update access will be changed to inquiry access while some users access will be removed entirely based upon state discretion.

6.1.2 Disable all web services that result in updates to current system data.

6.1.3 Current system will not allow the creation of new applications, change process, redeterminations, reapplications, or accept inbound Account Transfers (AT).

6.2 Stop Current System Batch Cycles

As a part of current system batch processes, there are a number of jobs executed for daily, weekly, monthly, quarterly, yearly, adverse, recur6, MA mailers, redetermination, and current system reports (ad-hoc reports) cycles. The current system will stop these processes once the final conversion is completed based on its frequencies from the cut-off date.

The following current system jobs will be terminated based on cut-off date.

6.2.1 Daily batch jobs

Daily jobs will be terminated after the last business day of the current system final cut-off date. For example, if XX/XX/XXXX is the cut-off date, the last daily job will be conducted on XX/XX/XXXX.

6.2.2 Weekly Batch jobs

Weekly jobs will be terminated on the cut-off date's prior week. For example, if Wednesday XX/XX/XXXX is the cut-off date, the last weekly job will be conducted on Friday of prior week XX/XX/XXXX. (This timeframe will be finalized during initial planning and functional design sessions).

6.2.3 Monthly Batch Jobs

Monthly Jobs will be terminated on the last business day of the prior month before the cut-off date. For example, if XX/XX/XXXX is the cut-off date, the last monthly job will be conducted on XX/XX/XXXX. (This timeframe will be finalized during initial planning and functional sessions).

6.2.4 Quarterly Batch Jobs

Quarterly Jobs will be terminated after the last quarterly run prior to the cut-off date. For example, if XX/XX/XXXX is the cut-off date, the last quarterly jobs will be conducted on XX/XX/XXXX (This timeframe will be finalized during initial planning and functional design sessions).

6.2.5 Yearly batch jobs

Yearly jobs will be terminated on the last business day of the prior year before the cut-off date. For example, if XX/XX/XXXX is the cut-off date, the last yearly job would be XX/XX/XXXX (This timeframe will be finalized during initial planning and functional design sessions).

6.2.6 MA Mailer batch jobs

Mailer Jobs will be terminated after the final mailer cycle has been determined.

6.2.7 Pre Redetermination Recon batch Jobs

Pre Redetermination Recon Jobs will be terminated after the final Pre Redetermination Recon cycle has been determined.

6.2.8 Redetermination Batch jobs

Redetermination Jobs will be terminated after the final Redetermination cycle has been determined.

6.2.9 Final Adverse Batch Jobs

Final Adverse jobs will be terminated after the final adverse cycle has been determined.

6.2.10 Final Recur4 Batch jobs

Final Recur4 jobs will be terminated after the final Recur4 cycle has been determined.

6.2.11 Final Recur6 Batch jobs

Final Recur6 jobs will be terminated after the final Recur6 cycle has been determined.

6.3 Data Exchange – Split/Merge Stop

The split/merge process will be terminated once all the cases are converted to the new system and final conversion is complete. The following split/merge processes will be terminated based on the final job complete from current systems' end.

Note: File duplication, current system-only jobs, and Split jobs will be stopped after the final conversion.

6.3.1 Daily Jobs

These Daily jobs will be stopped the last day of the final conversion.

6.3.2 Weekly Jobs

These Weekly jobs will be stopped the last day of the final conversion.

6.3.3 Monthly Jobs

These Monthly jobs will be stopped the last day of the final conversion.

6.3.4 Quarterly Jobs

These Quarterly jobs will be stopped the last day of the final conversion.

6.3.5 Semi-Annual Jobs

These Semi-annual jobs will be stopped the last day of the final conversion.

6.3.6 Yearly Jobs

These Yearly jobs will be stopped the last day of the final conversion.

6.4 Current System Data Migration and Purge Process

6.4.1 Data Migration

Develop a process to extract XX years of current system data (for open and closed cases) from the cut-off date. This will include cases, individuals, claims, sanctions & penalties, TANF/SNAP issuances, eligibilities & corresponding budgets, individual demographics, audit, case comments, ABAWD, client notices, reference tables, help screens and related data. This data will be extracted and loaded into a new archival database system.

The general rule is to archive data dating back to a maximum of **XX years** from the sunset cut-off date.

As a part of data display process, current system screens selected by business units will be captured as it appears today and it will be displayed in a new current system archival portal.

Note: Cut-off date is the date when all current system cases have been converted to new system and current system starts the transition into sunset mode.

6.4.2 Data Purge Process

A purge process will be developed to purge data from the archival database. The process will occur annually after the initial archiving process runs, and purge one year worth of data that is older than ten years from the run date. As a part of this process, the last activity date from the archival database from each record will be compared against the current date to determine if the data is older than XX years.

For example:

- If the current date is XX/XX/XXXX, then data will be purged prior to XX/XX/XXXX.
- If the current date is XX/XX/XXXX, then data will be purged prior to XX/XX/XXXX.

6.5 Screen Display of Archived Current System Data

The below sections describe the current system screens that have been identified by state business users to be available for inquiry after current system has sunset. These are arranged based on the options on current system menu screens. Current system screen capture saved as PDFs and accessible by the workers using the user friendly interface based on the Business Area Requirements.

6.5.1 Application Registration, Application Entry, Case Change and Eligibility Processing (TANF/SNAP/Medicaid)

6.5.1.1 Application Registration

All Application Registration data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

Note: Current system historical data available is for a maximum of 8 years and could be less depending on when the case was closed. This is applicable to all sections 6.5.1 through 6.5.7.

6.5.1.2 Application Entry

All Application Entry data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.1.3 Inquiry

All Inquiry data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.1.4 Case Processing

6.5.1.4.1 All case notes from dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.1.4.2 All case audits and worker audits data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.1.4.3 All data exchange screens data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.2 Eligibility Processing

6.5.2.1 TANF

All TANF AGs and corresponding screens data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections. This will include all TANF AG authorizations, reason codes, eligibilities including eligible members, corresponding notices, budgets, etc.

6.5.2.2 TANF Clocks

The TANF clocks for every individual will be captured/stored and displayed in Sunset portal. The entire TANF clock details will be retained in Sunset portal and will be displayed based on business unit selections.

6.5.2.3 SNAP

All SNAP AGs and corresponding data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections. This will include all SNAP AG

authorizations, reason codes, eligibilities including eligible members, corresponding notices, budgets, etc.

6.5.2.4 Medicaid

All Medicaid AGs and corresponding data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections. This will include all Medicaid AG authorizations, reason codes, eligibilities including eligible members, corresponding notices, budgets, etc.

6.5.3 Benefit Issuance and Claims

All Benefit Issuance and Claims data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.4 Quality Control

All Quality Control data dating back from XX/XX/XXXX to the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.5 Hearings and Appeals

All Hearings and Appeal data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.6 Client Notices

The Client Notices data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

Example: If a case closed on XX/XX/XXXX, then only five years of historical data would be available given a cut-off date of XX/XX/XXXX.

Note: Current system historical data available is for a maximum of XX years and could be less depending on when the case was closed. Client notice details will be further defined during design sessions.

6.5.7 Reference Tables & Help Screens

6.5.7.1 All current system reference tables including all table versions data dating back to a maximum of XX years from the sunset cut-off date will be captured and stored in an archival database and displayed based on business unit selections.

6.5.7.2 All Help screens from all current system screens data will be captured and stored in an archival database and displayed based on business unit selections.

7 REPORTING REQUIREMENTS

This section purposely left blank.

8 SECURITY REQUIREMENTS

This section purposely left blank.

9 REGULATORY REQUIREMENTS

This section purposely left blank.

10 EXCEPTIONS/ERROR REQUIREMENTS

This section purposely left blank.

11 DATA REQUIREMENTS

This section purposely left blank.

12 TRAINING REQUIREMENTS

This section purposely left blank.

13 PERFORMANCE REQUIREMENTS

This section purposely left blank.

14 USABILITY REQUIREMENTS

This section purposely left blank.

15 QUALITY REQUIREMENTS

This section purposely left blank.

16 TESTING REQUIREMENTS

16.1 The current system project team will perform all System Testing/User Acceptance Testing in the CURRENT SYSTEM TEST REGION.

16.2 The current State staff will perform UAT for the state.

16.3 Integration Testing will be performed by the current system and new system teams.

17 OTHER REQUIREMENTS

This section purposely left blank.

18 ASSUMPTIONS AND CONSTRAINTS

This section purposely left blank.

19 SIGNOFF

Position/Title	Signature	Date
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20 APPENDIX

20.1 20.1

ACES M&O RFP Written Evaluators

WE1- HCA – (Cathie Ott replaced by) Dineen Kilmer

WE2- DOH – Rachel Johnston (replacing Bill Pruett)

WE3- DCYF – Jim Hoseth

WE4- DSHS – Vincent Stoneking (ALTSA)

WE5- HBE – Christy Bezanson

WE6- DSHS – Bobby Hatam (ESA)

WE7- DSHS – Sara Tang (ESA)

Introduction

This Template provides a structured approach for proposing the pricing associated with delivering the requirements. The Vendor must fill out all applicable worksheets and cells as described by the Template and individual worksheet instructions. This Template is the formal Pricing Proposal for the Vendor's Proposal. The Vendor warrants that all pricing associated with the services as requested in this RFP are included in this Template.

Where prices are requested on an annual basis, the year refers to the appropriate year of the Contract (i.e. Year 1 refers to the first year of the Contract rather than calendar or Federal fiscal year). Vendors must complete the pricing Proposal with the expected fully burdened cost rate based on the anticipated Contract start date of July 1, 2023. However, should the contract start date shift for any reason, DSHS expects Vendors to honor the prices as stated in their Cost Proposal for at least six month after the anticipated start date. The total bid pricing is a firm fixed price.

This workbook contains pricing information required for submission of a Proposal for the Services in this RFP. The worksheets within this Response Template are listed below. **All worksheets must be completed. Any Proposals that do not provide complete pricing information may be excluded from the competitive field.**

Instructions: Do nothing on this sheet.

Pricing Summary

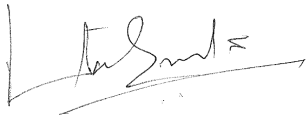
The pricing on this worksheet will be automatically calculated using the information entered in the other worksheets. It is the Vendor's responsibility to ensure that pricing on this sheet reflects the full Proposal pricing for the services outlined in the RFP.

Bidders are instructed to provide fully loaded blended rates for all Tasks.

Task 2 assumes a minimum of 30,000 hours per year for enhancements and a maximum of 50,000 hours. Please provide the fully burdened blended rate for enhancement services. Enhancement work is considered any work request greater than 80 hours to complete.

Table 1. Total Pricing Summary		Ongoing Pricing							
Task #	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 (Extension 1)	Year 7 (Extension 1)	Total Pricing
Task 1	ACES Maintenance and Operations, Fixed Price, Monthly	\$22,279,212	\$21,833,628	\$21,615,291	\$21,399,138	\$21,292,143	\$21,242,091	\$21,216,801	\$150,878,303
Task 2	Implement Enhancements up to 50,000 Hours, minimum of 30,000	\$4,577,400	\$4,758,900	\$4,954,800	\$5,163,300	\$5,391,000	\$5,629,200	\$5,878,800	\$36,353,400
	Total Price	\$26,856,612	\$26,592,528	\$26,570,091	\$26,562,438	\$26,683,143	\$26,871,291	\$27,095,601	\$187,231,703

Following is the signature of Rakesh Duttagupta in reference to page 86 of the RFP, "all Bidders must complete and sign the Bidder Pricing Workbook attached to this Solicitation as Attachment 10."



Rakesh Duttagupta
Principal, Deloitte Consulting LLP

Provide M&O Services, Report Status and Assure Quality

The M&O price must include all tasks and deliverables required for ongoing M&O of the Applications, as described in the RFP and attachments. Note that Vendor's work to complete the ACES Discovery and Decomposition Plan must be included in the proposed Year 1 pricing. All pricing must accurately reflect the level of effort required to complete ongoing Maintenance and Operations of the ACES System. All pricing will be calculated based on appropriate composite rate for that year. Pricing for M&O services may not exceed \$25,000,000 per year.

At the end of Year 1, the successful vendor will be expected to apply a discount rate to each of the following years based on the modular cost model to be completed as part of the ACES Discovery and Decomposition Plan. We expect the Decomposition Plan to include potential reductions in workload based on reductions to ACES functionality that are tied to the phased implementation of the modern I&E solution modules. Additional work may be necessary to complete legacy transition and decomposition activities, and may be included in a Contract Change Order.

It is the responsibility of the Vendor to ensure spreadsheet calculations are correct. All pricing must be fully inclusive. Contractors will invoice monthly with the submission of the Service Level Report.

Table 1. M&O Services, Report Status and Assure Quality Pricing																						Summary	
ID	Description	Monthly Pricing	Months	Year 1 Total	Monthly Pricing	Months	Year 2 Total	Monthly Pricing	Months	Year 3 Total	Monthly Pricing	Months	Year 4 Total	Monthly Pricing	Months	Year 5 Total	Monthly Pricing	Months	Year 6 Total (Extension 1)	Monthly Pricing	Months	Year 7 Total (Extension 1)	Total
Task 1: Provide M&O Services, Report Status and Assure Quality																							
1	Provide ACES Maintenance and Operations Services in accordance with the Service Level Requirements	\$1,856,601	12	\$22,279,212	\$1,819,469	12	\$21,833,628	\$1,801,274	12	\$21,615,291	\$1,783,262	12	\$21,399,138	\$1,774,345	12	\$21,292,143	\$1,770,174	12	\$21,242,091	\$1,768,067	12	\$21,216,801	\$150,878,303

Implement Enhancements

DSHS will require the Vendor to enhance the Applications based on DSHS' business needs. The Vendor should assume DSHS will require the Vendor to provide a minimum of 30,000 hours of support enhancing the Applications each year. Enhancement work is considered any work outside the typical M&O activities of the contract. There are two types of enhancements: 1) M&O code enhancements required to meet legislative changes and additional work related to improving the functionality, usability or efficiency of the ACES System and 2) enhancement work necessary to complete legacy transition work described below. DSHS expects M&O code enhancements to be as minimal as possible as the priority focus shifts to IE&E support.

Table 3. Implement Enhancements Pricing		Year 1			Year 2			Year 3			Year 4			Year 5			Year 6 (Extension 1)			Year 7 (Extension 1)			Summary	
ID	Description	Hours/yr	Blended Rate	Total	Hours/yr	Blended Rate	Total	Hours per Deliverable	Blended Rate	Total	Hours per Deliverable	Blended Rate	Total	Hours per Deliverable	Blended Rate	Total	Hours per Deliverable	Blended Rate	Total	Hours per Deliverable	Blended Rate	Total		Total
2	ACES Enhancements	30,000	\$152.58	\$4,577,400	30,000	\$158.63	\$4,758,900	30,000	\$165.16	\$4,954,800	30,000	\$172.11	\$5,163,300	30,000	\$179.70	\$5,391,000	30,000	\$187.64	\$5,629,200	30,000	\$195.96	\$5,878,800		\$36,353,400

NOT EVALUATED: Replatforming Costs

The M&O vendor should include an evaluation of activities relating to the ACES re-platforming along with a separate itemized list of any assumptions and costs associated with such activities below. Use the cost assumptions tab in this workbook to document any cost assumptions. The M&O vendor will partner with DSHS during an initial twelve-month discovery period to outline the proposed plan and associated costs relating to the ACES re-platforming. These ACES re-platforming activities will not be a part of the evaluation scoring for this RFP

Replatforming Costs				
ID	Description	Hours	Blended Rate	Total
Replatforming Costs				
5.4	Estimated replatforming costs	1,844	\$165	\$304,260

Replatforming Costs	Functional Regression and Application Performance scripts are available to be executed on the migrated platform	Additional effort will be required to design, script and stabilize the regression and performance test scripts	\$515,295

Washington State
Department of Social and Health Services
Economic Services Administration

Attachment 09

Bidder Response Form

ACES Maintenance and Operations

Bidder Name	Deloitte Consulting LLP
Solicitation Number	2223-808
Date Completed	9/12/2022

CONTENTS	
<i>RFP Section D</i>	<i>Responses</i>
4.1	Executive Summary
4.2	Bidder Performance Requirements
4.3	Key Personnel
4.4	Bidder Engagements
4.5	Bidder References
4.6	Contract Questionnaire
4.7	Executive Order 18-03

Alteration of these templates and/or failure to provide this submittal as detailed may render a proposal non-responsive and cause it to be rejected.

If additional pages are needed, they must be attached to the page containing the initial portion of the response to a question and should be marked clearly to indicate that they provide a continuation of Bidder’s answer to a specific numbered question. Bidders may not submit product brochures, white papers, customer testimonials, cut sheets, or other pre-prepared materials in response to any of the questions.

4.1 Executive Summary

The executive summary should describe the Bidder's response at a high level in terms of Engagement approach, perspective, staffing, skill levels, and overall Work Description. It should demonstrate that the Bidder understands the scope and objectives of the Engagement. The executive summary should describe the bidder's high level approach and plan for providing transition services that support the modular transition and legacy decomposition approach

The Bidder shall provide a corporate description with sufficient information to substantiate proven expertise in the products and services being requested in this RFP.

The Bidder shall disclose any company restructurings, mergers, and acquisitions over the past five (5) years or during the course of this project.

The Bidder shall specify the location of the organization's principal office and the number of executive and professional personnel employed at this office.

The Bidder shall state the number of years the Bidder has been providing the products and services being proposed.

The Bidder shall provide the name and the state of incorporation, if incorporated.

The Bidder shall describe their standard project management methodology, the proposed project management approach for this project, and any tailoring of their standard methodology anticipated for this project.

The Bidder shall agree to cooperate in good faith with DSHS to support three priority areas: 1) maintenance and support for the ACES system to ensure ongoing DSHS services are delivered; 2) timely development, testing and implementation of changes and modifications required by state or federal mandate; and 3) robust and timely support provided to DSHS and its IE&E partners for the planned transition to the new IE&E solution. Additional resources to meet these priorities will be added by the Change Order process.

The Bidder shall provide a narrative for their overall approach to delivering the services required by DSHS including their approach to defining the Decomposition Plan

Enabling DSHS to Transform Lives

Dismantle poverty in Washington.

Building a future in which Washingtonians live with dignity, their foundational needs met, and access to the building blocks of opportunity essential for reaching their full potential in life so future generations can reach theirs.

These outcomes are tied to the mission of the Washington Department of Human Services (DSHS), the Economic Services Administration (ESA), and the Community Services Division (CSD), and it is essential to the future of the State.

We, as Washingtonians, are proud of the national headlines proclaiming Washington as one of the best states to live. We are also acutely aware that economic prosperity has not been equitable, as one in three Washingtonians struggle to meet basic needs. We strive to be a State where “Washingtonians have their foundational needs met and access to the resources and opportunities they need to thrive.”

The ACES Complex, and the future Integrated Eligibility and Enrollment (IE&E) solution, are foundational to DSHS’s ability to serve Washingtonians’ needs. And yet, ACES has not been able to keep up with needs in the State, nor the ingenuity of DSHS’s innovative leaders and staff. DSHS and CSD have continued to use work-arounds due to ACES’s lack of flexibility to support program goals. As DSHS is aware, this has a real impact on Washingtonians. Today, there are Washingtonians who call into DSHS to apply for, or to understand the status of their, benefits; some wait 60 minutes to find out if they have medical benefits (Medicaid). Within the State, there are *dreamers* that may be distrustful of government given the national environment, compounded by the stigma of asking for help, lack of safe spaces, and uncertainty about their options. These Washingtonians require a trusted navigator, enabled by technology, to help navigate the services for which they are eligible. Technology should enable DSHS to better serve these Washingtonians in need. Why is technology holding DSHS back?



What DSHS gets by working with our team:

- **A mature and efficient maintenance and operations method used in 26 states**, based on leading ITIL standards, that drive both stability and flexibility to meet DSHS program needs
- **A proven record of decommissioning IE legacy systems like ACES safely**, while at the same time enabling flexibility to drive CSD program outcomes today
- **A comprehensive, short, risk-managed transition-in** from the incumbent vendor, using a process that has worked for dozens of large system transitions, including for systems like ACES.
- **A proposed team that averages 14+ years of HHS experience** and has ACES experience, National Eligibility experience, and Washington experience.

The Case for Change

It's not ACES that has held DSHS back, but rather DSHS's legacy M&O vendor's inability to serve DSHS needs, which in turn inhibits DSHS's ability to serve Washingtonians.

Can DSHS and Washingtonians really wait 3 to 5 years for improved service delivery?

DSHS and the Health and Human Services (HHS) Coalition's IT strategy shows meaningful modernization of functionality in three (3) years. The status quo will require DSHS to wait. Deloitte, and our teaming partner Peraton, ("our team") don't think DSHS should have to wait. Deloitte and Peraton, a perfect complement of services for infrastructure, project management, application management, and program understanding. Peraton is a leading infrastructure provider for many federal and state agencies. Our joint team enables DSHS with a technical strategy that not only plans for the decomposition of the ACES Complex, but also does so in a manner that improves stability and is able to introduce innovations to solve pain points today and without it being throw away within the larger Coalition IE&E strategy. We enable DSHS to lower call center wait times, improve benefit delivery, and improve productivity through the use of emerging technology and automation. **We have helped other states in legacy mainframe environments introduce innovations to better enable our clients to improve outcomes.**

What changes will the future bring, including a new Governor's administration in 2024?

What is certain is the future will bring change and DSHS's ability to be nimble, adapt, and introduce innovations, no matter the circumstance, is critical to transforming lives through better client and DSHS worker experience. Modernizing a complex environment like ACES is not a simple effort, and there will be a new Governor in 2024 with a new administration that may bring potentially a new mindset, approach, and priorities. Additionally, new State or Federal initiatives will introduce change. With our team, **we support the HHS Coalition's current plan and if circumstances change to that plan, including circumstances which may require ACES to be the primary integrated eligibility solution for a longer period. With our team, we keep DSHS always nimble, always innovating, always optimizing, and always modernizing so DSHS can do what DSHS does best... transforming lives for the one in three Washingtonians in need.**

Can DSHS risk disruption of services during the incremental building of IE&E platform due to challenges with ACES as it did during the Affordable Care Act implementation?

ACES remediation isn't purely a technical challenge. The challenge has been an incumbent M&O provider that doesn't understand the business ACES supports, as evidenced by IBM's limited integrated eligibility experience. **Our personnel understand the programs and processes ACES supports for Medicaid, SNAP, TANF, and APTC reducing risk during decomposition.** For example, when implementing the new IE&E platform, DSHS requires a vendor that understands the business of decomposing legacy systems while building temporary data bridges to the modernized platform. DSHS should require a vendor that has this experience; it is not a walk in the park to decompose legacy while implementing a new platform. Data conversion and associated business processes are complex, with a high risk of failure, unless your vendor has experience in decommissioning. DSHS can't control what happens in the future. It can choose a strategic partnership, the Deloitte and Peraton team, who will help introduce innovations to

better serve clients, improve stability. **For example, we commit to re-platforming ACES from zOS13 to zOS15 by the end of 2023 to prevent potential disruption caused by being off supported operating system versions.** The State has a choice: Continue the status quo or move forward with a partner who has fresh ideas, is easy with which to work, and has more eligibility experience than any other firm.

Why Deloitte and Peraton Team for DSHS?

Simply stated, DSHS needs a vendor by its side that will help it think differently. A vendor that is not stuck in ACES Complex “thinking,” but instead brings a proven approach (and success) helping agencies like DSHS unravel their complex legacy ecosystems. Doing so in a manner that is risk-managed, provides stability, and enables the introduction of innovations to better serve clients and improving DSHS workers’ ability to serve clients. Our proven approach and experiences are credible to DSHS for the following reasons:

First, we’ve done it before for other State agencies similar in size and complexity to DSHS. As we depict in the figure below, we are the undisputed leader in Integrated Eligibility (IE) and M&O of current IE systems in the country.

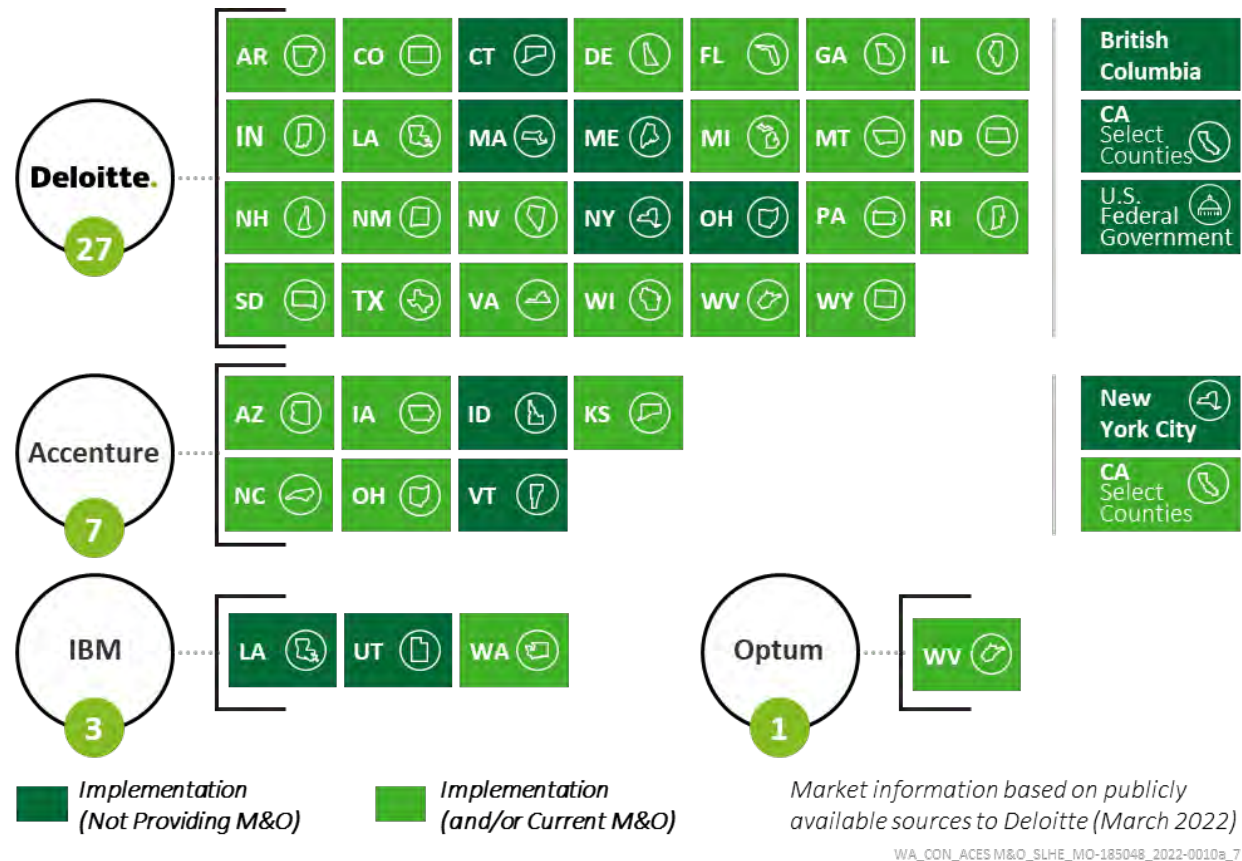


Figure 4.1-1. Deloitte has more integrated eligibility implementation and M&O experience than other vendors combined.

Despite what you may read from the competition, there is no other vendor with the collective experience our team possesses in managing the operations, maintenance, and enhancements (including decomposition of legacy) of IE&E system in America.

Second, as the leading HHS and IE vendor in the world, our approach to DSHS's ACES M&O RFP is proven through features and benefits of our approach to DSHS's ACES M&O in the following figure.

Features of our Approach	Benefits to DSHS
<p>Mature M&O approach and continuous improvement method</p> <ul style="list-style-type: none"> • Brings our Enterprise Value Delivery (EVD) method for Transition and Operations, enabled by tools and assets • CMMI, ITIL, and PMBOK® aligned • Establishes plan in Year 1 to drive operational improvements towards lowering total cost of ownership while building the decomposition of the ACES Complex 	<ul style="list-style-type: none"> • Improves stability • Lowers total cost of ownership • Meets promised timelines for delivery • Reduces risk by applying repeatable, strategic processes for delivery • Introduces operational efficiencies
<p>Key staff that together know Integrated Eligibility (IE) and Washington's ACES environment</p> <ul style="list-style-type: none"> • Key staff together bring 134 years IE experience across 15 states • 5 key staff who were former consultants to DSHS, who held key roles and complement our team to bring direct ACES complex technical and operations experience • 2 key staff who have played business lead and scrum master roles at WA HBE • Rakesh Duttgupta, our Account Partner, brings over 20 years of experience delivering in Washington, including with health and human services program. 	<ul style="list-style-type: none"> • Enables effective transition • Faster introduction of innovations in support of DSHS pain points and priorities • Allows for mitigation of potential risk because our staff has "done it" before • Relationships with the State and Federal trading partners • Experience of how ACES integrates with external WA systems (such as Healthplanfinder)
<p>Our team includes Peraton, leading provider of Infrastructure services</p> <ul style="list-style-type: none"> • Deloitte is the Systems Integrator, fully accountable to DSHS. We own project leadership, project management, application development, operations, and cyber with IE knowledge able leadership and staff • Infrastructure management in mainframe-based environments is a special skillset provided by specific vendors, of which Peraton is a nationally leading provider. • Peraton brings to DSHS relevant experience such as upgrading IBM end-of-life mainframe technologies, transition from state data centers to managed service or cloud "Mainframe as-a-Service" (MFaaS) 	<ul style="list-style-type: none"> • Provides a single primary vendor for managing the project and DSHS relationships • Improves stability and reduces infrastructure related risks • Possess proven experience migrating from unsupported mainframe versions to currently supported versions • Improves our ability to enable DSHS innovation

<p>Holistic Technical Strategy, including Decomposition</p> <ul style="list-style-type: none"> • Co-creates with DSHS, bringing our point of view and examples from other clients as a starting point • Strategy for decommissioning ACES in alignment with the HHS Coalition’s IT strategy • Enables modularity and technical improvements to provide flexibility and alignment with the Coalition’s IT strategy while also enabling innovations accretive to DSHS’s desired outcomes 	<ul style="list-style-type: none"> • Improves DSHS’s ability to enable the HHS Coalition’s IT strategy and projects • Enables DSHS to “control its own destiny” towards the future • Improves DSHS’s ability to better serve clients and support DSHS workers • Improves stability
<p>ACES remediation team consists of practitioners who understand the business of IE and the relevant technology</p> <ul style="list-style-type: none"> • Our team possesses years of experience and deep knowledge of the ACES Complex • Our team members are experts in transitioning and decommissioning legacy environments • Data conversion and associated decomposition in legacy system environments 	<ul style="list-style-type: none"> • Reduces risks related to ACES remediation during IE&E implementation • Reduces risk to ACES availability and improves continuity of operations • Reduces transition risk by employing resources and experience relevant to take-over of complex business systems • Supports the successful conversion of legacy to new platforms while reducing business and technology risk

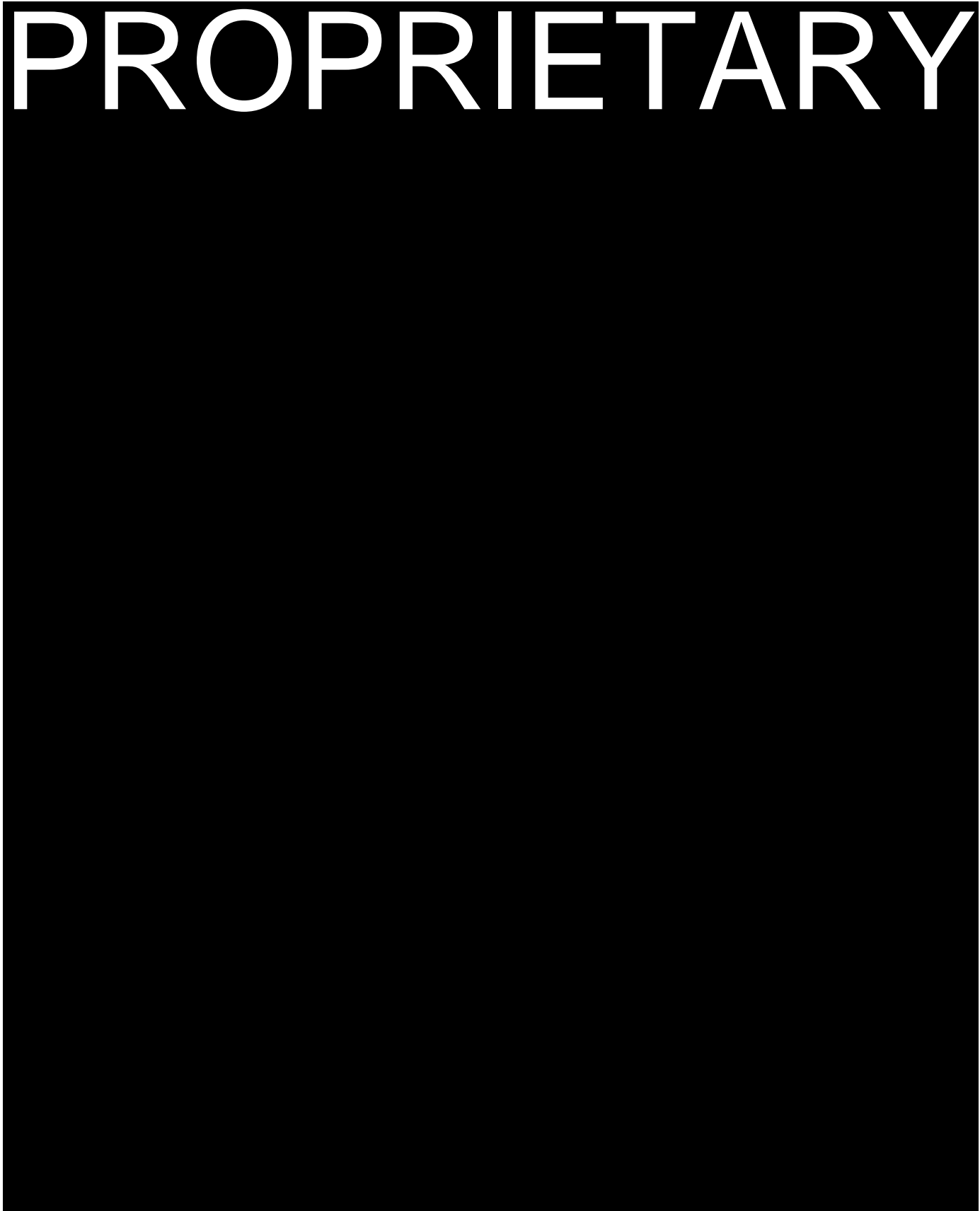
Figure 4.1-2. Deloitte’s Relevant Transition Experience.

Third, DSHS benefits by getting the right mix of business domain knowledge and technical capabilities to support and innovate ACES by utilizing the resources of Deloitte. Our team includes 134 years of IE knowledge, transition-in experience, hands on experience in ACES, and record of innovation. Our project executive, Jay Waller, who has done the very thing DSHS are asking for the State of Arkansas. We also knew it is critical to get people with hands on knowledge of ACES so we hired 7 people with ACES knowledge and put them in key track lead role. We also wanted to inject the environment with people who will think outside the box and bring in efficiencies and so we got Jacqueline and Dildar who has been delivering IE innovation in different states for the past 15 years. Finally we want to challenge status quo and bring in innovation so we proposed an Innovation lead over and beyond the key resources you have asked for – Rachel Frey.

The figure below, we depict how our Team’s qualifications, experiences, and capabilities come to life for DSHS through our people.

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Section Organization

The remainder of our executive summary response is organized as follows per RFPs requirements:

- 4.1.A Corporate Description and Expertise in Services Requested
- 4.1.B Company Restructurings, Mergers, and Acquisitions
- 4.1.C Location of the Organization’s Principal Office and Number of Personnel
- 4.1.D Number of Years the Bidder has been Providing Proposed Services
- 4.1.E Name and the State of Incorporation
- 4.1.F Bidder’s Project Management Methodology and Approach
- 4.1.G Agreement to Cooperate in Good Faith
- 4.1.H Approach to Modular Transition and the Decomposition Plan

4.1.A Corporate Description and Expertise in Services Requested

Deloitte Consulting LLP is a Limited Liability Partnership headquartered in New York, NY. Deloitte is one of the oldest and most respected professional service organizations in the U.S., as seen in the figure below. Our parent company was founded in 1845, and today we are the largest global professional services organization with more than 345,000 employees, with approximately 122,000 based in the US. This includes being **the single largest provider of IE systems in the United States like Washington State’s ACES solution, with 26 systems we currently provide maintenance, operation, and enhancement services.**



Proven expertise in the products and services being requested by DSHS

- **Undisputed leader in IE M&O, including legacy and mainframe-based systems – more than other prospective bidders combined**
- **Comprehensive capabilities** to serve DSHS with today’s requirements and as they evolve and change over time
- **Proven Transition-in Track Record and Success – 18 recent State transitions of similar size and complexity**

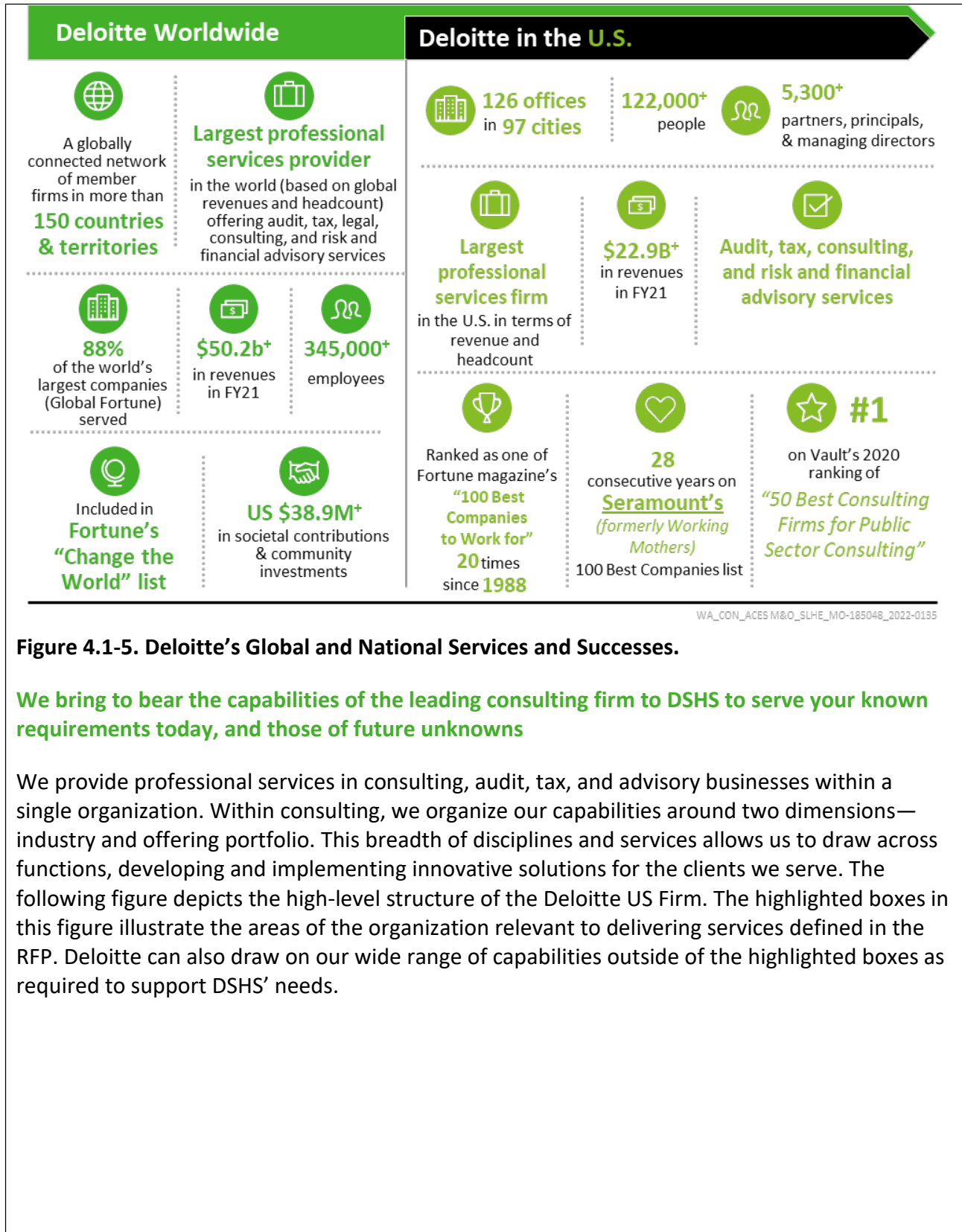


Figure 4.1-5. Deloitte’s Global and National Services and Successes.

We bring to bear the capabilities of the leading consulting firm to DSHS to serve your known requirements today, and those of future unknowns

We provide professional services in consulting, audit, tax, and advisory businesses within a single organization. Within consulting, we organize our capabilities around two dimensions—industry and offering portfolio. This breadth of disciplines and services allows us to draw across functions, developing and implementing innovative solutions for the clients we serve. The following figure depicts the high-level structure of the Deloitte US Firm. The highlighted boxes in this figure illustrate the areas of the organization relevant to delivering services defined in the RFP. Deloitte can also draw on our wide range of capabilities outside of the highlighted boxes as required to support DSHS’ needs.

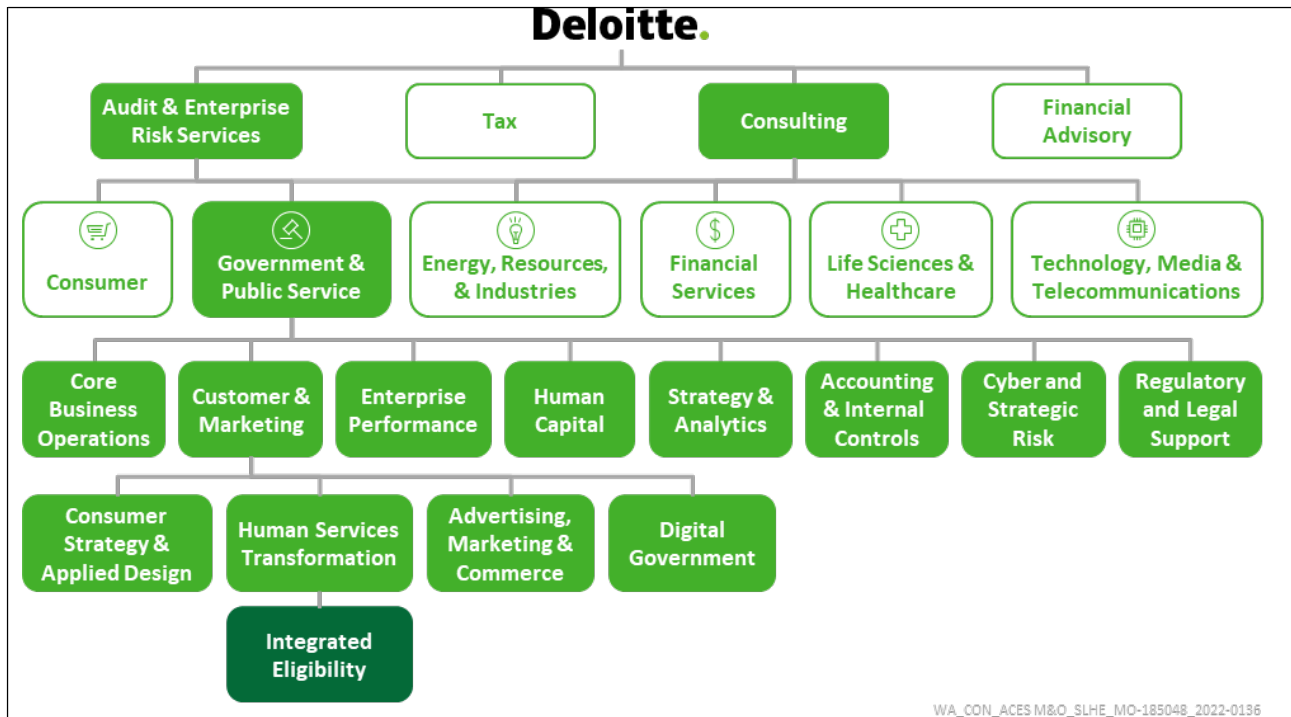
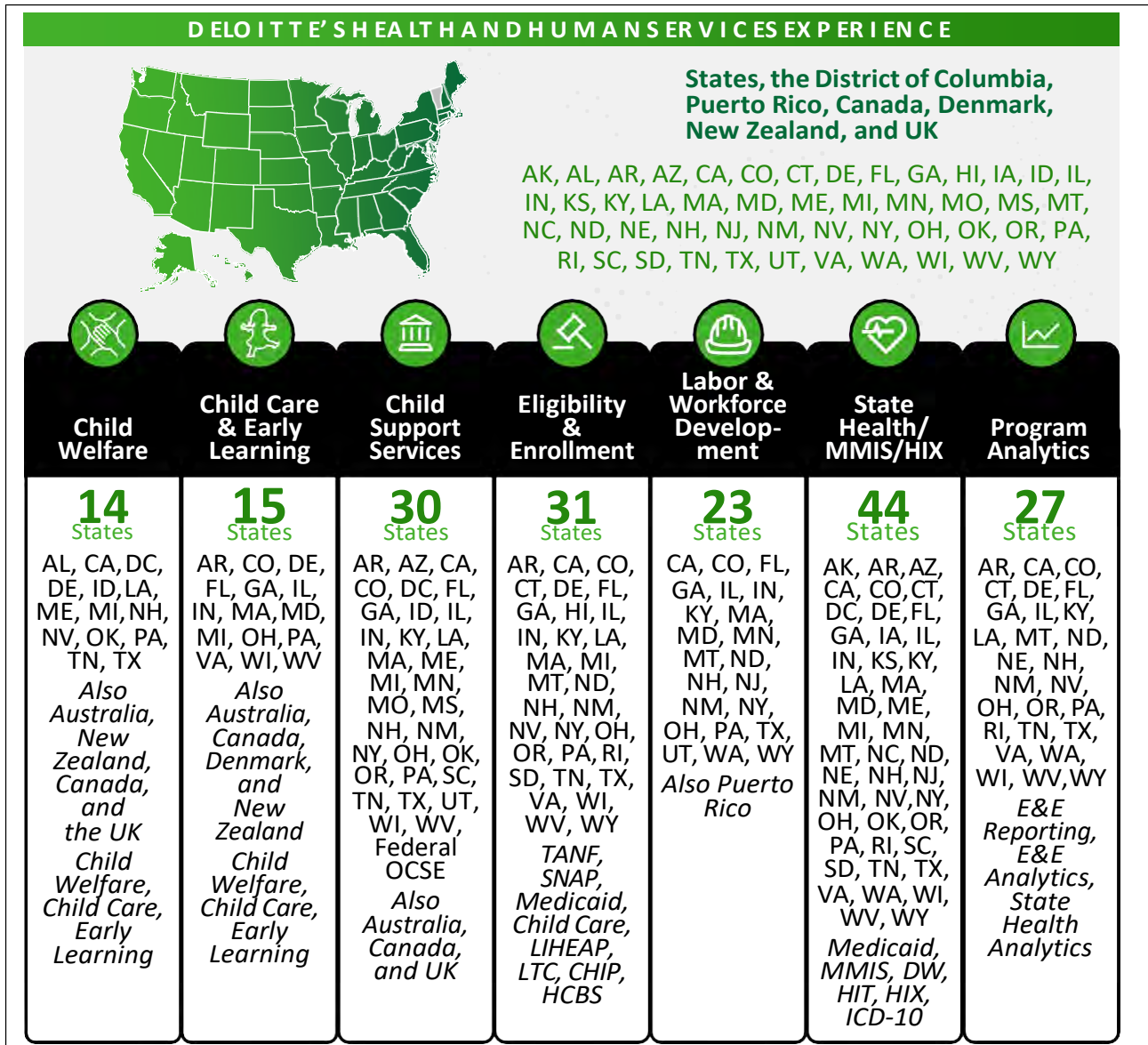


Figure 4-1.6. Deloitte’s brings comprehensive capabilities to deliver ACES M&O.

Deloitte has a dedicated group of professionals that focuses on delivering complex HHS engagements. We also bring a broad array of complementary practices like Digital Government, Cyber and Strategic Risk, Cloud Engineering, Analytics, Application Modernization, as well as Regulatory and Legal Support, to holistically support the implementation, maintenance, and enhancement of the ACES system. These offerings are not independent siloes within a large organization; rather, Deloitte is one firm, with a cohesive culture, consistent methodologies and processes, and significant experience and talent across these capability offerings to deliver for clients like DSHS.

National Integrated Eligibility Leadership and Success

We are the nation’s leader in providing health and human services consulting, technology implementation, and maintenance and operations services, and is uniquely qualified to be DSHS’s ACES M&O services partner. Our HHS experience spans 49 states, the District of Columbia, Puerto Rico, Canada, Denmark, New Zealand, and the United Kingdom. What this means for DSHS is that you get a true business partner (not a Systems Integrator) that understands it, aligns with its priorities, and brings innovation from leading national trends in human services to solve DSHS’s issues. We want to assure you that our extensive experience in this HHS world qualifies us to collaborate with DSHS and realize continuity of services and stability for ACES and we will be part of this journey. The following figure demonstrates Deloitte’s breadth and depth of HHS experience across our nation.



WA_CON_ACES M&O_SLHE_MO-185048_2022-0016

Figure 4.1-7. Deloitte is the national leader in HHS and IE system and solution delivery.

Access to our National HHS Network through our HHS Nerve Center

Deloitte’s HHS Nerve Center (“Nerve Center”) was established to drive Deloitte’s mission to 1) bring innovative solutions to our clients that help solve their most complex challenges, 2) transform the delivery of services and benefits for our most vulnerable neighbors, and 3) elevate the human experience to strengthen our communities. The Nerve Center is structured to conduct deep analyses, environmental scans and outreach, policy and program research, and develop industry leading practices to drive innovation, human-centered design insights and support data-driven decision-making across our practice. We collect, analyze, and disseminate this information throughout our community, real-time, in support of our clients and

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CASE STUDY

ARKANSAS

A perfect example of proof is our recent M&O takeover for the State of Arkansas.



Together, we transitioned 137 human services applications in 4 months through a proactive, transparent, and collaborative approach.

Deloitte executed a smooth and well-coordinated transition from the incumbent vendor, promptly stabilized the system, and started to build a foundation to support future enhancements, improvements, growth, and optimization.

66

Deloitte did a tremendous job in successfully transitioning the HHS suite of applications from our previous M&O vendor. They were proactive in their approach, transparent with their methods, and collaborated effectively with our business, application, and incumbent teams, overcoming obstacles and ensuring a successful transition. Since taking over M&O services, Deloitte continues to partner with DHS in driving innovation and modernization activities.

Jeff Dean
 CIO, State of Arkansas
 Department of Health Services

99

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Figure 4.1-9. Demonstrated experience in transitioning ACES-like systems for State human service agencies.

Proven M&O Approach and Continuous Improvement Method

Given the complexity of ACES and the dynamic and challenging business it supports, the State needs more than a vendor who can keep the lights on. Deloitte’s EVD for Transition and Operations methodology aligns Capability Maturity Model Integration (CMMI), Information Technology Infrastructure Library (ITIL), Institute of Electrical and Electronics Engineers (IEEE), and Project Management Body of Knowledge (PMBOK®) methodologies to support stable operations and rapid application development. It is a proven process refined by Deloitte’s 50 years of experience designing, developing, and implementing large-scale and complex systems.

Our methodology focuses on quickly delivering value and providing discipline and transparency to not only operate ACES but drive out inefficiency and support Washington’s IE&E roadmap. Our overall approach enables predictability of a defined scope delivered iteratively to drive speed, flexibility, and transparency.

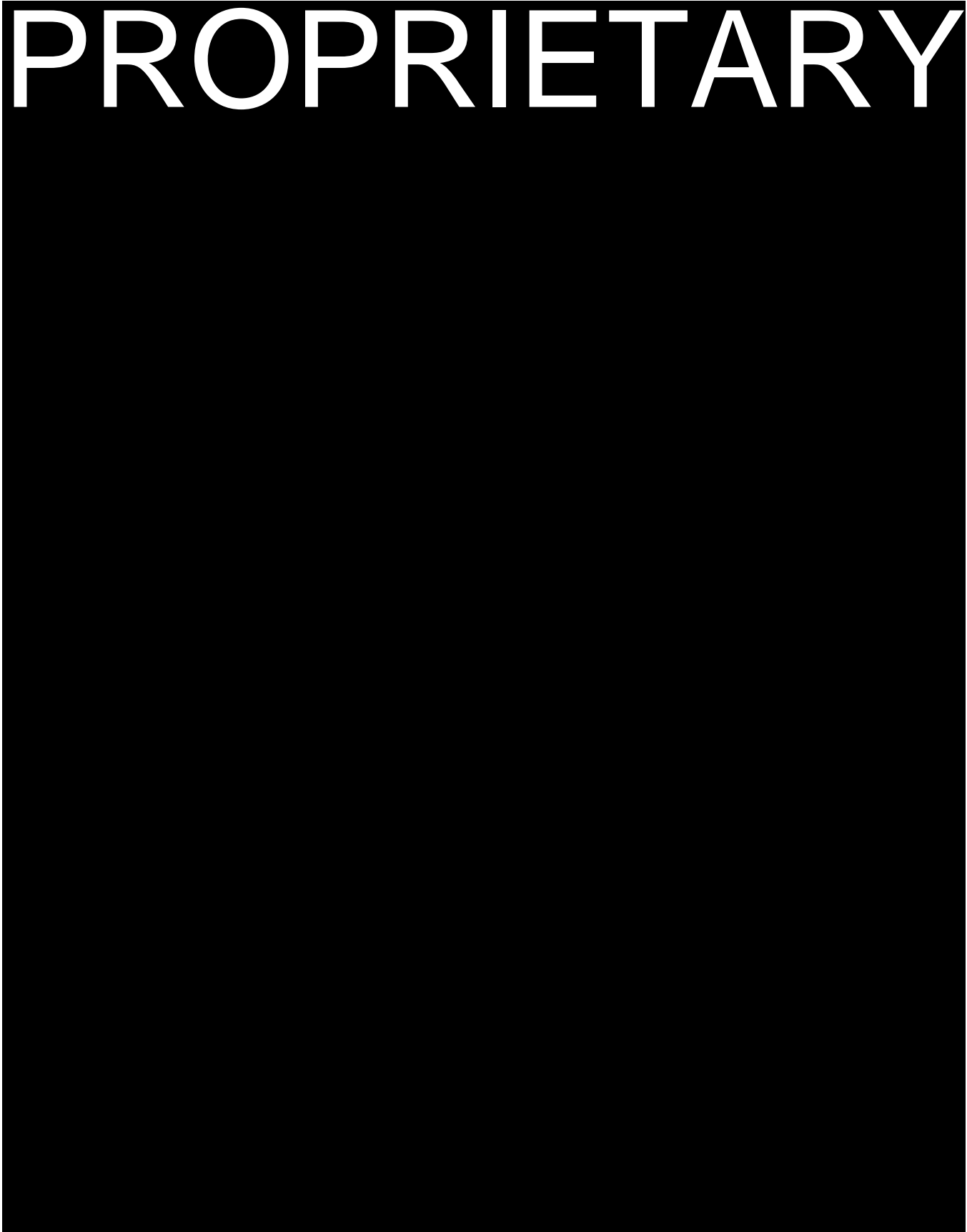
EXAMPLES OF
PREVIOUS PROJECTS

The Maryland Department of Transportation (MDOT) wanted to modernize its mainframe-based Enterprise ERP Procurement System to modern technologies and user experience. By combining Deloitte’s domain expertise, with human-centered design methods, and the innoWake™ solution capabilities, MDOT successfully migrated from the mainframe to an open standards-based architecture and modern system in 15 months

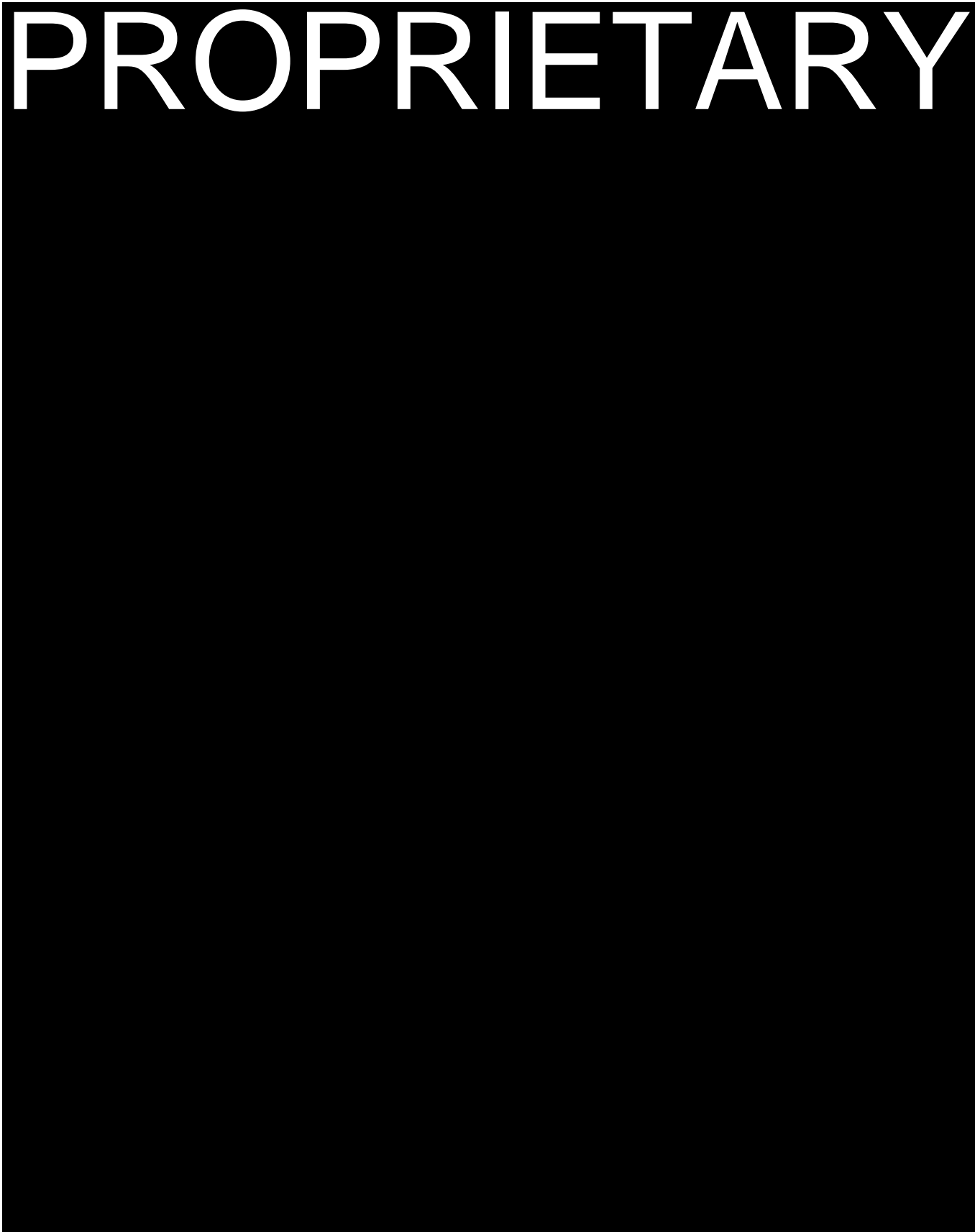
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Deloitte leaders continue to state our firm's intention to continue with our firm's model and go-to-market strategy, providing DSHS and our clients with stability and consistency.

We provide a list of Deloitte's acquisitions in the following figure.

Acquisition / Specialty	Description	Date Announced
BIAS Corporation Oracle Cloud Infrastructure	Deloitte has acquired the assets of BIAS, a cloud consulting firm that is a leader in the Oracle Cloud Infrastructure (OCI) market with experienced cloud professionals based in the United States and India. Founded in 2000, BIAS capabilities focus on advise, implement and operate services for cloud infrastructure, database, middleware, applications, analytics, and security. This acquisition complements Deloitte's existing portfolio of Oracle cloud application and infrastructure capabilities — strengthening Deloitte's market leader standing for end-to-end Oracle cloud transformation services.	12/2/2021
Madras Global Digital	Deloitte Digital acquired Ad2Pro Global Creative Solutions Private Limited ("Madras Global"), a leading global content production agency. The acquisition bolsters Deloitte Digital's capabilities in content production, marketing automation, extended reality, and media ad production, helping to provide chief marketing officers with end-to-end content solutions that deliver personalized customer experiences and drive business impact.	11/29/21
aeCyberSolutions Cyber Solutions	Deloitte Risk & Financial Advisory acquired the industrial cybersecurity business (aeCyberSolutions) from Greenville, S.C.-based Applied Engineering Solutions, Inc. (aeSolutions). The deal will bolster Deloitte's existing cybersecurity offerings with the aeCyberSolutions business' well-tested frameworks, methodologies, and technology-enabled tools for industrial control systems / operational technology (ICS/OT) security.	8/3/21
Sentek Consulting, Inc. Systems engineering and cyber solutions	Deloitte acquired substantially the assets of Sentek Consulting, Inc. (Sentek Global), a San Diego-based systems engineering and cybersecurity firm primarily serving the U.S. Navy.	7/26/21
TransientX, Inc. Cyber Solutions	Deloitte Risk & Financial Advisory acquired substantially the assets of TransientX, Inc., a Zero Trust Network Access (ZTNA) company based in Hoboken, N.J. The deal adds TransientX's employees and its unique, dissolvable, cloud-native application networking technology for ZTNA to Deloitte's existing Zero Trust offerings and solutions.	7/26/21
Terbium Labs Cyber Solutions	Deloitte acquired substantially the assets of Terbium Labs, a Baltimore-based digital risk protection company that helps organizations detect and remediate data exposure, theft, or misuse across the digital landscape. Terbium Labs' services and solutions – including its digital risk protection platform that leverages artificial intelligence, machine learning and patented data fingerprinting technologies to identify illicit use of sensitive data online – will join Deloitte's cyber practice in its Detect & Respond offering suite.	6/15/21
CloudQuest, Inc.	Deloitte acquired substantially the assets of CloudQuest, Inc., a cloud security posture management (CSPM) provider based in Cupertino, Calif.	6/7/21

Cyber Solutions	The deal will bolster Deloitte's existing cloud cybersecurity offerings with CloudQuest's cloud-native security capabilities to manage security workflows, reduce risk and improve data security more seamlessly.	
Root9B LLC Cyber Solutions	Deloitte & Touche LLP has acquired substantially the assets of Root9B, LLC (R9B), a leading provider of advanced cyber threat hunting services and solutions. The deal will bolster Deloitte's existing Detect and Respond cyber client offering with R9B's deeply experienced cyber operations professionals and its award-winning threat-hunting and risk assessment solutions.	1/25/21
HashedIn Technologies Development and software engineering	Deloitte has acquired HashedIn Technologies Private Limited, a high-end product development and software engineering firm. This acquisition will expand cloud and AI capabilities and strengthen Deloitte's position as a worldwide leader in cloud services.	12/3/20
Magnetic Artificial intelligence	Deloitte has acquired Magnetic Media Online, Inc.'s artificial intelligence platform business. Magnetic is a marketing technology company headquartered in New York City. The acquisition signals the strategic importance of enhanced investments in AI, machine learning, and audience data analytics. The acquisition will help make Deloitte Digital's Experience Services platform both smarter and faster. Magnetic's product and engineering employees will join Deloitte Digital's Experience Services group based across a variety of offices.	9/10/18
QSpace (Acquired tool) Validation lifecycle management system	To expand its suite of information technology quality and compliance solutions for life sciences organizations, Deloitte acquired this cloud-based, globally scalable, end-to-end automated, validation lifecycle management system (VLMS) from Archimedis Healthcare Private Limited, a family-owned pharmaceutical manufacturer based in India.	8/27/18
ATADATA Cloud management services	Deloitte made a significant investment in cloud management services by acquiring assets of ATADATA, an Atlanta-based provider of a holistic cloud platform that maps, migrates, and manages workloads in any combination of on-premise and cloud environments to drive and optimize enterprise operations.	1/23/18
Well Placed Cactus Digital	Deloitte has purchased boutique software firm Well Placed Cactus to enhance the firm's interactive and digital development skills. Well Placed Cactus is a team of programmers based in Melbourne and Brisbane who create interactive installments and games using existing and new technologies such as virtual- and augmented-reality headsets.	12/5/17
Bug Insights (Acquired tool) HR Analytics Tool	Through this offering, Deloitte clients will be able to determine what their employees value most from their rewards programs, a critical step on the journey to creating a total relationship with employees that can generate an advantage in a market environment where talent is a company's most important asset.	11/1/17
Acne Creative Digital Consulting	Founded in 1996, Acne is an internationally acclaimed marketing house focusing on storytelling for brands. They offer creative, strategic, digital, film and photography services for a range of clients, particularly in the lifestyle and luxury retail sectors. Deloitte Digital, the creative consulting unit of Deloitte, has acquired this Stockholm-based creative agency Acne,	8/17/17

	the latest in a series of acquisitions aimed at helping the firm grab a larger portion of marketers' budgets.	
Blab's predictive social intelligence platform (Acquired tool)	Blab's predictive social intelligence platform has traditionally been used to assist marketing teams with predictive analytics on where to reach online influencers or spend online marketing and advertising resources. Deloitte recognizes the significant opportunities to use the platform to predict how online conversations might go viral and pose a reputational threat to a given organization. By re-orienting Blab's predictive capabilities through the lens of risk intelligence, Deloitte Risk and Financial Advisory Strategic and Reputation Risk Management offers its clients a means to identify potential reputational events and prepare for them before they gain velocity.	8/7/17
innoWake Application modernization, information technology	innoWake is a German-based software company that specializes in modernizing old (legacy) software code in more automated ways. innoWake becomes part of Deloitte's Application Modernization service offering that helps clients take advantage of existing information technology while simultaneously investing in new digital, analytics and cloud capabilities.	6/6/17

Figure 4.1-12. Deloitte's Acquisitions.

4.1.C Location of the Organization's Principal Office and Number of Personnel

Deloitte is one of the largest private professional services networks in the world with more than 345,000 professionals globally and more than 122,000 in the U.S. Deloitte Touche Tohmatsu Limited (DTTL) member firms deliver services in audit, advisory, tax, and consulting in 725 offices in more than 150 countries and territories. In the United States, we have 113 offices in 94 cities, including in Seattle, Bellevue, and Olympia.

Deloitte Headquarters:

30 Rockefeller Plaza,
New York, NY 10112

Principal Office:

Deloitte's Seattle office will be the principal office from which we serve DSHS.

Principal Office Location:

1015 2nd Ave,
Seattle, WA 98104

Number of Executives in Principal Office: 91 Principals and Managing Directors

Number of Professional Personnel Employed in Principal Office: 1,200

Deloitte's Olympia office is a satellite office of our Seattle office, and is located at 711 Capitol Way South, Suite 102, Olympia WA 98501.

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and M&O of other large-scale HHS system implementation efforts in Pennsylvania, , Oregon, and Delaware.

EVD is based on the concepts embodied in the PMBOK, which was developed by the Project Management Institute. Deloitte’s publication, maintenance, and distribution of EVD make best practice project management techniques available to Deloitte practitioners. It prepares them by:

- Providing for the structured application of knowledge, skills, tools, and detailed procedures
- Helping them develop approaches for effectively managing projects and engagements
- Providing a common language for practitioners and organizations working together on projects
- Providing tools, approaches, and training to maximize project results
- Reducing start up time by providing a re-usable repository of templates to facilitate basic to complex project management activities

The key threads of EVD are highlighted on the following figure and are critical for successfully managing both ongoing operation of ACES, but also supporting the incremental modernization to the IE&E Platform.

EVD Core Project Management Threads	
Project Thread	Description
Organization	Verifies the effective use of the resources involved in the project, including project stakeholders. It employs organizational strategy development, planning, staff acquisition and team development activities. This thread helps our project team align resources and work with DSHS to have an effective, joint management team.
Logistics	Verifies that a comprehensive strategy and plan are implemented to prepare and maintain the technical and physical project environment, including identification of both physical and technical requirements. These activities verify effective integration and maximum productivity of resources. This thread reduces project risk by facilitating a smoother project ramp-up.
Communications	Verifies the timely and appropriate generation, collection, dissemination, and nature of project information. Our project management team employs communications planning, information distribution, performance reporting, monitoring and administrative closure activities to support project planning, coordination, status control and overall management of deliverables, scope, and internal communication.
Procurement	Employs the processes necessary to acquire goods and services from outside the organization. The processes include procurement planning, solicitation planning, solicitation, source selection, contract administration and contract closeout. Reduces risk of project hold ups due to missing or inadequate software and hardware items.
Workplan	Verifies the timely completion of the project through activity definition, activity sequencing, activity duration estimating, schedule development and schedule control. We use this thread to develop for DSHS a realistic work plan that is experienced based and implements requirements on time and on schedule.

Financials	Verifies that the project is completed within the approved budget through resource planning, cost estimating, cost budgeting and cost control processes. Our management team uses this to accurately record and report time so that billing and collection activities are monitored and controlled.
Risk/Issues	Identifies, analyzes, and responds to project risks. It includes maximizing the results of positive events and minimizing the consequences of adverse events through risk analysis and risk management control. Our team uses processes of this thread during the project to identify, address and resolve issues in an expedient and diplomatic manner.
Scope/Change	Verifies that the project includes the required work to successfully complete the project and that critical changes are managed and properly communicated to affected stakeholders. Our project team uses this to define and control the project, tracking, modifying, and controlling the steps for realizing the anticipated project benefits and providing a structure to manage change. This reduces risk to DSHS of the project being bogged down in scope creep.
Quality	Verifies that the project satisfies the needs for which it was undertaken, including identifying quality standards, evaluating overall project performance, and monitoring specific project results to eliminate the causes of unsatisfactory performance. Application of this thread by our team results in a higher quality end-product, that is more user-friendly, reflects DSHS desired business processes, and is a valuable asset to the Department.
Implementation	Defines strategy for implementing new technology, new business processes, a new organization, or a new product. Our Implementation team uses these processes for developing a strategy and plan with DSHS based on best practices, and jointly executes and monitors it.
Integration	Verifies that the various elements of a project are coordinated so that deadlines are met, duplicative work is eliminated, resources are maximized, and deliverables are of high quality. It requires negotiating tradeoffs between competing objectives and alternatives to meet or exceed stakeholders' needs and expectations.

Figure 4.1-13. Critical Project Methodology Threads for M&O and Enhancement.

4.1.G.1 Tailoring Our Methodology For this Project

We anticipate the opportunity to revisit materials currently being used on the project and to identify improvements as we look to the next phase of work supporting ACES. We will submit a Project Management Plan (PMP) plan within 30 days of contract start that addresses the execution of the scope of work and approach that adheres to the guidelines established by the State and federal requirements (CMS and FNS). This PMP will be the result of the tailoring of our methodology to Washington State's needs. Some of the key items that will be tailored include:

- Project Schedule Management Approach
- Project Schedule, Project Organization and Resource and Staffing Approach
- SDLC Management Approach
- Configuration Management Approach
- Issue Management Approach

- Risk Management Approach
- Communication and Stakeholder Management Approach
- Quality Assurance Approach
- Project Management Tools and Artifacts

4.1.H Agreement to Cooperate in Good Faith

Deloitte agrees to cooperate in good faith with DSHS to support three priority areas: (1) maintenance and support for the ACES system to confirm ongoing DSHS services are delivered; (2) timely development, testing and implementation of changes and modifications required by state or federal mandate; and (3) robust and timely support provided to DSHS and its IE&E partners for the planned transition to the new IE&E solution. Deloitte agrees, understands, and acknowledges that additional resources to meet these priorities will be added by the Change Order process.

4.1.I Approach to Modular Transition and the Decomposition Plan

Our approach to Modular Transition will be developed in an incremental fashion, over time. Our recommendation to improve current ACES M&O environment, we will implement enhancements to improve efficiency of the workers and system. Moreover, develop new products which will require an approach for the new IE&E functionality as it comes online in a modular way.

As we know IBM technology is already at the end of life even prior to the completion of the new IE&E, which will require technical strategy to: (1) help provide for underlying ACES stability, (2) potentially include new technologies that can help improve Washington resident's experience and DSHS worker productivity in the interim; and (3) improve DSHS's ability to remediate ACES in support of new IE&E implementation.

We understand DSHS wants us to formulate decomposition plan during first year of discovery that we will utilize over the IE&E modernization period. Our approach to the Decomposition plan is how our team will partner with DSHS, modernization vendors, and other stakeholders to develop a road map through a 12-month journey to learn about the ACES system and create a plan for decomposition.

We will bring the right team who has experience to align with each sprint and decompose each module from legacy system to modernize platform. Based on our experience we have listed few decommissioning activities-

- Prepare data for FNS review prior to go-live (case conversions, readiness metrics, etc.).
- Develop master data conversion, migration and test plans and associated procedures and standards.

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process, the legacy system screens selected by business units were captured as it appeared at the end of life of the application and are displayed in a new archival portal.

For our full approach to developing and maintaining the Decomposition Plan, please see *Section 6.157 - Decomposition Plan*.

Closing Thoughts

As you read our proposal, and those of our competitors, we ask you to consider six (6) questions:

1. **Will the proposed team provide value through the current challenging operating environment?** Government agencies are being challenged to do more with less funding and staff. In challenging budget times, you can trust our team to bring the right blend of HHS domain knowledge and technology skills to help the State provide continually improved delivery of public assistance services.
2. **Will the proposed team reduce transition risk?** With over three million residents of Washington relying on public assistance benefits, the State needs a vendor who can continue keeping your production system operational until ACES is transitioned to new IE&E system to support the State's day-to-day business operations. Selecting our team will give the State confidence, operational continuity from day one, retention of decades of system knowledge, and reduce transition risk for the citizens who rely on critical service delivery.
3. **Is the proposed team passionate about your programs?** Our proposed experienced team feels extreme pride and accountability, not only for the solutions we will build with you, but for the people they serve. Our practitioners have dedicated their careers to HHS, and you can count on this team to be there for your toughest challenges and to meet your most difficult business needs as we have done in the past.
4. **Does the proposed team demonstrate proven HHS experience?** Our proposed Key team has over 14+ years of hands-on HHS system experience. With our team, Washington will have access to 4,000+ HHS experienced practitioners maintaining and operating systems such as ACES in 26 states across the nation.
5. **Will the proposed team bring innovation to take you to the next level?** Our entire team is focused on continuous improvement. From managing operations to dealing with dramatic shifts in HHS, we will provide the State access to new ideas and thoughts that are shaping HHS.
6. **Will the proposed team benefit from strong working relationships with the State?** We have worked side-by-side with multiple State and Agency partners achieving several key milestones. We have a history of building strong working relationships, know each other's working styles, which enables our team to understand Washington business processes. Each of these considerations positions our team to maintain and enhance ACES better than any other vendor.

4.2 Bidder Performance Requirements

The contract resulting from this competitive solicitation will require the bidder to perform a wide array of technical tasks utilizing various resources. DSHS has provided a list of technical performance requirements in section 6 of the solicitation. Bidders shall refer to the technical requirements listed in section 6 and respond to each individual numbered requirement in a narrative format. Bidders shall provide information showing their understanding and capability to satisfy the requirement, including examples of previous contracts with similar performance requirements the contractor has accomplished successfully under any previous contracts.

Bidder shall provide any assumptions made in creating responses to the requirements in this section.

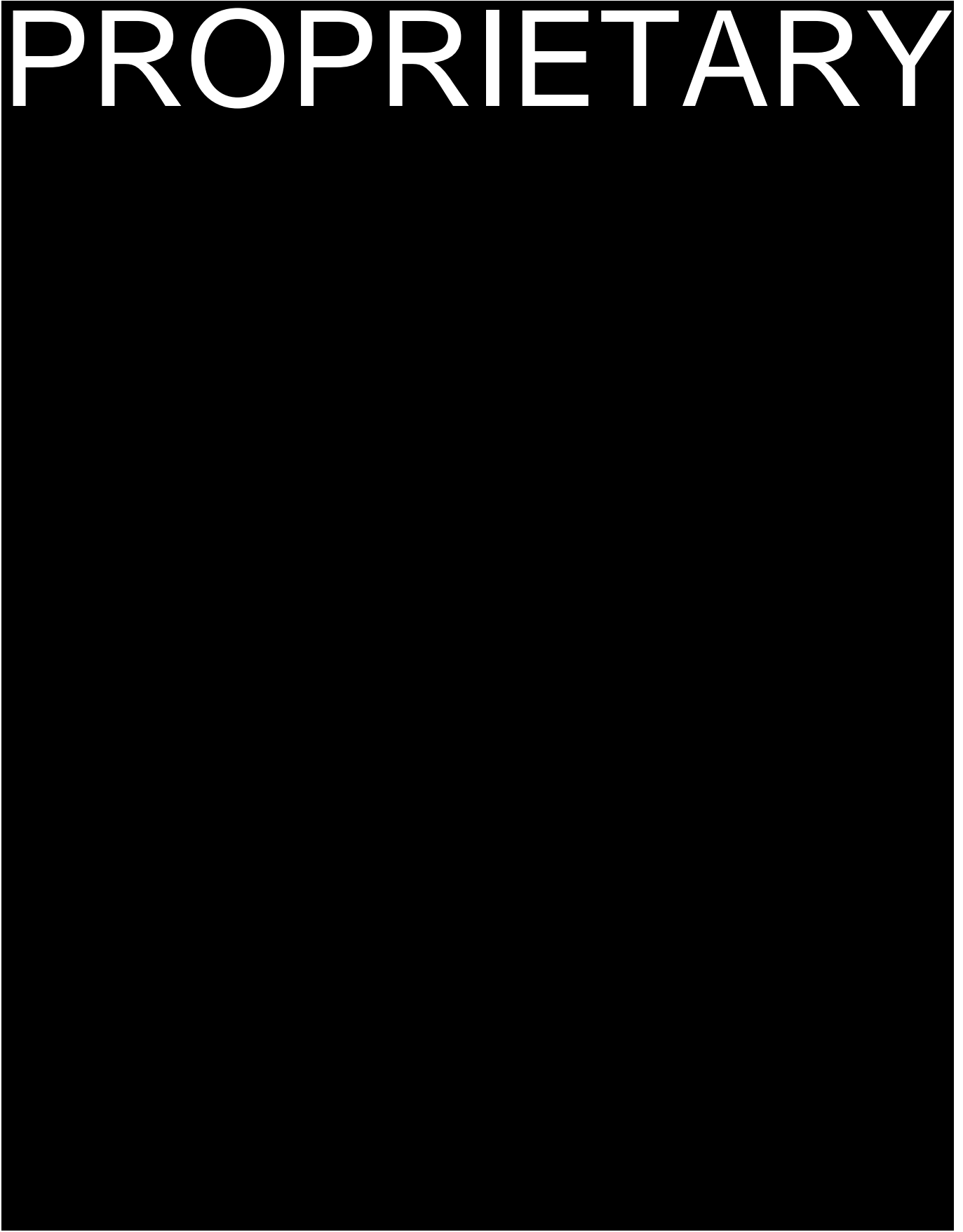
Req. #	Requirement Description	
6.1	Collaborate to integrate the Bidder's operational activities into DSHS standard processes and continuously identify opportunities to improve the processes	<p>Our Understanding of the Requirement</p> <p>The ACES Complex has been built-up over decades with processes in place to keep it operating by DSHS and its incumbent M&O vendor. We acknowledge the need to understand and integrate standard processes, while also identifying areas to improve immediately and continuously. By selecting our team, DSHS benefits from an M&O vendor who understands the mission-critical nature of the services that ACES provides to Washingtonians and brings of record of continuous process improvement. We have accumulated a national portfolio of M&O projects – both in the integrated eligibility space as well as other lines of business; some in which we have collaborated with same clients for decades. This enables us to field a team with the right approach to understand and integrate into DSHS current environment, while also implementing processes to continuously improve and elevate ACES operations with DSHS staff.</p> <p>How We Satisfy the Requirement</p> <p>Our team has a proven M&O track record and approach to deliver business stability, continuity, accuracy, compliance, security, and performance. We are committed to a proactive, continuous improvement driven approach to reduce the time and budget spent on daily operations. We seamlessly transition in and operate your systems by introducing opportunities to increase</p>

		<p>automation and adhere to proven DevOps best practices This allows the State leadership and subject matter experts to move their focus from status quo activities to their future goals. Our focus during the transition is to take over, stabilize and make sure that business operations (and benefits) are continuing without disruption, and once official transition has been completed, enter stabilization, and focus on implementing process improvements and efficiencies identified as part of the transition-in.</p> <p>We look at maintaining ACES' operational process as a three-step approach:</p> <p>First: Start with What Already Works – Many aspects of operations process for IE&E systems are cyclical in nature; these aspects can be managed by way of experience and knowledge. Our EVD for Transition and Operation method provides templates to manage large system's operational process standards (e.g., incident management, change management, release management and communications management). Our Government and Public Services (GPS) practice is CMMI-certified as of December 10, 2021, based on the results of a CMMI Appraisal led by an independent Lead Appraiser certified by the CMMI Institute. What this means is we have a solid foundation of operational excellence by which we can evaluate what is working and what is not and plan for improvements with DSHS accordingly.</p> <p>Second: Adapt to DSHS Process – Each system is unique and requires customized operational process to meet its need. As part of the transition-in phase, we understand and analyze Washington's needs and adjust our ITIL principles-based operations procedures.</p> <p>Third: Monitor and Improve Processes– Operating any IE&E system is never run of mill activity; change is the only constant. Operational procedure needs to be validated for policy changes. At the same time, there must be a cadence for continuous improvement. Our project team will commit to critically look at operations procedures at regular intervals. The operations data will be monitored centrally for anomalies by our Central</p>
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		<p>Monitoring Team. They compare historic ACES system health data with 26 other states where we operate in, to identify patterns where data may not be trending correctly. Our team will analyze these anomalies and prepare an action plan to address them. We will collaborate with DSHS to implement these improvements on regular basis.</p>
6.2	Develop service requests whenever the Bidder requires changes to the infrastructure	<p>Our Understanding of the Requirement</p> <ul style="list-style-type: none"> • Change is an inevitable part of infrastructure services and software development to meet the evolving needs of a system like ACES. ACES requires ongoing changes to infrastructure to evolve with the DSHS’s business needs and maintain regulatory compliance. • We realize that your mainframe is coming to its end-of-life in 2025 and will require transition to a supported environment before the serviceable support ends. DSHS needs a vendor that will follow its established processes for infrastructure changes, as well as proactively work with it and its other ACES vendors to evolve the infrastructure to meet the IE&E roadmap over the next five years. We also understand DSHS’ interest to migrate the mainframe to a service-based offering. Our team has specific experience with this migration including routinely performing upgrades from zOS 13 to supported versions including the migration to Mainframe as a Service (MFaaS). <p>How We Satisfy the Requirement</p> <ul style="list-style-type: none"> • Through our transition-in process including knowledge transfer sessions and shadowing with DSHS, we review and understand the different infrastructure service request types and approval flows. Our team follows ITIL-aligned processes for submitting service requests related to changes to ACES’ infrastructure. Our Service Request/Change Management approach streamlines the workflow for the infrastructure changes that includes addition,

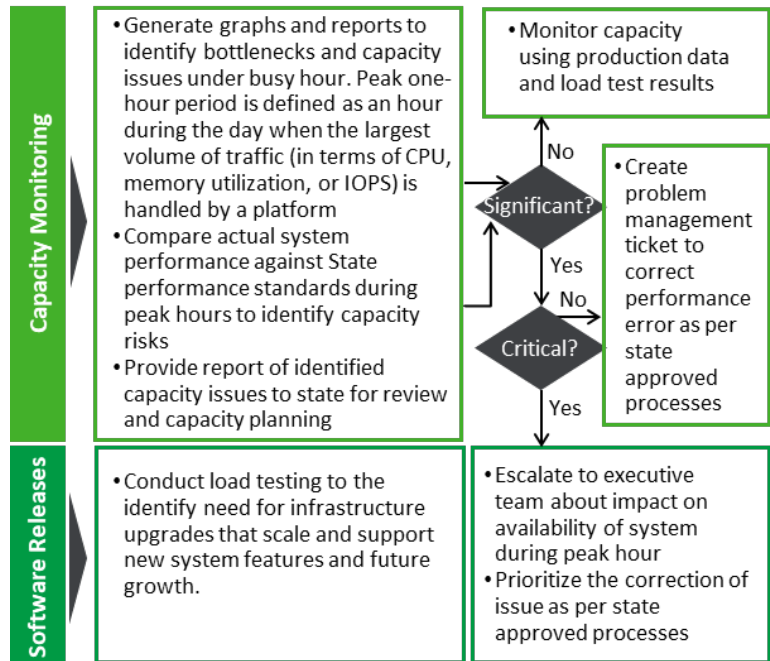
		<p>movement, change, and/or deletion of managed equipment and software.</p> <ul style="list-style-type: none"> • When a change is required to the ACES infrastructure, it is documented in a service request, reviewed, and prioritized for approval by the change control board. We collaborate with DSHS to review its approval processes for both major and minor infrastructure enhancements that may have varying levels of urgency and complexity. Similarly, based on the infrastructure change type (i.e., patches, firewall changes, server performance and capacity changes, server console settings, operating system changes, database changes etc.), the stakeholders involved in the review vary and require separate review and approval flows. Once the change is approved, it is scheduled for implementation through the defined release management process. • Using JIRA for Service Request Management - Within JIRA, we create a service request type(s) specific to the type of infrastructure change. For each service request, we capture pertinent information such as, environment(s) and urgency of the change. Based on the type of the service request and corresponding fields selected, the JIRA workflow can be tailored to the specific type of change. <p>Each service request is reviewed by the DSHS control review board and underlying processes. JIRA provides an accurate and up-to-date approval and implementation statuses making it easy to track throughout the delivery lifecycle. Furthermore, we create dashboards that high level summary of these service requests and provide the capability to set alerts and notifications.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>The ability to track infrastructure changes is a fundamental aspect of software delivery which our team supports across 26 Maintenance, Operations, & Enhancement projects. The JIRA process referenced above is a common approach which we have leveraged</p>
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PROPRIETARY



the Enrollment and Eligibility systems we are managing across the nation. Pandemic-EBT was only supposed to be active a few months but turned into many months of additional benefits being processed by these systems. An increase followed by a subsequent decrease in capacity was realized as the PHE unwinding got underway. The ability for our systems to scale was a key tenant of our success in getting through Public Health Emergency.

Our approach to capacity planning and management is summarized in the figure below and maps to ITIL to enable us to deliver consistent performance monitoring and tuning services. This process defines standards to manage, control, and predict ACES' performance and capacity during the peak hour of operation. It includes initiating proactive and reactive action to confirm that the performances and capacities of services meet their agreed targets.



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Figure 4.2-1. Capacity Monitoring Process.

Activity	Description
Capacity Analysis	Perform detailed upfront capacity analysis and planning in close collaboration with DSHS using methodologies based on 25+ years of experience in HHS to establish realistic capacity estimates and usage forecasts
Capacity Monitoring	An accurate assessment of ACES system capacity to identify constrained and underutilized resources. Our team constantly monitors data using tools like Splunk, and other DSHS approved tools to understand current resource utilization of the system and identify services that do not meet State’s SLA. We also conduct ongoing performance and system monitoring to identify trends and early warnings which may indicate negative capacity or usage trends.
Performance Test	In addition to data from monitoring, our team also analyze results from load/performance test scenarios such as peak loads and concurrent users to determine current system capacity. Major updates to ACES components are load tested to identify need for system capacity upgrades.
Corrective Action	<p>We work with DSHS and agencies to forecast demand for system resources and update capacity plan based on:</p> <ul style="list-style-type: none"> • Current utilization trends • Assessing the impact of the changes on the capacity plan. • Business patterns and cycles • Needs of new agencies and applications being on-boarded to the EA platform <p>Based on the results of our testing and capacity forecasting and planning, in areas where the systems underperform, our team will work with DSHS to implement the system capacity changes such as horizontal scaling, vertical scaling, or performance tuning (if applicable). If recommendations require a change to the component configuration or architecture the change will go through thorough testing in the lower environments prior to implementation in production</p>
Capacity Analysis	Perform detailed upfront capacity analysis and planning in close collaboration with DSHS using methodologies based on 25+ years of experience in HHS to establish realistic capacity estimates and usage forecasts

Figure 4.2- 1. System Capacity Activities.

		<p>We leverage our experience from similar HHS systems to perform capacity planning and management, and work with DSHS by leveraging experts and approaches used by other projects in our practice which are experiencing or have experienced similar legislative and policy changes.</p> <p>Additionally, to better support the Capacity Management process, the Capacity plan is supplemented by the Capacity Report. This report is provided based on a review of the unit of work and details the required metric and results focusing on key business drivers, workload, and workload characterization (transactions, batch jobs). The workload management activity can be enhanced by instituting workload forecasting techniques allowing technology resource forecasts to be driven by business and application development forecasts.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Over the past years, we have helped Connecticut Access Health - Health Insurance Exchange reduce their operating data volume through archival and purge strategies. This activity helped optimize system performance and reduced database maintenance timelines, especially during Open Enrollment when the system would need to be up and running 24x7 with little to no planned downtime. This is a proactive example of capacity planning that has benefited our client.</p>
6.4	Participate in and adhere to DSHS' capacity planning processes	<p>Our Understanding of the Requirement</p> <p>Capacity planning increases predictability and enables DSHS to anticipate changes in capacity that may impact the level of service of applications, infrastructure, and performance for a projected period. Performing system capacity plans and reviews requires working across multiple stakeholders' groups including DSHS domain teams, external vendor groups, server admins, and application teams. Conducting capacity reviews also requires a deep understanding of the system infrastructure to know the infrastructure's bandwidth and utilization thresholds.</p>

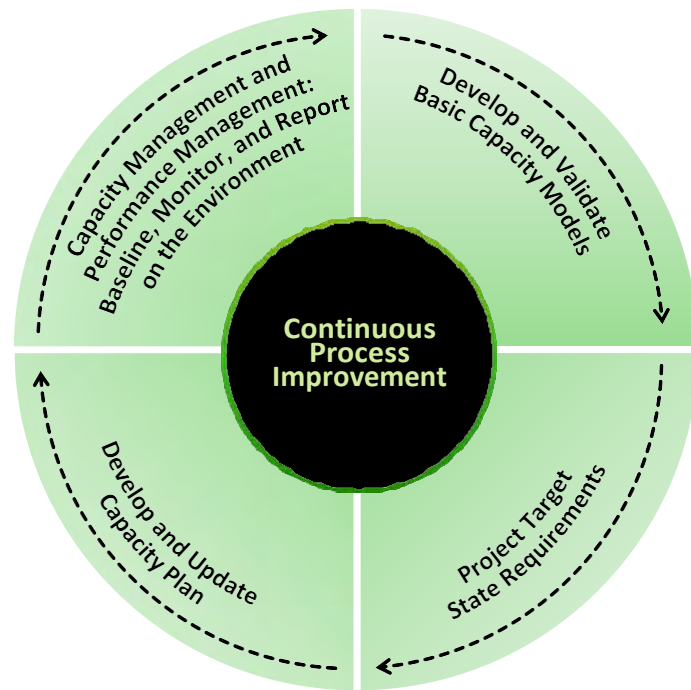
How We Satisfy the Requirement

Our team focuses on accountability, reliability, and innovation across infrastructure operation activities including capacity planning. In addition, our support of large HHS agencies in other states provides us an ability to further leverage innovative ideas and technologies to bring an updated and robust approach to capacity assessments. As we complete the transition phase and enter the stabilization phase, we will use our knowledge of the infrastructure to perform quarterly system capacity plans and reviews and coordinate with the various stakeholder groups to collect metrics and prepare for future infrastructure and application changes.

During the transition-in phase, our team works with DSHS and the incumbent vendor to understand existing capacity planning process. Participation in capacity planning and having an agreed-on process to which the impacted parties should adhere is important. Our ability to deliver draws heavily on the experience of our HHS industry specialists and our previous IE system implementations to make capacity planning process improvement recommendations during, and after, the transition-in phase is complete.

During M&O, we constantly monitor ACES's hardware and software utilization and performance, and incorporate the lessons learned into future capacity planning activities. As we formalize and strengthen the capacity planning capability for ACES based on our experience, we follow our strong belief that capacity planning, capacity management, and application performance management are closely interrelated, and are driven by common planning data and assumptions. In general, we view capacity planning as the forward-looking aspect of these disciplines, capacity management as the analysis of current and recent historical data on resource utilization, and performance management as the ability to predict application service levels as a function of the system resource capacity provided.

The following figure highlights the Continuous Improvement Process Framework used for capacity planning.



WA_CON_ACES M&O_SLHE_MO-185048_2022-0068

Figure 4.2-3. Capacity Planning and Continuous Improvement.

We follow a robust capacity planning process, as described in the figure above, to evaluate the new business initiatives affecting system resource requirements.

We evaluate the new requirements to assess which system resource thresholds (e.g., server utilization, storage, memory etc.) may be reached and/or exceeded. If any of these threshold metrics is in danger of being exceeded, we explore parallel options for tuning the software ACES, or removing the capacity constraint through hardware acquisition, augmentation, or reconfiguration. At the same time, we make sure that performance, load, and stress testing plans are updated and executed to evaluate the potential resource constraint via formal load/stress test simulations.

We will continue to monitor ACES system utilization metrics and refine the capacity thresholds based on measured statistics, lessons learned, patterns of system usage, and application performance.

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		<p>Figure 4.2-4. Capacity Planning Process.</p>
		<p>In the event we identify improvements to existing ACES capacity planning processes, we would bring them up for discussion with DSHS prior to implementing changes.</p>
		<p>Lessons Learned/Best Practices/Examples of Previous Projects</p>
		<p>We are currently the Systems Integrator for the Health Benefit Exchange, the State-based Marketplace Solution for Washington State that enrolls 1 in 4 Washington resident in Health Insurance and provides Medicaid Insurance to 2M+ residents without impact to the services by consistently managing the capacity of the system to meet the demand of the users.</p>
<p>6.5</p>	<p>Advise Client of need to allocate additional processing resources or allocate additional storage resource based on predefined</p>	<p>Our Understanding of the Requirement</p> <p>Capacity plans estimate or measure expected resource impact on the servers, network, database, and other parts of the infrastructure which support application</p>

	<p>parameters and observed growth patterns</p>	<p>processing. This information is used to determine the infrastructure and hardware requirements necessary to support anticipated transaction volume. Using those requirements, we can strategically plan for infrastructure needs and future growth. The objective of this analysis is to estimate the infrastructure resource requirements based of the estimate of actual work, including expected transaction growth that the application expects to serve during normal and peak usage periods.</p> <p>How We Satisfy the Requirement</p> <p>Continuous evaluation of current infrastructure resource consumption and reporting is vital to stabilizing the system at optimal performance levels along with continuous, automated system resource monitoring allows for frequent evaluations of the current infrastructure’s ability to effectively provide services to end users.</p> <p>Our expertise in providing capacity estimates and usage forecast changes is rooted in our experience with other HHS clients. The objective of this analysis is to estimate the infrastructure resource requirements based on the estimate of actual work, including expected transaction growth that the application expects during normal and peak usage periods. We perform capacity planning activities to estimate the infrastructure and hardware resources required to support the application as usage and volume patterns evolve. Environment capacity plans estimate, or measure expected resource impact on the server, network, database, and other parts of the infrastructure which support the business processes</p> <p>Our approach to capacity and demand management uses formalized capacity planning to estimate, measure, and forecast expected resource impact on the servers, network, database, and other parts of the infrastructure which support application processing. This information is used to determine the infrastructure and hardware requirements necessary to support anticipated transaction volumes. Using those requirements, we can strategically plan for infrastructure needs and future growth.</p>
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		<p>The objective of this analysis is to estimate the infrastructure resource requirements based on the estimate of actual work, including expected transaction growth that the application expects to serve during normal and peak usage periods. It must also account for changes in underlying or support loads. For example, turning on additional auditing logs or adding field-level encryption of PII/PHI to additional data elements may result in an increase in load even though the transaction volume is unchanged.</p> <p>Capacity and demand management are implemented during various phases of the software development life cycle. With each advancing stage, the application team can refine and improve the accuracy of the estimates. As the design and application matures, capacity estimates are revisited to refine the plan with the most up-to-date data available. Our approach involves capacity management during the following phases:</p> <ul style="list-style-type: none"> • An initial plan during project initiation • An updated plan after each cycle of stress testing • A final plan after performance testing is complete <p>We will use capacity planning and a capacity model to forecast future capacity needs for the ACES application based on our experience with similar systems in other states and industry standard practices. Application and infrastructure will be mapped to business processes and related demand to measure capacity requests and consumption. We will include a cost-benefit analysis as part of our capacity and demand management solution recommendation to the State. We will use our system performance monitoring and management methodology to record, track, and adjust utilization of system resources. We will work with you to evaluate potential impacts and develop recommendations for updates to the existing plans. This includes providing infrastructure capacity forecast and infrastructure requirements to DSHS based on our analysis on any expected business trend, historical data analysis and experience from similar system implementations.</p>
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		<p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team is experienced in managing surges through strong capacity planning fundamentals. For example, in states like Wisconsin we have teamed with the state to deliver timely Pandemic Electronic Benefit Transfer (P-EBT) benefits by implementing a sophisticated, cross-platform P-EBT solution that provided capabilities to deliver services to new users unknown to system in a short span of time. Additional processing and storage resources were quickly spawned off to support the increased case load of issuance requests, processing of these issuances and working with external vendors to expedite the increase in the number of physical EBT card along with timely receipt of benefits</p> <p>Our Health and Human Services (HHS) Nerve Center is a consortium of practitioners working with HHS clients across the nation. DSHS will benefit from access to our HHS Nerve Center by leveraging insights on public assistance trends, lessons learned, and best practices across our nationwide network of clients to respond to evolving business and technology landscape in an expeditious manner and be well positioned to rally with speed and confidence. This assists each of our teams in capacity planning related to developing trends, as our nerve center closely tracks legislative mandates and decisions related to administering programs such as SNAP, TANF, and Medicaid.</p>
<p>Operational Process</p>		
<p>6.6</p>	<p>Participate and adhere to DSHS ITIL service management process</p>	<p>Our Understanding of the Requirement</p> <p>The ITIL Service Management Framework is an important cornerstone for how operational services are delivered on large, complex systems such as the ACES Complex. A structured approach to service management is critical to the delivery of successful services in the areas of service strategy, service design, service transition, and service operations. Having a structured approach keeps key stakeholders informed and service delivery consistent for</p>

the different areas of the maintenance and operation project. Because ITIL is a mature and structured framework including process for service delivery, we acknowledge the need to adhere to DSHS ITIL service management process.

Our own methodology for delivering operational support services for the ACES Complex is based on the ITIL framework and delivery paradigm. During the transition phase of our project, we will develop an understanding of the execution of maintenance and operations services and look for ways to incorporate our approach to IT Service Management that is aligned with ITIL with the State's processes and expectations. Continuous Service Improvement (CSI) is also a key tenant of the ITIL framework and an area of focus as we exit the transition phase, enter the operations phase, and have reached stabilization. It is not our intent to disrupt service delivery, but our focus is to look for areas of incremental improvement to streamline and make operational processes more efficient.

How We Satisfy the Requirement

Our operations approach, guided by our Enterprise Value Delivery (EVD) for Transition and Operate Methodology and ITIL standards, provides the structure required to predictably administer and support the ACES.

Our HHS experience includes developing procedures for systems administration that meet requirements and adhere to defined policies. Documented in the Application M&O Plan, these procedures will clearly provide guidance to the project team throughout the project lifecycle.

Our goal is to perform corrective, adaptive, and preventive software maintenance across the wide range of services and solutions for the ACES. Operations is critical to keeping the system running smoothly and efficiently and is essential to preventing unplanned disruptions.

Our experienced team delivers the following services to our clients by focusing on five key areas:

		<ul style="list-style-type: none"> • Predictability and Stability. Keep ACES solution running smoothly for end users and clients. Predict the future performance of the system, impact of functional modifications to the system, and the amount of time maintenance activities will require. • Efficiency. Manage the overall cost of operations and maintenance, even while the DSHS footprint continues to grow. • Transparency. Provide stakeholders a clear view into how and when operations and maintenance activities are executed. • Accountability. Take responsibility for completing tasks in a timely manner and for building trust with ACES project stakeholders. • Experience. Provide project resources with deep knowledge across the system and the processes involved in maintaining and operating the system. Draw at any given time on diverse specialty resources from our deep bench of HHS practitioners to assist project team in case of capacity and skill limitations. <p>Our team is well-equipped to adhere to the ITIL service processes of DSHS because of the numerous years of experience we have in delivering and managing Integrated Eligibility systems across the United States, including 26 currently where we are the M&O vendor.</p>
6.7	<p>Deliver DevOps capability for continuous delivery following industry standards utilizing industry accepted automation tools</p>	<p>Our Understanding of the Requirement</p> <p>Utilizing industry standard tools in the continuous delivery process reduces DevOps risks and improves process efficiency as well as predictability. Highly integrated systems like ACES requires a strong process that integrates the codebase, development processes and is tested by multiple folks in parallel. Automation of code merge, deployment and implementation of quality checks that reduces the risk of regression defects is an elementary need for such systems. Our team will develop and maintain continuous delivery following industry standards utilizing industry accepted automation tools.</p>

PROPRIETARY

How We Satisfy the Requirement

During transition-in, we work with DSHS to understand and adopt to your processes. We then leverage our team's experience, including lessons learned over our 45 years of experience implementing and managing large-scale HHS systems for state clients, to recommend potential enhancements. We collaborate with you to determine which of these will work within your existing environment and finalize a process that best fits your unique needs.

Once we receive your approval, we baseline and document this. We then implement and follow this plan for any application change, from change identification through implementation. This approach enables us to remain **in compliance with your change/release management process while also identifying improvements** that increase speed of ACES software delivery to meet program and incremental modernization needs.

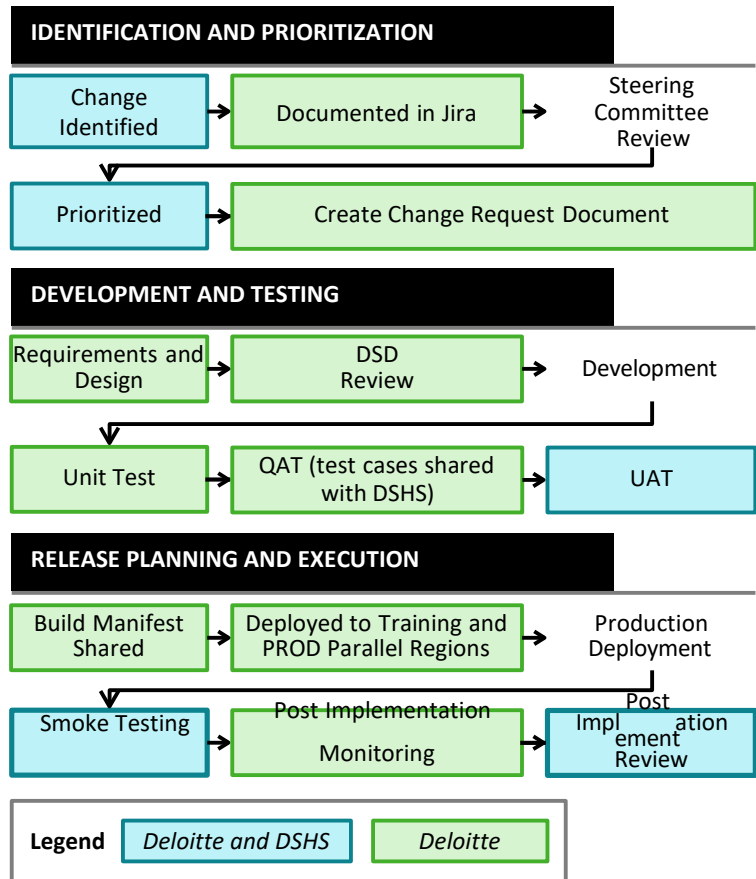
Lessons Learned/Best Practices/Examples of Previous Projects

We have over 15,000 practitioners dedicated to serving our Government & Public Sector (GPS) projects. Over their years of experience, these individuals have worked with countless state clients to adopt change/release management processes and remain in compliance with their various rules and intricacies. Some examples of ways in which this experience enables us to add value are as follows:

- Our process starts by understanding, reviewing, and adopting your existing change/release management processes, instead of forcing you to retrofit your processes into ours
- We perform holistic impact analysis for changes to improve business decision-making
- Clear and frequent communication is central to our philosophy, providing DSHS with transparency throughout the change and release process

		<ul style="list-style-type: none"> • Our goal is continuous improvement. We constantly take the time to identify and implement possible process automation and optimization to better serve our state partners.
6.9	Adhere to DSHS ITIL change/release processes	<p>Our Understanding of the Requirement</p> <p>We will transition, adopt, and adhere to DSHS’ ITIL change/release processes. Our EVD for Transition and Operation method is based on two core ITIL expectations:</p> <ul style="list-style-type: none"> • Services should be stable and predictable • Services should be able to change rapidly to meet changing business requirements <p>With these tenets in mind, we come in with a production-ready change/release process that can be integrated with your own, allowing us to adhere to your requirements.</p> <p>How We Satisfy the Requirement</p> <p>We leverage your existing change/release process in conjunction with our own to streamline the workflow for the addition, change, and/or deletion of managed equipment and software, while maintaining the stability and predictability of your existing services.</p> <p>To align with your existing processes, we assess differences between our process and yours at the onset of transition. This enables us to sync with your expectations from the get-go and streamline operations to hit the ground running. We will also implement checks and balances to verify that your processes are being followed well into the lifecycle of the project, giving you the peace of mind that process compliance is maintained at any given time.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>We work on maintenance, operation, and enhancement projects for 26 states in the E&E business domain and thousands in our “Operate” portfolio. This translates into</p>

a variety of **production-proven processes, lessons learned, and solutions** that we can leverage to help manage changes and releases. These are not just cookie-cutter solutions that require you to abandon your own processes. Instead, we have found that incorporating these into our clients' pre-existing processes often leads to better results and higher retention. At a high level, we have used the following approach in other similar projects:



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Figure 4.2-5. Approach to Change/Release Management.

The process begins with the identification of a new change via a Change Request ticket. Once submitted, we start by analyzing the new requirement(s) for impact and bring the change for review by the steering committee. During this review process, the team will determine the urgency and feasibility of implementing the change, and if approved, will prioritize it. Key stakeholders will be

		<p>present to provide details such as the complexity of the change, cross functional impacts, estimated case, and client volume impacted (if applicable), and upcoming release volume, allowing the group to make informed decisions around assignment of a potential release. If approved, the process then continues with the creation of a Change Request document that defines:</p> <ul style="list-style-type: none"> • The change itself • Rationale behind the change • Analysis and estimation of the change • Approval or rejection decision of the change by the CCB <p>Upon approval of this document, the project scope, schedule, and budget are re-baselined. Integrated Change Management carries the change throughout the SDLC process.</p> <p>Once the change is developed and tested (both internally and with DSHS), and approval for UAT is received, we begin our pre-implementation activities. We share a manifest, with details regarding the components to be updated/migrated, along with a request for a deployment window into Production, and request for your approval. Next, we begin deployment into PROD-Parallel regions to verify that the steps are accurately depicted in the deployment plan. We finally perform deployment into Production, perform smoke testing with your support, and, if it goes well, end our deployment window. As your users begin using the application, we continue to monitor the change to verify that things are working as initially intended.</p>
6.10	Provide required documentation regarding each Application change/release	<p>Our Understanding of the Requirement</p> <p>We go above and beyond our state partners' expectations in understanding what documentation they currently have and require. We then collaborate with you to finalize processes to maintain and update this documentation over the course of the project,</p>

consistently providing **required documentation regarding each Application change/release.**

How We Satisfy the Requirement

Early on in our transition process, we perform a deep-dive analysis of existing documentation, to identify any missing or ambiguous elements. This gives our team a detailed understanding of the existing system and will help bring us on the same page as you. Once any open questions are addressed, we work with you to define a formal standard for subsequent documentation. This uniformity will enable you to quickly review and provide approval for documents created in course of the contract.

In accordance with the **ITIL framework**, we provide, at minimum, the following documents with each change, as it moves through our change/release management process:

- Change request document, upon DSHS approval
- Updated functional and technical design documentation
- Test scenarios and cases
- Smoke test plan
- Build manifest
- Deployment plan
- Release notes summarizing each change made and bug fixed, enabling each stakeholder to know and communicate the scope of the release
- Post-implementation plan
- Post-implementation lessons learned
- Decision log with details surrounding key decisions taken, including the stakeholder that made it

Periodic updates will also be provided within weekly and monthly status documents, as well as upon request. Our framework is also flexible to accommodate additional documents you might require.

		<p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>It is very important that system end-users are informed about changes that are being done in the system. To support this, our team maintains detailed release notes and distributes them to stakeholders after each release. We took this a step further and for Indiana’s E&E system, we developed a new feature in the system that allows us to inform the end user of changes to business process or any other changes that are done in the system with the new deployment. We are committed to bring these innovative features to ACES to enable us to communicate the changes to end users.</p>
<p>DevOps Capability</p>		
<p>6.11</p>	<p>Maintain Application software configuration in the DSHS source code management tool</p>	<p>Our Understanding of the Requirement</p> <p>Application software configuration, including but not limited to source code, property files, database changes, project artifacts, supporting utilities should be managed in the DSHS source code management tool, GitHub. The software configuration components shall be assessed during vendor transition sessions to document how configuration changes are committed within the broader change management plan. A critical activity of the transition process is to inventory applications supported under the scope of the project and validate that source code and associated scripts and application components received as part of the transition are the latest version and can be compiled during reverse shadowing processes. This activity is crucial to confirm that the most recent version of the source code is represented in the source code management tools. This also means that no code should be stored locally (only) on developer or resource workstations.</p> <p>How We Satisfy the Requirement</p> <ul style="list-style-type: none"> • Our team knows what to ask for during our transition phase to confirm we are receiving relevant source code and configurations for the in-scope applications.

- We are experienced implementing, enhancing, and maintaining a DevOps pipeline through many industries standard software.
- DSHS has access to our team’s extensive DevOps knowledge base and existing automation scripts that can be leveraged to accelerate DevOps modernization.
- We collaborate with DSHS to identify the deployment process flows, to understand the acceptance criteria and migration prerequisites to implement robust controls and QA processes to keep code migrations accurate and consistent.

As part of system maintenance, the processes defined in our Enterprise Value Delivery (EVD) for Transition and Operations Methodology make it essential to track new code and changes performed on existing code. Version control and change tracking of source code is maintained through industry leading source code management tools such as **GitHub**. Through the vendor transition phase, we will inventory source code and associated source code control systems to establish a baseline for code bases and develop robust change management and control processes. This inventory process is critical as it verifies the baseline code is accurate, which serves as the building block for future projects and development activities. To accomplish this inventorying phase, we follow a proven process outlined below:

1. **Obtain latest code from incumbent: our team** should be provided access to the source code repository for applications and similar software artifacts. In addition to the latest code, our team should have access to versioning history, where applicable, as well as the active code deployed on live systems to perform comparison. By accessing the source code, we perform basic validations, comparing the number of rows of code per file across both source code, and deployed code.
2. **Map production executables and applications to source code repository:** The exercise of mapping our production executables to the source code control repository to confirm source code is accounted for.

		<p>Our process of transition leverages a trust but verify model. We trust that the incumbent is providing relevant source code but verify through our mapping process.</p> <ol style="list-style-type: none"> 3. Setup Development Tools: Working with DSHS, we provision the development team with required software to perform code analysis and debugging, installing software such as WebSphere Rational Application Developer (RAD). 4. Compile Source Code: The latest version of source code is compiled to identify any build compilation errors. Errors are fixed and code recompiled until the code is compiled into the deployable components. 5. Identify a Test Environment and Plan: A parallel testing environment is needed to test compiled code against an active environment. This can be an existing integrated test environment, or our team can build a new integrated environment and perform configuration setup. Regardless, we work with DSHS to identify the critical testing scenarios that can be performed during the transition phase. Discrepancies or issues found are documented and addressed. 6. Document Findings: Based on outcomes from testing, our findings are documented which include required and recommended changes needed to the source code management pipeline. We will review these changes, assessing the rationale before making any system change. <p>During this source code analysis phase, we also assess the build automation scripts and identify enhancement opportunities. If needed, DSHS can leverage our proven code compilation and deployment scripts which can be fine-tuned specific to the ACES environment. Through this inventory process, we gain an understanding of the deployment environment landscape and where there are opportunities to introduce enhance and introduce greater automation.</p> <p>We maintain the source code of software, including the software developed as part of a deliverable under the Contract. We check-in code and business artifacts into</p>
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the version control tool, GitHub, on the State’s infrastructure and provide access to the identified resources. We understand that source code and copies are maintained in a State-owned environment. We implement transparency throughout our development process, enabling DSHS to confirm that the code meets the quality requirements.

Through our team’s experience currently supporting over 26 E&E State systems, we have experience implementing, supporting, and improving build and deployment pipelines that leverage a wide range of build and deployment software including GitHub, Jenkins, JIRA, etc. Working with us, DSHS will have access to this extensive knowledge base and our robust and proven build and deployment automation scripts to identify opportunities to further enhance and improve the existing CI/CD process.

Application software configuration encompasses a wide range of artifacts demonstrated in the figure below:

Artifact	Content Examples	Potential Repository
Source Code	Application code (Java/COBOL) for ACES and supporting applications	GitHub
Property Files	Environment specific files located outside of main application code package (i.e. .EAR file)	GitHub
Database Changes	Specific configurations for sessions, processes, and DB specific code	GitHub
Project Requirements	Functional, non-functional, technical/design requirements	JIRA/Confluence
Change Management	Project, maintenance, and enhancement items associated with approved work	JIRA
Infrastructure-as-Code	Hardened ‘golden’ server images and related technology stack	Ansible, Puppet

		<table border="1"> <tr> <td>Testing Automation Scripts</td> <td>Scripts executed by test automation software to auto execute following deployment activities</td> <td>Selenium, MicroFocus UFT</td> </tr> <tr> <td>Systems Inventory</td> <td>Server resources, software licensing, software support information</td> <td>JIRA</td> </tr> </table> <p>Figure 4.2-6. Software Configuration Artifacts.</p> <p>Through knowledge transfer sessions, we will work with you to understand your existing application software configuration management process and identify pain points and gaps. Through our expansive network supporting similar E&E solutions, we are proficient implementing and supporting configuration management software, allowing us to fine-tune, or completely overhaul a solution that best fits ACES. As we build upon and provide improvements to your DevOps processes, we will consider automating static code quality analyzers (ex. FindBugs), static code security analyzers (ex. SonarQube), dynamic code security analyzers (ex. Checkmarx), smoke testing (ex. Selenium), among others. Through this automation, DSHS can expect more predictable deployments, more secure and higher quality code in testing, and greater efficiency for both development and the DevOps team.</p>	Testing Automation Scripts	Scripts executed by test automation software to auto execute following deployment activities	Selenium, MicroFocus UFT	Systems Inventory	Server resources, software licensing, software support information	JIRA
Testing Automation Scripts	Scripts executed by test automation software to auto execute following deployment activities	Selenium, MicroFocus UFT						
Systems Inventory	Server resources, software licensing, software support information	JIRA						
6.12	Capture any Application software configuration changes included in any change request	<p>Our Understanding of the Requirement</p> <p>Eligibility applications like ACES are subject to frequent software changes driven from policy updates, new technology and security requirements, application enhancements, emergency fixes, etc. Oftentimes, these software changes require accompanying configuration changes. If the configuration changes are not captured and tracked alongside the software changes, they can cause significant delays and put the overall business or technology compliance needs at risk.</p>						

How We Satisfy the Requirement

To support an application like ACES, a robust and well-defined DevOps pipeline is required with management control processes that segregates parallel workstream, provide the ability to capture, track and promote both software changes including configuration changes corresponding to that workstream in a cohesive manner. Our team brings deep understanding and experience managing software and configuration changes in an environment similar to ACES.

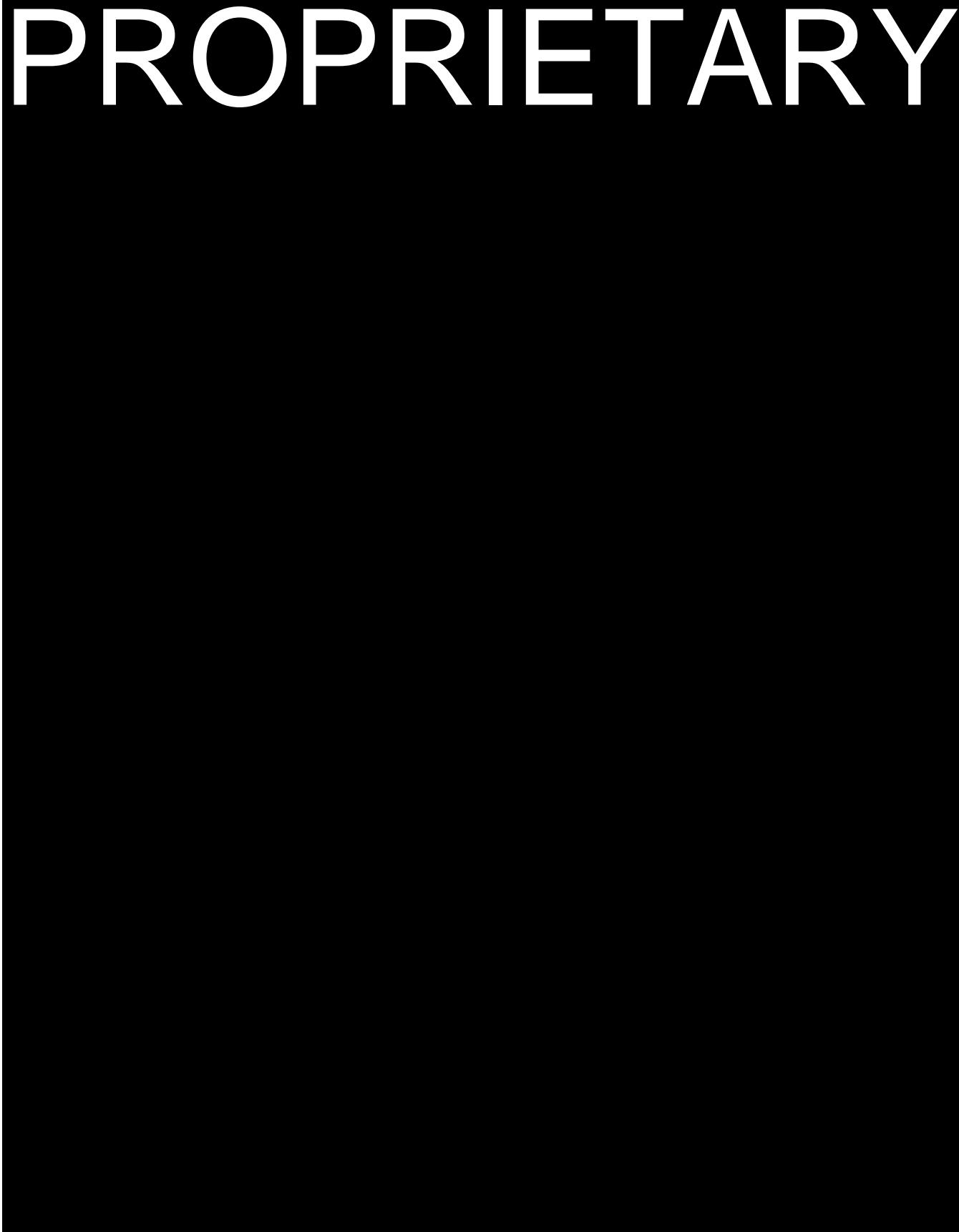
Our teams are experienced in following a very structured approach, documented in the Application Maintenance and Operations Plan, that allows the ability to capture and track both software changes and configuration changes cohesively. Once a change is identified and approved for implementation, the teams will create a development/configuration work item to track the software and configuration changes in a tool like JIRA.

The process of testing and migrating the application software configuration changes across the application environments requires management control procedures that dictate how and when code is migrated. The deployment process can be on-demand, triggered or scheduled to keep any number of environments in-sync. Our team follows a structured deployment and promotion process to migrate both code and configuration changes to a given environment.

These management control procedures will be built to be flexible and support major projects, minor enhancement, emergency fixes, among other variations.

Through knowledge transfer sessions with DSHS, we will understand the existing application environment and deployment processes, identify any gaps and limitations, and collaboratively plan to give DSHS the greatest flexibility and agility within the DevOps pipeline. We will work to understand your existing DevOps environment and any gaps in the current build and deployment process to create a modernization roadmap that enhanced the process.

PROPRIETARY



How We Satisfy the Requirement

Working with our team through knowledge transfer sessions, we will identify where specific application configurations are stored and the processes to escalate discrepancies to DSHS. As we inventory the complete application configurations and codebase, our team commits to escalate our findings and discrepancies to DSHS. As part of our implementation, we will establish protocols based on the software configuration type that determine how and when documentation is updated and reviewed.

Post-transition, for architecture framework and technical design changes, we recommend that a review board approves the design prior to implementation. This board consists of our team, DSHS, and other relevant stakeholders as subject matter experts to assess the proposed implementation approach. Requiring an approval from a review board provides opportunities to incorporate feedback from multiple stakeholders early in the project delivery lifecycle, preventing rework and core design changes later in the project lifecycle. Other application configuration changes such as maintaining resource and software inventories can have an agreed upon review process. For example, our team performs routine audits of server resources (i.e., cores, memory, disk space, etc.) to verify documentation is correct. We also maintain lists of software and licenses, keeping track of the number of licenses available, renewals, and version support information such as end-of-life support. Having accurate documentation of server and software resources are critical to planning, staffing, and maintaining supported and secure applications. Collectively, we will work with DSHS to identify which application configuration components should be tracked, their cadence for reviews, and processes for change management.

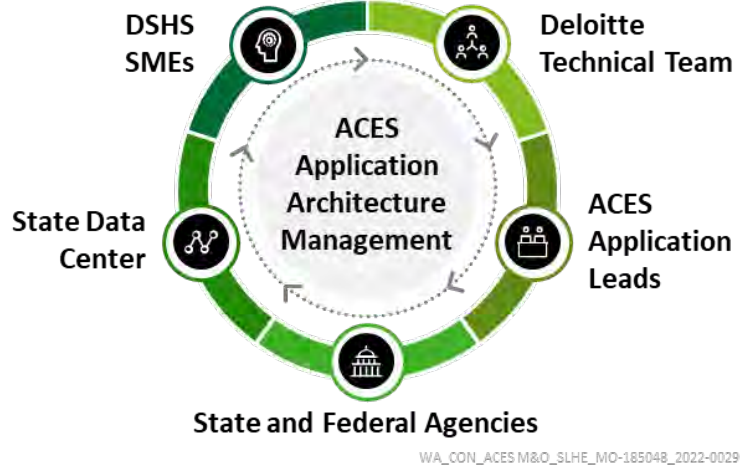


Figure 4.2-7. ACES Application Architecture Management Review Stakeholders.

Our team understands the importance of capturing up-to-date and accurate Application configurations in industry proven software configuration management tools to facilitate sound configuration management processes for ACES. Products and tools are important because they provide many benefits such as productivity enhancement, improved quality, and improved efficiency. These tools minimize the need for developers to track down their files that may have been “missed” in the build. Tools and processes help to provide a higher quality application to the Department across environments through automation, traceability, and better security controls.

While we will work with DSHS to initially understand the review process for application configurations, we also understand that the technology, security, and compliance landscape is constantly evolving, and that the review process should evolve with it. If there are errors or discrepancies with application configuration management, it will be shared with DSHS immediately. While the initial priority is to resolve the error, our team also performs a root cause analysis on the error, identifying how the application configuration management process can be enhanced to prevent future errors. Likewise, we welcome feedback from DSHS or other relevant stakeholders to address pain points or

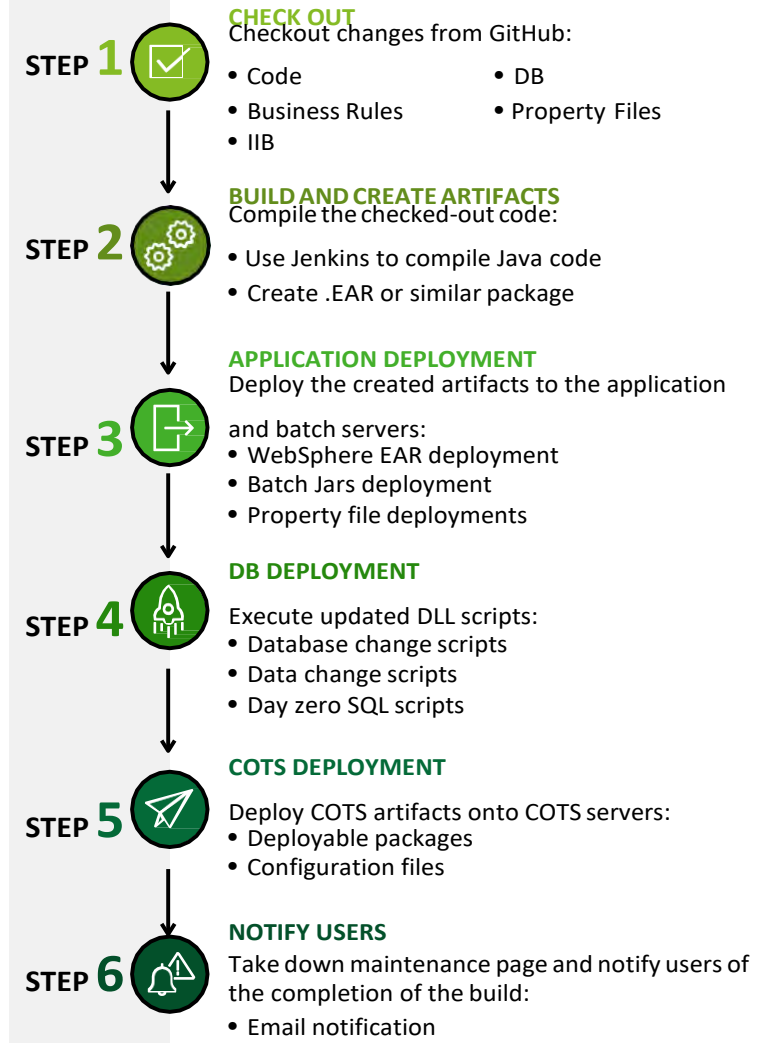
		<p>gaps in the process to better maintain and upkeep application configuration.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team has used Software Configuration Management Tools and processes in states where we are managing eligibility and service delivery systems. We understand the challenges and how tools and software can help to mitigate risk by introducing standards based processes and improves communication. For example, at the State of Wisconsin, our team uses ANT build scripts to build and configure applications supporting more than 12 builds per day to more than six environments. The flexibility and agility required is achieved using software technology such as ANT and demonstrated processes.</p>
6.14	<p>Maintain an inventory of all applications in the DSHS environment for which the vendor will be providing M&O services (including all attributes captured on the application inventory provided in the procurement library)</p>	<p>Our Understanding of the Requirement</p> <p>We understand that the following applications and subsystems comprise the ACES System of applications.</p> <p>ACES Mainframe CICS Screens – It is the legacy data collection process and application internal to DSHS.</p> <p>Automated Case Management (ACM) and other supported functions – It includes the processing of the actions that happen throughout the day along with the issuance of benefits and letters to clients.</p> <p>Eligibility Service Engine/Eligibility Subsystem – Subsystem supporting eligibility related processes for the Affordable Care Act (ACA), other Medicaid, Cash, and food assistance programs.</p> <p>Acesonline (AOL) – Web application supporting screening, letters, and inquiry functionality.</p> <p>WACONN (Washington Connection) –Client-facing Web application designed to accept electronic data for applications and eligibility reviews</p> <p>Data Warehouse Environment - Data warehouse is comprised of collections of DB2 databases that provide data staging and data reporting functions.</p>

		<p>Batch and Realtime Interfaces – There are a multitude of batch programs and interfaces for managing file exchanges with trading partners.</p> <p>Paper, phone, and walk up – Different communication channels for the same features provided in Washington Connection.</p> <p>PING –PING (Request for Inquiry Ping) is feature used by Healthplanfinder and ACES</p> <p>How We Satisfy the Requirement</p> <p>As part of transition, our team will develop a complete inventory of the above listed applications and related components in the ACES Portfolio that will keep system inventory accurate when changes are required. As we travel through the future and execute the Decomposition Plan developed during the first year of the project, we will maintain the application inventory and with approval by DSHS, update the inventory to reflect applications, interfaces, and other related components that are decommissioned and sunset as a result of our joint efforts.</p> <p>Our team works with DSHS and relevant stakeholders to document the associated components of these corresponding applications as described below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #d9e1f2;"> <th style="text-align: left; padding: 5px;">Component Type</th> <th style="text-align: left; padding: 5px;">Contents</th> <th style="text-align: left; padding: 5px;">Why it matters</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">ACES and related Application Components</td> <td style="padding: 5px;"> <ul style="list-style-type: none"> Custom Applications Batch and real-time Interfaces Application configurations Databases and associated schemas </td> <td style="padding: 5px;">Having an accurate inventory of the application related components that is updated and maintained on a routine basis is important to define scope for the team responsible for performing such maintenance. The inventory will clearly delineate areas of responsibility for involved parties.</td> </tr> <tr> <td style="padding: 5px;">Hardware Information</td> <td style="padding: 5px;"> <ul style="list-style-type: none"> Resources like CPU, memory, disk space </td> <td style="padding: 5px;">Having an accurate inventory of the infrastructure hardware provides insights for how the systems performs and opportunities to enhance it. Understanding the underlying</td> </tr> </tbody> </table>	Component Type	Contents	Why it matters	ACES and related Application Components	<ul style="list-style-type: none"> Custom Applications Batch and real-time Interfaces Application configurations Databases and associated schemas 	Having an accurate inventory of the application related components that is updated and maintained on a routine basis is important to define scope for the team responsible for performing such maintenance. The inventory will clearly delineate areas of responsibility for involved parties.	Hardware Information	<ul style="list-style-type: none"> Resources like CPU, memory, disk space 	Having an accurate inventory of the infrastructure hardware provides insights for how the systems performs and opportunities to enhance it. Understanding the underlying
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		<ul style="list-style-type: none"> • Network (DNS/IP) information • Firewall rules • OS information • IAM <p>servers and databases, the applications they host, and the networking relationship between systems is essential for operations and support teams to troubleshoot system and performance issues they may occur.</p>
		<p>Software information</p> <ul style="list-style-type: none"> • Current software versions • End-of-support information • Number of licenses procured • Number of licenses in use • License renewal dates • Vendors contact information <p>It is essential that the software used to run applications, or develop them, be supported and available. A missed license renewal can result in system unavailability until the renewal is completed. Running software past their end-of-life introduces risks should that software experience issues where vendor support will not be available. For these reasons, the software inventory should be reviewed frequently to keep track of upcoming renewals, prioritize version upgrades, and assess which software's require more/less licenses.</p>
<p>Figure 4.2-8. ACES Inventory Management.</p> <p>We also work with DSHS to help with compliance, such as, the number of installations is consistent with the product license. DSHS holds the primary responsibility of maintaining software and hardware licenses and maintenance agreements. Should there be a need to increase a licensing for a product, or an opportunity presents itself to decrease licensing for cost savings, it is presented to DSHS where the request can be prioritized.</p> <p>As we work with DSHS to define the inventory procedures during knowledge transfer sessions, we will continually identify opportunities to enhance the documentation process and introduce automation to keep information accurate.</p>		

		<p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team is flexible and has experience maintaining systems inventory through a variety of tools. We have used JIRA as an asset tracker for both the State of Wisconsin and State of New Mexico that uses a custom dashboard to track software licensing and product life cycle information. This JIRA asset tracker item type, managed by our team, may include information such as the installed software version, end-of-life support information, vendor contact information, installation and technical support documentation, configuration settings and associated documentation. The inventory is audited on a periodic basis for accuracy and when new information or versions are available, it is shared with the State where an assessment is performed to prioritize any potential change.</p>
6.15	Manage source code in DSHS authorized source code management tool	<p>Our Understanding of the Requirement</p> <p>Our team confirms we will manage the source code in the authorized source code management tool. Through a robust configuration and change management process, application source code will be managed through the DSHS authorized source code management tool, GitHub.</p> <p>Using a common authorize source code repository helps in maintaining the code/configuration in a centralized place with adequate governance controls that helps to maintain the integrity of the code base. The source code repository should only be accessed by approved personnel where their roles and access are defined by an approved security group. These users accessing the source code management tool should be audited on a periodic basis to keep access to the source code repository at the minimum required.</p> <p>How We Satisfy the Requirement</p> <p>We will work with DSHS during transition to identify the authorized source code management tools in use for the code repositories. We have experience maintaining and</p>

		<p>enhancing the DevOps procedures of similar E&E solutions using repositories like GitHub. Beyond managing the source code, our team thrives supporting the merge and deployment process as part of the greater DevOps pipeline to:</p> <ul style="list-style-type: none">• Implement processes for storage and version control of ACES code• Enforce secure check-in/check-out restricted to identified development team members• Designing a source code branching model that facilitates iterative development across multiple releases• Integrating the source code repository (i.e., GitHub) with Jenkins, Checkmarx, and SonarQube.• Automating email communication of build and deployment schedules and status <p>After a developer commits their changes from their local workstation to the code repository, the build and deployment process can be performed. Based on the environment, our team can work with DSHS to identify an automated deployment schedule as outlined by the process shown in the following figure.</p>
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Figure 4.2-9. Example Deployment Sequence.

At a high level, the build and deploy process for the application includes compiling and building the source code into deployable artifacts and then deploying those artifacts onto different servers. After successful deployments, each of the jobs in the process sends an email notification to the development team indicating the status of the job execution. Based on the systems, application framework, and deployable artifacts, we work to develop or enhance Jenkins build scripts to convert the source code to deployable entities like .EAR files specific to targeted applications, or even application components (i.e., environment property files).

Without a flexible merge process that supports multiple projects with competing timelines, source code management is limited. As we learn the ACES deployment environment, we will collaboratively work with DSHS to develop a build and branch strategy.

For this reason, we develop and maintain branching strategies for every release to support multiple projects, emergency fixes, and other off-cycle releases. See figure below for an example branch model used to support multi-release in parallel development.

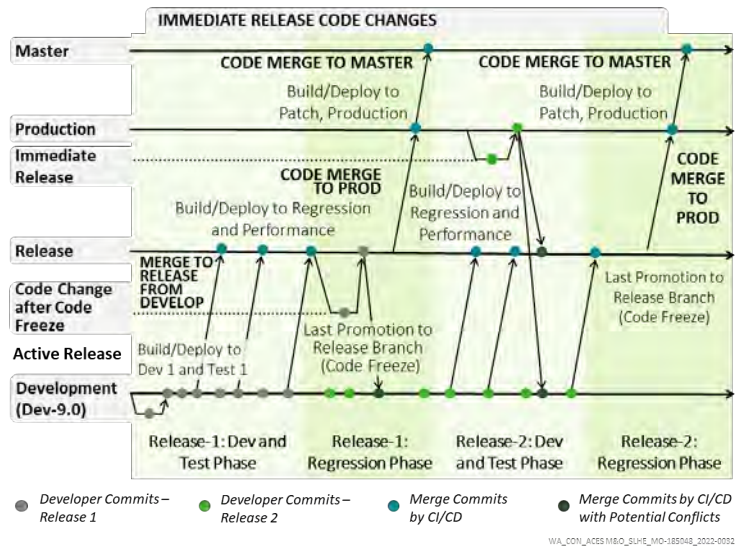


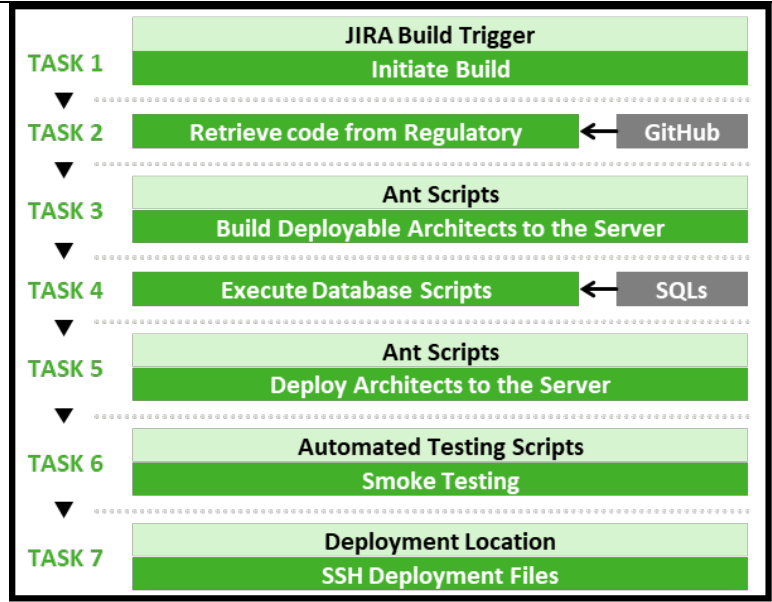
Figure 4.2-10. Example Branch and Deployment Strategy.

Having a robust branching strategy is necessary when supporting multiple projects with competing timelines. If the strategy is not sound, it can result in inaccurate testing results and premature deployment of code which can impact the delivery of a project.

Once developer changes are committed to their branch and merged, the automated build and deployment process through Jenkins compiles the code to be deployed. Based on the environment, the source code may undergo vulnerability scanning or code quality scanning prior to being deployed to make sure minimal thresholds are met. If those thresholds are not achieved, automated notifications will be sent to the development team and the deployment will not occur. For testing

		<p>higher environments, the build and deployment process will require approvals by leads, managers, or DSHS personnel before the build will kick off. This process of checks and balances for Jenkins helps maintain higher levels of code maturity in higher testing environments to keep systems stable and minimizing disruption or downtime for testing.</p> <p>Through knowledge transfer sessions, we will work with DSHS to identify any pre-deployment and post-deployment tasks required to support deployment activities and automate those where possible.</p>
6.16	<p>Provide automated deployment methods using DSHS automated continuous deployment tools and technology as well as provide deployment documentation, scripts and configuration to the release processes.</p>	<p>Our Understanding of the Requirement</p> <p>Automated deployments are fundamental to achieve a mature continuous integration and continuous deployment DevOps pipeline and are a key component of a mature ITIL Service-based Process. We understand that you are expecting the vendor to be equipped, to maintain the deployment tools, enhance the deployment process, provide documentation, scripts, and configurations to support the greater DevOps pipeline are committed to creating optimizations and efficiencies in the deployment processes.</p> <p>How We Satisfy the Requirement</p> <p>Once the development phase is complete, our team uses Continuous Integration (CI) and deployment tools to build, package, stage and deploy. These CI tools integrate with various enterprise tools for Washington’s enterprise solutions. It provides integration with requirement, defect, source code management systems, and application servers to enable continuous build and deployment.</p> <p>Our team strives to identify opportunities to automate existing manual activities in the configuration and release management process. To automate these manual processes, we leverage CI tools and categorize the automation relevant to those applications, into the following hierarchical order:</p>

		<ul style="list-style-type: none"> • Project. A project is specific to an application and contains many automation plans. It may have links to other applications, too. • Plan. A plan (automation plan) contains the overall configuration for the tasks being performed under it. It has information regarding: <ul style="list-style-type: none"> - The source code repository - The build triggers set up by the developer - Who can view/modify the plan? - Plan variables - Initially, a plan has one stage, but multiple stages can be created by grouping together different jobs. Each stage in a plan runs sequentially. • Stage. A stage has a single job initially, but multiple jobs can be created under it by dividing the list of tasks into different jobs. Every stage must finish completely before moving on to the next stage. One of the reasons this is required is because at times, a stage may have a dependency on the previous stage in terms of certain artifacts. • Job. Jobs in a stage are run in parallel or sequentially. For example, we may want the functional and unit tests to run at the same time. Each job can be assigned to a different agent. It performs several tasks on that agent. A job is assigned to an agent depending on its capacity to fulfill the requirements of the job. A job takes artifacts from previous stages, creates new ones, and labels them. • Task. A task is the smallest unit of work that an agent does. Because the tasks within a job are being performed on a single agent they need to be processed in a sequential order.
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Figure 4.2-11. Example build and deploy job.

The figure below provides more information on the various tasks which are performed as part of the Application Lifecycle Management cycle/Automated build process. Many of these tasks are automated as part of the overall release process.

Task	Description
Task 1	<ul style="list-style-type: none"> Builds have an associated JIRA ticket with access to a limited set of people (e.g., Development Leads, Testing Leads). After the code check-ins and review, Development Leads can flip the status in JIRA to “Trigger Build” status. This initiates the Jenkins workflow for DevOps.
Task 2	<ul style="list-style-type: none"> Code is be checked out from GitHub. The code check-out is from the specific code repository (branch or tag) needed to create the deployable artifacts.
Task 3	<ul style="list-style-type: none"> Once the code is checked out, compilation of the code is triggered. If there is an issue with the compilation, an automated email is triggered along with the details of failure.
Task 4	<ul style="list-style-type: none"> Data Definition Language (DDL) and Data Manipulation Language (DML) database scripts associated with the release are retrieved from JIRA and executed in the targeted environment database. After compilation and database scripts execution, a process to create the deployable artifacts (EAR

creation, JAR creation, deployment specific property changes) is triggered.

- Task 5**
- The artifacts are deployed on the requested environment (e.g., Development, Integration Test). Once deployed, an application restart is performed.
 - If there is any issue in deployment, an automated email is sent to the Development Lead and Release team for performing the corrective action and retriggering the build process.

- Task 6**
- Once the deployment is successful, pre-defined smoke testing scripts are triggered by the Jenkins workflow.
 - If any issue is reported during the smoke test process, the Testing Lead, Development Lead, and Release Management team are notified to take corrective actions.

- Task 7**
- Upon successful completion of the above tasks, an automated email is sent informing the key stakeholders of completion of build and smoke test.

Figure 4.2-12. Build and deploy job task breakdown.

The CI tool is used to compile source code from the version control repository and deploy the compiled code to the target environment. The Apache ANT scripting tool is used to perform the compilation and deployment of application and migrate the version of the build to the applicable environments.

The build process is automated. Automation is done by using the tool capabilities to support frequent builds and deployments. To achieve this capability, our Team creates custom scripts and supporting artifacts to perform automated deployments.

Using automated deployments, environment specific builds can kickoff at predictable times. This predictability gives developers an understanding on when they need to have their code checked-in for it to be included within the build. For testers, automated deployment schedules give predictability for system downtime during deployments. Likewise, deployment jobs can send email alerts that notify when a deployment is scheduled, when the environment won't be available, and when systems is back online. After deployments complete, automated smoke testing can be initiated. If driver flow scenarios fail from smoke testing, an automated deployment tool can be programmed to roll back to the previous code so

		<p>systems can stabilize, and the environment can continue to be used.</p> <p>While we have experience implementing and enhancing multiple automation software, Jenkins has consistently been a software solution which helps our clients realize their CI/CD visions. Working with DSHS, we will review the build and deployment landscape and identify opportunities for enhanced automation. As part of modernization efforts, DSHS will have access to our team's extensive network of DevOps professionals and can leverage pre-built automation scripts to accelerate a modernization effort. As part of the knowledge transfer sessions, we document existing deployment scripts and identify opportunities for enhancements. We assess each application (custom or COTS) and document the deployment process. For example, ACES source code may be compiled into multiple .EAR files whereas other applications like IBM Integration Bus will deploy .BAR files.</p> <p>The entire build and deployment process, including deployment documentation and configuration for the release processes is done so in the Configuration Management Plan. This plan defines the build and deployment processes and criteria for code migration. Any changes to the deployment process require updates to the Configuration management Plan which requires approval and signoff by DSHS.</p> <p>For each major release, our team prepares a master deployment plan. Within the plan includes the scope of the deployments (i.e., applications and projects), point of contacts, a detailed schedule of the deployment activities with approximate timelines, escalation channels, fallback/mitigation strategies, and validation approach. The deployment plan is shared with DSHS prior to the Go/No-Go decision of the release. During the deployment activities frequent updates are provided to identified stakeholders based on an agreed upon cadence.</p>
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6.17	Ensure master copies of new software versions in a secured software library and update configuration databases	<p>Our Understanding of the Requirement</p> <p>We understand that master copies of new software and related documentation should be stored in a secure software library and configuration database. These copies are critical to the ongoing support of applications which may include installation executable files, license documentation, installation steps, technical settings, configurations, system prerequisites, among other artifacts. Versioning is also an important part of the software library in the event a prior version is required for rollback purposes. With so many moving parts in a complex environment, versioning is essential.</p> <p>How We Satisfy the Requirement</p> <p>Maintaining software and associated documentation in a secure software library is an important practice when maintaining and enhancing complex technology solutions like ACES that leverage multiple technologies. This software information is required when performing new installations, assessing technical solutions and/or compatibilities while interfacing systems, and troubleshooting issues that arise.</p> <p>As part of the application configuration management process, our team will work with DSHS to understand the current process to update and maintain software and application configuration details in a common repository. This process will be built into broader configuration and change management through stakeholder design reviews and signoff prior to implementation.</p> <p>Our strategy for configuration management enables version management of code, tools, and other configuration components. We propose Subversion software for software Configuration Management, SharePoint for documentation, deliverables, and other similar artifacts. We leverage DSHS's 'Jenkins' and 'Apache Another Neat Tool (ANT)' for Continuous Integration (CI) and build management. This is a standard suite of tools that our team regularly utilizes on our HHS engagements and our specialists have templates,</p>
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		<p>processes, and configuration capabilities specifically designed for usage on eligibility projects.</p>
<p>6.18</p>	<p>Manage infrastructure as code (IaaS) for using DSHS virtualization tools (such as Puppet, Ansible, etc.) and technology for development, test and production environments.</p>	<p>Our Understanding of the Requirement</p> <p>We understand that DSHS is seeking to use virtualization software to perform infrastructure as code (IaaS) services across the ACES application ecosystem. Tools like Puppet, Ansible, etc. should be used to automate infrastructure provisioning including network, server, application, and database components across environments. This creates efficiencies when spinning up new environments to meet the changing needs of the public assistance landscape. These tools and approaches improve the speed by which the non-production environments may be created in the event changes outside of the normal process are required for verification and testing purposes. Examples could include annual COLA process runs and special legislative requests requiring fast turn-around.</p> <p>How We Satisfy the Requirement</p> <p>Our inclination is always towards automation to reduce manual labor by implementing infrastructure automation through an Infrastructure-as-a-Code (IaaS) approach to increase process automation and reduce procedural variance at scale within an infrastructure.</p> <p>Maintaining a large-scale system requires high level of automation and developer self-sufficiency. Our team brings in DevOps – a set of practices to automate and integrate the processes between software development and IT teams, so they can build, test, and release software faster and more reliably as part of the hybrid agile methodology. Washington can benefit from DevOps practices and improve system and operational efficiencies by leveraging vast set of tooling. Further, efficient automation mitigates the risks associated with frequent sprints and product quality.</p> <p>Our team has expertise working with industry standard virtualization tools, and during transition, we will gain knowledge on your existing processes around the tools to support the following tasks:</p>

		Activity/Task	Tools	Description
		Infrastructure as Code	Puppet, Ansible, Ant, ClearCase, Git	Managing Infrastructure as Code enables DevOps teams to automatically manage and provision infrastructure through code, rather than using manual process. The resulting code can be managed, versioned and stored with the application code. Infrastructure as code takes the confusion and error-prone aspect of manual processes and makes it more efficient, and productive.
		Continuous Delivery	Jenkins, SonarQube, Ansible	Continuous delivery tools provide ability to push new features, configuration changes, bug fixes and data fixes into production quickly and frequently. Continuous delivery pipeline includes building checked in code, unit testing, deployment, regression testing, functional testing, and integration testing and production deployment.

Figure 4.2-13. IaC Automation Opportunities.

Given the complexity required to manage technology infrastructure, the process of managing infrastructure as code offers significant advantages when compared to provisioning and maintaining manually. Improving both speed and consistency provisioning or updating systems, infrastructure automation through code reduces the manual effort and the subsequent element of human error. When an Ansible playbook (or similar) requires a change or enhancement, the implementation process is consistent with other code changes.

For example, a change to a playbook such as the server baseline image, can be made and tested in development environments. Only after testing and required approvals received, the Ansible playbook change can be propagated through higher environments until implemented with Production. Based on the type of change and level of complexity within the playbook, these changes can be performed over standard patching windows or in parallel with major releases.

		<p>Our team has experience using common IaaS software like Puppet and Ansible to maintain infrastructure. We will work with DSHS to identify 'golden' server images for each application as needed. These images, serving as a baseline to install and configure applications, will be hardened, and comply with any DSHS technical and/or security requirements. By automating the infrastructure provisioning process through an IaaS software, DSHS can expect to spend less time building and configuration hardware and have more consistent delivery of new infrastructure.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>We assisted the state of Georgia to successfully migrate their Eligibility & Enrollment (E&E) solution from on-premises infrastructure to cloud. We helped Georgia perform an assessment of existing infrastructure and application dependencies. We used Infrastructure as a Code (IaaS) approach to automate the setup of application servers on cloud infrastructure and supported the cloud migration activities. This resulted in reduced operating costs, consolidation of application environments, and increased available capacity to support data requirements and user load.</p>
6.19	<p>Manage continuous delivery environments as needed by DSHS maintenance and operation and enhancement activities.</p>	<p>Our Understanding of the Requirement</p> <p>Management of the continuous delivery environments is critical for supporting maintenance and operation, and enhancement activities. This includes keeping the build and deployment environment available, high performing, supported, and secure. The development and deployment teams should have predictable build and deployment times specific to each environment. Failure to keep the build environment stable may impact developers' ability to test their changes and impact ACES project timelines.</p>

How We Satisfy the Requirement

A well thought-out and executed deployment/ configuration management strategy is important for achieve seamless deployments of ACES components. We realize that the need for periodic releases consists of a combination of maintenance requests, break-fix items, change requests, policy compliance functionality updates, program office initiatives, technology upgrades, and performance improvements.

The State requires a professional team capable of delivering reliable updates to the application functionality in the form of scheduled and immediate releases. A strong understanding of the State’s architecture, tools, and environments, as well as the coordination of various stakeholders is vital to performing periodic production deployments. We integrate quality practices at the various levels of the program: stringent vetting of epics; quality coding practices such as continuous delivery; and incorporated “definition of done” across various deployment environments and customer releases.

Continuous improvement through innovation has always been at the core of our project approach. As we look to the future, we continue to team with you in maturing DevOps processes such as continuous integration and continuous delivery

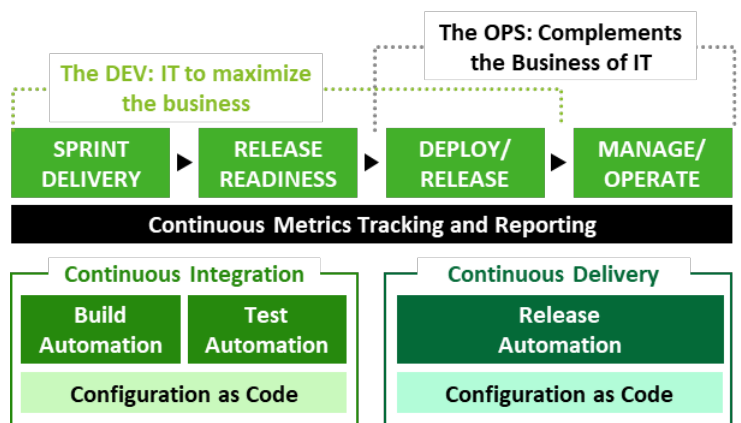


Figure 4.2-14. DevOps adoption and supporting Continuous Improvement of our DevOps processes.

The following figure describes continuum of our DevOps processes spanning from the development, testing, release management, deployment, and operations. These DevOps processes encourages the development and the operations staff to collaborate and implement feedback loop to maximize and retain business value of the work done by IT.

DevOps Processes	Benefit to DSHS	DevOps process enablers
Continuous Integration	Continuously integrate and test developed software to identify issues sooner.	<ul style="list-style-type: none"> • Build and deployment automation • Test automation • Code coverage of the test cases • Automated code quality scan
Continuous Delivery	An end-to-end tool chain (or continuous delivery pipeline) that allows release of a software feature from source control to production reliably and with a push of a button.	<ul style="list-style-type: none"> • Hybrid/Agile software development processes • Continuous Integration • Configuration as Code • Infrastructure Automation

Figure 4.2-15. Core DevOps Processes.

To provide a DevOps environment that delivers continuous integration, development, and deployments, the underlying build infrastructure should be highly available and stable. Disruption to the development team’s ability to deploy or test their changes may impact timelines and project delivery. For unplanned downtime or ad-hoc deployments, automated notifications should be sent to impacted stakeholders based on the environment and frequent updates should be provided once systems are available again.

To prevent unanticipated downtime, or mitigate its impact, DSHS needs a vendor with experience managing build and deployment systems. Through our team’s experience currently supporting 26 E&E systems, we have proven we can build and deploy pipelines that can

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		software current, DSHS can anticipate improved application stability and more consistent deployments.
Disaster Recovery		
6.20	Participate in and complete all Application related disaster recovery activities outlined in the Disaster Recovery Plan	<p>Our Understanding of the Requirement</p> <p>ACES is the lifeblood to issue benefits to Washingtonians in need. It is critical that its operation continues, even in the event of significant disasters that might typically cause other systems to be unavailable. The Disaster Recovery (DR) Plan, and related planning and execution meetings, are critical to confirming procedures are documented to maintain ACES availability in the significantly disruptive event. This includes its availability to workers for daily activities, self-service features available to Washingtonians, and ongoing automated benefit issuance processes. Our team will support DSHS by participating and completing application related disaster recovery activities.</p> <p>How We Satisfy the Requirement</p> <p>Our team participates, contributes, and completes the ACES-related disaster recovery activities as outlined in the Disaster Recovery Plan. Our team has successfully implemented and maintained DR services for multiple federal and state government customers, including for the State of Washington. Our approach for DR builds on industry-leading practices drawn from our experience serving similar governmental entities. Our approach provides a foundation to establish a balance of prevention, readiness, and recovery strategies and procedures to keep ACES highly available and continue serving Washingtonians.</p> <p>Our methodology is based on industry standards and regulatory guidance (e.g., NIST SP 800-30, NIST SP 800-34), and our approach is focused on three primary areas:</p> <ul style="list-style-type: none"> • DR Planning – Our team will support the development and maintenance of the DR Plan by coordinating with DSHS on incorporating roles and responsibilities, an inventory of hardware and software components, communications plan,

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	<p>(e.g. a change in contact information)</p>	<p>work jointly with the State team and provide guidance for maintaining the components (i.e., server infrastructure, system configuration, and data requirements) that support the emergency preparedness and disaster recovery strategies in the DR Plan.</p> <p>How We Satisfy the Requirement</p> <p>Our team will coordinate with the State in maintaining, testing, and updating these plans, as applicable, based on the evolution of data, infrastructure/architecture, and tools. In collaboration with DSHS, our team will coordinate and maintain a structured contingency plan and escalation process in the case of a system outage. Changes to the plan will be performed through:</p> <ul style="list-style-type: none"> • Ongoing periodic updates to the plan, or • Ad-hoc updates are initiated due to significant changes to the system (as a result of system/architectural changes, modifications, or updates due to incidents) <p>These changes would include, but would not be limited, to the following activities listed below:</p> <ul style="list-style-type: none"> • Identifying the critical dependencies, technology components, people, equipment, facilities, and third parties required to carry out the operational processes • Updating the existing information in the plan about contact information and system asset information (e.g., location, configuration, license) • Analyzing and updating actionable recovery procedures aimed at restoring services at an alternate hosting site location following a disaster as efficiently as possible • Providing help and guidance in establishing a set of procedures to return to standard operating procedures following relocation to an alternate hosting site in the event of a disaster
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6.22	<p>The Bidder will be responsible for supporting the ACES Complex during disaster recovery and disaster recovery exercises. Bidder will be responsible for supporting and maintaining the applications in the disaster recovery environment and return from the disaster recovery environment to normal production. The Bidder will be responsible for ensuring the disaster recovery environment is functioning. Bidder responsibilities include, but are not limited to:</p> <ul style="list-style-type: none"> • Plan and schedule disaster recovery testing • Document and perform recovery of the Application • Recover data and storage according to RTO/RPO requirements • Assist with/resolve remediation of recovery issues • Establish WAN connectivity from data center to the State/DSHS WAN • Return application from recovery site to normal production • Documentation of exercise • Actively participating in the execution of the 	<p>Our Understanding of the Requirement</p> <p>A disaster recovery plan and solution are only successful if it is continually reviewed, tested, and maintained to function as desired in the event of a disaster. DSHS is seeking support to operate and maintain the disaster recovery plan and solution with the outlined responsibilities that will confirm that ACES and its associated applications will be able to recover, operate, and return to normal operations in the event of a disaster. We will gladly collaborate with the State in confirming that the disaster recovery environment is fully functional.</p> <p>How We Satisfy the Requirement</p> <p>The success of a disaster recovery plan and solution is dependent on preparation and support from stakeholders. Below, we outline the key considerations for each responsibility from our ongoing experience in other states.</p> <p>Disaster Recovery Testing</p> <p>We recommend that disaster recovery testing be planned and organized to include stakeholders who support, use, and consume the functionality from ACES. Our team finds that the collaboration among stakeholders in the large-scale disaster recovery testing results in enhanced learning and identification of issues than if the testing is performed in silos. Our team will work with the State and ACES stakeholders to schedule the disaster recovery testing and develop the plan for the exercise with consideration of each stakeholder's needs.</p> <p>Failover Recovery of the Application</p> <p>With our team's staff experience in DR, we continuously review, practice, and improve the failover recovery of ACES to meet the desired Recovery Point Objective (RPO) and Recovery Time Objective (RTO) requirements. We maintain the primary and secondary contact information in the DR Plan to provide prompt coordination with DSHS</p>
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	<p>recovery plan in the event of a disaster at the instruction of DSHS</p>	<p>during the event of a disaster and to bring on the necessary experienced professionals to assist in the recovery as documented in the DR Plan. After the successful recovery of ACES, we document and provide a report on the activities and performance metrics, facilitate lessons learned among the teams, and review the DR Plan for updates.</p> <p>Recovery to Meet RTO/RPO Requirements</p> <p>With the valuable service that ACES provides through its various business programs to Washingtonians, we understand the utmost importance for the failover recovery to occur with minimal lost data and normal business processes to resume in the event of a disaster. Our team is confident in its ability to support DSHS with the RTO of 72 hours and RPO of 24 hours for ACES.</p> <p>Remediation of Disaster Recovery Issues</p> <p>With the complexity of recovering ACES and its interfaces with internal and external systems, there is a high probability that challenges will arise during the failover recovery. Our team believes that through transparent communication between stakeholders and adhering to the validated DR Plan, such challenges should be minimized. However, if a challenge arises in the recovery and validation of ACES, our team will dedicate a team to work with the other related stakeholders to troubleshoot and remediate. Through our broad network of experienced professionals familiar with mainframe systems and the ACES interfaces, we are confident that we will be able to promptly resolve challenges with DR.</p> <p>Interconnectivity of Disaster Recovery Solution</p> <p>As demonstrated in the Attachment 12 ACES Interfaces and the 2017 ACES Interface Ecosystem map, the recovery of connectivity with internal and external systems is as critical as the recovery of data for the purpose of business continuity. Through our team’s understanding of ACES gained during the transition period and its team’s networking experience, we are confident that we will be able to support the secure</p>
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connection between the Colorado DR datacenter and related interfaces, including the State's WAN.

Fallback Recovery of the Application

After the root cause of the disaster at the State data center has been remediated, our team will work with the stakeholders to validate the recovered ACES environment and work on transitioning the system and data back to on-premises to continue business functionality.

Documentation and Lessons Learned

Throughout the DR activities and exercises, our team records changes needed to the DR Plan and associated artifacts. As necessary, our team will work with DSHS to update the relevant DR artifacts after the activity to prepare for future activities. At minimum, we will update the DR Plan after the annual DR test activity to confirm currency of the documents. In addition to the documentation updates, our team finds that performing lessons learned amongst the stakeholders after a DR activity is powerful for understanding what went well and what can be improved upon.

Support Activation of Disaster Recovery

Our key staff and experienced professionals will support DSHS in the event that an incident occurs that requires the activation of the DR Plan.

Lessons Learned/Best Practices/Examples of Previous Projects

Our team has helped develop and execute disaster recovery (DR) tests for multiple clients with complex environments. We have proven success implementing DR solutions and conducting the DR test annually. Our approach to DR testing is driven by identification of disaster recovery criteria and service-level agreements and levels (SLAs/SLRs), which define the target service levels to be provided. Under catastrophic scenarios, our team is trained and ready to rally the resources needed to troubleshoot and execute the disaster recovery plan.

<p>6.23</p>	<p>Identify appropriate resources to support DSHS' disaster recovery planning, testing and execution</p>	<p>Our Understanding of the Requirement</p> <p>For the success of ACES' DR, our team recognizes the importance to provide the State with experienced resources in the PMO, technical, and functional teams. We will bring a group of highly qualified professionals to offer as resources to DSHS to support the DR & BCP requirements. These individuals have years of experience working with the State's stakeholders and bring a commitment to continuous innovation</p> <p>How We Satisfy the Requirement</p> <p>Our team has the qualifications, experienced resources, and commitment to support DSHS' disaster recovery planning, testing and execution. In collaboration with the State project team, our team will share responsibilities towards DR activities in planning, testing, and execution.</p> <p>Understanding that ACES has an existing DR solution with a vendor in Colorado, our team recommends the key DR resources be from the following tracks:</p> <p>Project Management</p> <p>The project management team members from DSHS and our team shall coordinate to plan DR test activities, updates to deliverable artifacts, and manage communication during the event of a disaster.</p> <p>Mainframe</p> <p>The mainframe team members from our team shall update and maintain the DR Plan artifacts, monitor the DR replication and infrastructure, and perform technical validations during DR activities.</p> <p>Infrastructure and Networking</p> <p>The representative of the DR data center shall coordinate with DSHS and our team to confirm that appropriate resources are available for the DR environment and to assist with troubleshooting of infrastructure and networking during DR activities.</p>
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		<p>The State data center team members shall coordinate with DSHS, our team, and DR data center to configure WAN connectivity and recover the on-premise ACES infrastructure for the fallback from the DR environment.</p> <p>Functional</p> <p>The functional team members from DSHS and our team shall work together to perform functional business validations of the DR environment after failover and the on-premise environment after fallback to confirm system operations before it is released to the users.</p>
6.24	Perform tasks outlined in the Disaster Recovery Plan in the event DSHS initiates a disaster	<p>Our Understanding of the Requirement</p> <p>Our team understands the importance of maintaining and adhering to the DR Plan to be prepared for uncontrollable events that disrupt business operations. We also understand the critical nature of the services associated with ACES. We will be supporting DSHS in performing the tasks outlined in the DR Plan in the event of a disaster.</p> <p>How We Satisfy the Requirement</p> <p>Our team follows the playbook defined in coordination with ACES stakeholders to restore service in case of any disaster event. We coordinate with the State to perform the recovery tasks outlined in the ACES DR Plan to minimize the impact on the State and its most vulnerable residents in the event of a disaster. Our team brings extensive experience in leading Disaster Recovery-related professional practices and industry standards, such as the Professional Practices for Business Continuity Management from Disaster Recovery Institute International (DRII) and SP 800-34 Revision 1 from NIST.</p> <p>Our team continuously monitors the performance of DR replication to confirm the replicated data integrity and adherence to the stated RPO agreement of 24 hours. If the ACES replication begins to differ from the RPO, then our team works with the related teams to identify the</p>

		<p>root cause and propose appropriate changes to improve the replication.</p> <p>At the activation of the DR Plan, our team brings on the experienced professionals familiar with ACES and IBM mainframe systems to work with DSHS and stakeholders to recover the system and applications as documented in the DR Plan.</p> <p>Example of Previous Project</p> <p>In 2017, Hurricane Maria devastated a US territory, causing a humanitarian crisis and risking a disaster of the government’s mainframe system. In response to this disaster, our team used its alliance with IBM to respond and build out two new mainframes as part of the disaster recovery solution and operated the system while the island recovered from the hurricane to help keep the government and citizens’ data safe.</p>
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Help Desk and Incident Management

6.25	Adhere to application support escalation procedures. DSHS uses a tiered incident response process where incidents are triaged by DSHS staff prior to escalation to the next tier of support	<p>Our Understanding of the Requirement</p> <p>Application escalation procedures are critical for complex applications like ACES where specialized knowledge is needed frequently to resolve issues. While there can be issues with competing priority, there are also knowledge resources and libraries that can be used to triage and prioritize issues versus creating a bottle neck on issue resolution. It is important to be able to address incidents and minimize impact to ACES end-users and members quickly and efficiently. Application escalation procedures help streamline a team’s efforts to resolve the most important incidents first and results in overall better client service at a lower cost.</p> <p>How We Satisfy the Requirement</p> <p>For the ACES system, DSHS is responsible for initial triage (level 1 and level 2) before utilizing our team support for tier 3. Our goal is to support DSHS and minimize the impact of critical and escalated issues through clear,</p>
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timely communication, transparent triage and analysis, and effective mitigation action.

Our teams have experience in dealing with real-time triage efforts for large eligibility systems. We have the experience Eligibility and Enrollment (E&E) knowledge to identify the most critical issues which may adversely impact large groups of members. Our team, right from the get-go, prioritizes analysis of any such incidents to facilitate a prompt and comprehensive resolution.

Our team is ready to take incident(s) that are transferred over from DSHS support team, as depicted in graphic below.

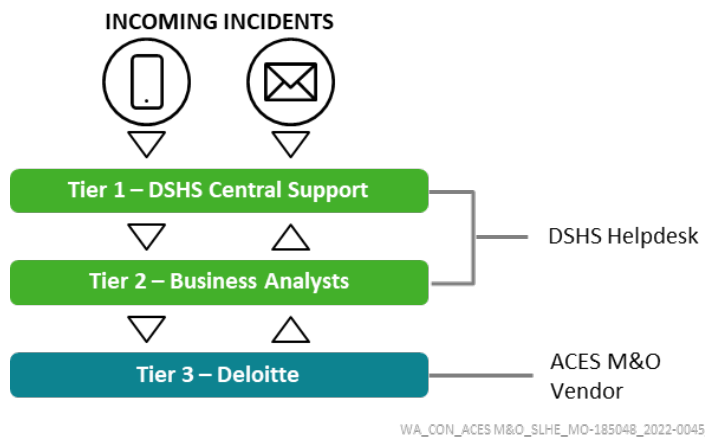








Figure 4.2-17. Incident Management Support Levels.

When an application issue is found or a call record is received by the DSHS central support team, a ticket is logged and then triaged by the DSHS business analyst team. Initial triage activity typically adds the functional area of the application and where the error occurs, and they also capture the issue the case worker has been noticing and how many users are being impacted.

Once these details are captured and the issue is assessed and escalated to our team, our technical and functional teams analyze the incident to identify the root cause of the issue. Our team captures relevant information and analysis directly in the ticket, and we communicate directly and work closely with both DSHS tier 1 and tier 2 support teams. This consistent, collaborative approach allows for clear communication of resolutions to critical issues in a timely manner and supports the bi-directional

		<p>flow of information across each level of the triage team. Additionally, this tiered level of analysis provides a clear picture as to which module of the application needs attention and support, and how an issue is progressing through the triage process.</p> <p>Once analyzed, prioritized incidents are then processed through Defect and Release Management process for resolution. Incident management should be a two-way process that flows between tiers. We commonly see flow from each lower tier to the upper tiers for incidents. Communication back from the higher tiers allows for the build-up of our knowledge repository improving consistency and satisfaction in customer service for the end-user. Consistent review and two-way communication also allows the team to create the incident ‘Trends’ reports by functional/technical area, by issue, and by impact.</p>
<p>6.26</p>	<p>Provide Application Solution expertise and involvement for resolution of service, incident, problem and change, following DSHS ITIL process</p>	<p>Our Understanding of the Requirement</p> <p>Addressing system critical issues in a timely manner is vital to successful operations – not only will it minimize the impact to end DSHS users and thus members but will also increase staff confidence in the integrity of the system. By adhering to the Information Technology Infrastructure Library (ITIL) framework, and following a proven incident and problem management process, our team will support DSHS in resolving system issues and in implementing new system functionality.</p> <p>How We Satisfy the Requirement</p> <p>Our team has implemented and actively maintains integrated eligibility platforms throughout the country – which positions us to help lead a successful M&O project in collaboration with the DSHS team. Our team knows the integrated nature of ACES – whether it is interrelated between functional modules or integration with federal/state trading partner, which is why our team analyzes each change very carefully to assess the impact on integrated functionality/partner before the change is confirmed.</p>

		<p>Our team will work directly with DSHS to perform the following activities as part of our application support procedures – to identify, resolve, and monitor system issues.</p>  <div> <ul style="list-style-type: none">  IDENTIFY THE ISSUE DSHS identifies the issue and escalates to the application team  PERFORM ROOT CAUSE ANALYSIS AND DEFINE ISSUE TYPE Perform initial analysis on the issue, define and categorize the issue, and assess potential resolutions  IMPACT ANALYSIS AND SOLUTION APPROACH Determine the impact of the issue, potential workarounds or interim resolutions, and the fix needed for permanent resolution  RESOLUTION AND MONITORING Communicate the resolution to DSHS and perform the necessary steps to develop and test the solution, with continued monitoring after implementation  PROCESS IMPROVEMENT Review the issue reported and determine appropriate actionable steps to avoid such issues in the future </div> <p style="text-align: right; font-size: small;">WA_CON_ACES M&O_SLHE_MO-185048_2022-0047</p> <p>Figure 4.2-18. Repeatable Resolution Process.</p>
<p>6.27</p>	<p>Log updates into the ticket tracking system in a timely manner in alignment with the DSHS' processes, policies and procedures</p>	<p>Our Understanding of the Requirement</p> <p>Logging tickets in a timely manner and tracking tickets which have yet to be resolved or to which no response has been provided, is critical to successful maintenance. A key part of goal is to provide transparency and appropriate tracking to day-to-day issues</p> <p>How We Satisfy the Requirement</p> <p>Clear, consistent, and transparent communication is key to diagnosing and resolving system issues quickly. Our team will log consistent, clear updates into DSHS help desk ticket tracking system in alignment with DSHS</p>

		<p>procedures to facilitate incident resolution and provide clear communication for DSHS support staff and end users.</p> <p>We will collaborate with DSHS by leveraging our knowledge and experience with E&E systems and implementations to resolve tickets and issues that are logged through the course of normal business operations. Our team will continually communicate with the DSHS central support and business analyst teams to determine which issues should be prioritized and to communicate issues resolutions. Additionally, our team will monitor the ticket tracking system dashboards and ticket inflow, so our responses and ticket updates remain timely.</p> <p>We understand the DSHS team continues to provide the initial help desk services (tier 1 and tier 2) support to daily operations. For issues that must be passed along beyond the DSHS operations and business analyst team, our team will be ready and to support. The following highlights our proposed approach:</p>
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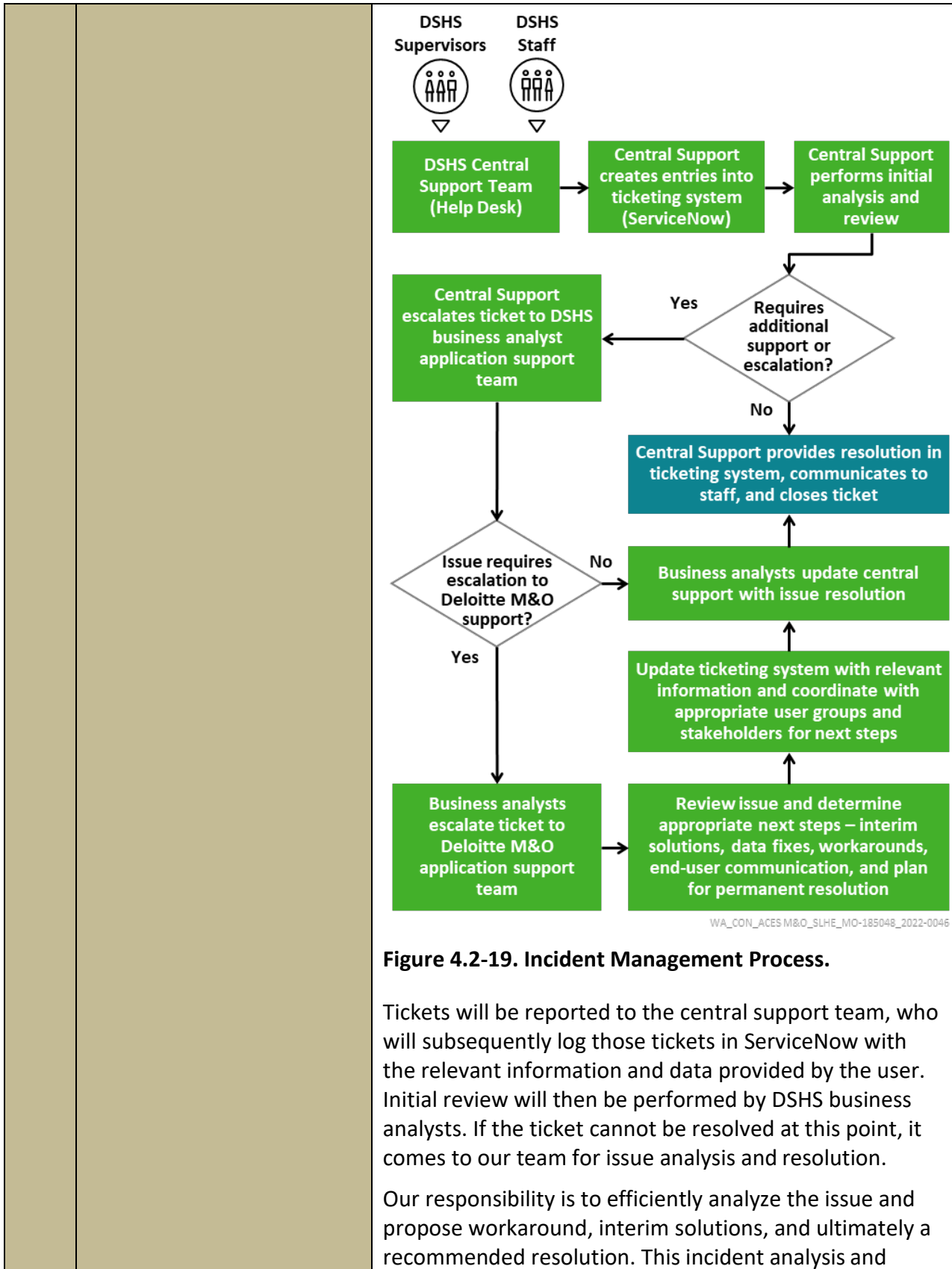


Figure 4.2-19. Incident Management Process.

Tickets will be reported to the central support team, who will subsequently log those tickets in ServiceNow with the relevant information and data provided by the user. Initial review will then be performed by DSHS business analysts. If the ticket cannot be resolved at this point, it comes to our team for issue analysis and resolution.

Our responsibility is to efficiently analyze the issue and propose workaround, interim solutions, and ultimately a recommended resolution. This incident analysis and

		resolution process will be clearly documented in each ticket.
6.28	Review the status of open service, incident, problem, change and related problems and the progress being made in addressing problems related to the applications	<p>Our Understanding of the Requirement</p> <p>Instant closure of incidents is key, but not each issue can be immediately resolved – and for any issues that remain open, they should be tracked, monitored, and consistently updated with current status and progress towards a final resolution and in situations where the final resolution takes time, our team works with yours to come up with a viable workaround, which would provide a temporary workaround and a breather to the business.</p> <p>How We Satisfy the Requirement</p> <p>Once an issue has been logged and the necessary input has been provided to perform analysis, our team will continue to monitor open issues and provide consistent updates on the status. This includes progress being made towards resolution, and a comprehensive overview of the outstanding problems and incidents with the goal of providing workarounds where possible in addressing problems related to the applications.</p> <p>We also generate reports which provide the complete listing of outstanding incidents. The outstanding incidents reports is provided to DSHS on a set basis, to provide critical incident information, for example:</p> <ul style="list-style-type: none"> • Count of outstanding incidents by component, criticality, and linked outstanding tickets. • Aged incidents and incidents linked to existing workaround or data fix processes. • Incidents linked to upcoming changes or upgrades. <p>In addition to reviewing outstanding incidents and issues, our team also understands that changes can be requested to the system throughout the application lifecycle. Prioritizing the most critical changes – for example: to maintain compliance with federal regulations, improve timeliness of application processing, or to help staff increase the quality of their work – is key</p>

		<p>to continuous improvement and the health of the system.</p> <p>Our team believes in complete transparency to drive better client service. So, our dashboards provide the details even if incident is not resolved but there is enough information on progress, what is being done, details of workaround, planned closure/release date etc.</p>						
<p>6.29</p>	<p>Conduct/participate in incident and problem management review sessions and provide status and problem impact categorization</p>	<p>Our Understanding of the Requirement</p> <p>Collective awareness and understanding of system issues, and consistent communication about those issues, leads to a more successful M&O approach, and a more collaborative working environment. Our team is prepared to conduct and/or participate in incident management review sessions with DSHS stakeholders and support the review of critical system issues.</p> <p>How We Satisfy the Requirement</p> <p>We will work with DSHS and key stakeholders to clearly define incident and problem management process for review sessions. The goal of review sessions is to increase collective participation and discussion on current issues to increase incident throughput and improve outcomes for incident resolution to provide accurate to-the-point status and problem impact categorization.</p> <p>In this collaborative effort, our team focuses on key 'Incident Resolution' principles to drive positive resolutions and promptly determine the most appropriate resolution to solve the issue and minimize impact to ongoing operations.</p> <table border="1"> <thead> <tr> <th>Principles</th> <th>Benefit to DSHS Team</th> </tr> </thead> <tbody> <tr> <td> <p>Analysis Transparency</p> </td> <td> <p>Our team will list the outstanding incidents and known impacts to the business and system – our team’s goal is to provide key DSHS stakeholder with timely and accurate information to make informed decisions for the organization and for members.</p> </td> </tr> <tr> <td> <p>Problem Impact Categorization</p> </td> <td> <p>We categorize a problem based on the impact to end client, volume of impact, security, complexity, time required to</p> </td> </tr> </tbody> </table>	Principles	Benefit to DSHS Team	<p>Analysis Transparency</p>	<p>Our team will list the outstanding incidents and known impacts to the business and system – our team’s goal is to provide key DSHS stakeholder with timely and accurate information to make informed decisions for the organization and for members.</p>	<p>Problem Impact Categorization</p>	<p>We categorize a problem based on the impact to end client, volume of impact, security, complexity, time required to</p>
Principles	Benefit to DSHS Team							
<p>Analysis Transparency</p>	<p>Our team will list the outstanding incidents and known impacts to the business and system – our team’s goal is to provide key DSHS stakeholder with timely and accurate information to make informed decisions for the organization and for members.</p>							
<p>Problem Impact Categorization</p>	<p>We categorize a problem based on the impact to end client, volume of impact, security, complexity, time required to</p>							

		<p>resolve, federal compliance, impact to policy etc. This categorization defines the impact to business and drives the prioritization process and release assignment for a given issue.</p> <hr/> <p>Clear Communication Our understanding of E&E systems and DSHS business allows our team to communicate clearly, effectively, and keep the appropriate stakeholders informed.</p> <hr/> <p>Timely Response Timely responses and resolutions to critical issues are important, but responsiveness also means consistently providing updates on each type of issue – even if a resolution hasn’t yet been found. Our team will be responsive to DSHS requests and inquires on outstanding issues to provide the very latest status and information.</p> <hr/> <p>Thoroughness in Impact Assessment Our team assess the root cause of issues, performs comprehensive impact analysis, and conducts multiple rounds of unit and integration testing for issues found and to validate the fixes made, to help reduce recurring issues and reduce overall issue backlog.</p> <hr/> <p>Figure 4.2-20. Key Principles of Incident Resolution Approach.</p>
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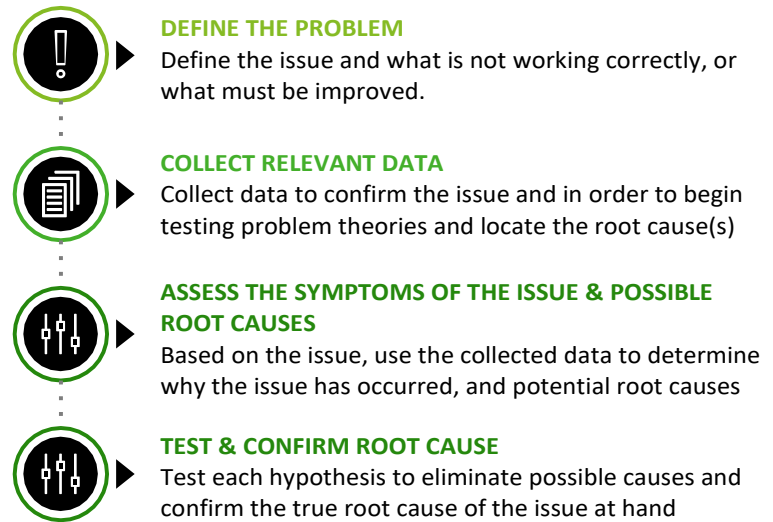
Problem Management Services and Root Cause Analysis

6.30	Provide expertise and be an active participant in the process to troubleshoot, diagnose and address the root cause of critical problems as required by DSHS (e.g. participate in "all hands on deck" meetings until a permanent fix to the incident is developed)	<p>Our Understanding of the Requirement</p> <p>Our team will work collaboratively with DSHS to resolve system issues and provide application support. Specifically, when an issue arises that needs support from the areas functional and/or technical. Our team will provide full support (e.g., War Room) of our functional and technical teams to DSHS to quickly identify, assess, and resolve critical issues that significantly impact the production system.</p> <p>How We Satisfy the Requirement</p> <p>When critical system issues occur, key stakeholders must get together to identify the issue and the impact, assess the root cause, and prepare and communicate both interim and permanent resolutions. Our team knows that this is the situation where we get “all hands-on deck” to</p>
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		<p>resolve and/or provide the workaround for business teams, so they are able to move forward.</p> <p>First, our application support team will develop a robust process for addressing critical system issues - this process will include the necessary groups and stakeholders who must be immediately notified of the issue, how to address the issue (starting with a collaborative call/war room to get everyone on the same page regarding the problem), and how to communicate the issue and eventual resolution to impacted users.</p> <p>Second, we understand that a showstopping issue can cause confusion, can negatively impact system end users and members, and can have widespread impact across the enterprise. With this understanding, our team will be prepared to troubleshoot such issues directly with DSHS and provide guidance, support, and expertise to resolve the issue as quickly as possible.</p> <p>Lastly, after the issue is resolved, our team will conduct a retroactive review the issue root cause and the steps taken to address it, to determine how to avoid similar issues in the future, and address and gaps in the proactive monitoring, communication, or issue resolution process.</p>
6.31	Develop/maintain procedures for performing Root Cause Analysis (RCA) that meet requirements and adhere to defined policies	<p>Our Understanding of the Requirement</p> <p>A detailed, accurate, and well-defined root cause analysis is the important first step to resolving outstanding system issues. Following a standard process to determine root causes, and communicating root causes to the wider team, will lead to quick issue resolution and more accurate issue prioritization. Our team is experienced and ready to maintain and follow-up such RCA procedures in accordance with DSHS policies.</p> <p>How We Satisfy the Requirement</p> <p>Our application and development teams will maintain and follow a tested, results-driven approach to root cause analysis (RCA) activities to determine the root cause of system issues effectively and efficiently and take the necessary steps to outline the impact and ultimate resolution. Along with this standard process – our team</p>

uses the centrally assessable tools to perform successful root cause analysis, including mirrored production-like and performance environments solely for incident review – that facilitate, speeds up, and provides transparency of the overall RCA process.

Root cause analysis is a key part of our incident and problem management approach, and accurate RCA is a key step in resolving any production issue. Our team follows key principles and a repeatable process to conduct this key analysis.



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Figure 4.2-21. Key Principles Used for RCA.

Once the root cause is found and verified – our team will continue with an impact assessment and validating the appropriate fix to solve the issue. The root cause and proposed resolution will be communicated to DSHS stakeholders, and clearly outlined in any relevant tickets so there is transparency and rigor to the RCA process.

Our team will work directly with DSHS to properly prioritize RCA for key issues and share findings and recommended solutions based on those findings. If an RCA cannot initially be found, our team will continue to report the status of such issues to DSHS – so that for outstanding issues the latest information is consistently being shared and the issues do not remain outstanding for an extended period without an active path towards resolution.

6.32	Conduct proactive trend analysis to identify and mitigate recurring incidents	<p>Our Understanding of the Requirement</p> <p>Identifying issues proactively and addressing them before they cause significant impact to the production system is critical to a successful M&O process. Successful M&O teams are those not only who resolve reported issues, but also proactively look for application issues to identify trends and mitigate issues to avoid potential future adverse business and system impacts.</p> <p>How We Satisfy the Requirement</p> <p>Our team understands the importance of proactive monitoring and will work with DSHS to develop proactive monitoring procedures and trend analysis through the use of processes such as data quality and integrity reports in addition to monitoring key performance indicators.</p> <p>As we start, our team’s focus is on understanding the current system and key metrics to properly develop a proactive monitoring and trend approach based on specific DSHS processes and policies. We will collaborate with your team to establish a structured approach and process by which proactive trends reports will be developed.</p> <p>Specifically, our team will develop a list of key measures – such as eligibility determination result trends, workload, and document generated volume, notice triggers and print volume, and other metrics which DSHS deems critical. We will also proactively monitor system performance and batch performance and track key performance metrics to proactively identify meaningful changes in those trends.</p> <p>The suite of proactive monitoring reports and processes will be tested, consistently reviewed, and updated based on system changes, and standards will be set to define how the trends reports are communicated to DSHS. Furthermore, we will collectively define thresholds for data anomalies or changes in trends which require escalation and review. By establishing a robust, iterative</p>
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		<p>process up-front, our team will be set-up for future success release over release.</p> <p>Our team also brings to the table best practices for practice monitoring based on our past experience with other large E&E systems across the country. These best practices and lessons learned across our E&E projects will help augment existing proactive DSHS monitoring and trend analysis and supports proactive and continuous monitoring improvement.</p> <p>Our experience has taught us that not each trend will be of same importance, e.g., a trending eligibility issue identified which impacts larger worker population multiple times a day would take higher precedence as against a slow trending issue (e.g., spelling mistake) that impacts a much lower count of worker population. Input from trends analysis is then fed into prioritization process, where fixes are tracked and prioritized based on business impact. This helps in identifying high impact areas of the application that needed either system fixes or re-enforced user training.</p> <p>Ultimately, proactively identifying and mitigating issues is a core tenant of a successful M&O approach. Without proactive monitoring, critical system issues can impact user’s ability to process benefits and can impact the benefits that members should be receiving. Being prepared for such issues and mitigating them before they grow – is critical to ongoing success and operations.</p>
<p>6.33</p>	<p>Track and report recurring incidents or failures and provide associated consequences of repeating incidents if there is a business impact to DSHS</p>	<p>Our Understanding of the Requirement</p> <p>Our team understands the importance of tracking and reporting recurring incidents. Recurring issues and failures can cause a serious impact to ongoing production operations, and minimizing that impact is crucial to sustained success.</p> <p>We will track and report recurring incidents and failures to the DSHS team. These reports will include the issue and the resulting impact, and the team will take steps to provide resolutions to the issues as quickly as possible.</p>

How We Satisfy the Requirement

Our team is prepared and has experience with identifying, tracking, and reporting on recurring incidents and repeated failures during M&O. Our team knows the importance of transparency and has fine-tuned the tracking and reporting processes with lessons learned from other projects. We focus on the importance of communicating such failures clearly, consistently, and completely to the DSHS, so that it has the appropriate information to make informed decisions about how to prioritize the recurring issues.

First, our team follows robust and stringent code promotion, review, and testing procedures in order to avoid and minimize the occurrences of repeat failures and recurring issues. If a recurring issue does occur, however, our team reviews the issue, categorizes the issue appropriately, and identifies the issue as a recurring problem or failure. Such issues are flagged, the cause of the problem is identified, and we immediately begin work on the resulting impact and resolution.

Second, as part of these procedures, our team will develop a centralized report, and establish a standard cadence/process by which recurring issues are reported to key DSHS stakeholders and the appropriate support teams (both central support and business analysts) for transparency and collective awareness. The established report will include the summary of the issue, the resulting impact, the number of occurrences, and additional relevant information, as required by DSHS policies. Our team will work closely with DSHS to communicate a workaround or interim solution and a permanent solution is evaluated.

Lastly, our team will categorize such recurring failures – this categorization will then be reviewed and can be valuable input to proactive monitoring reports (outlined in section 6.32), updated development processes and smoke testing procedures in an effort to avoid such issues in the future.

While the goal of the agency's incident management and resolution processes is to significantly reduce the

		<p>instances of recurring failures in the system, they can happen, but when they do, our application support team is ready to assess those failures, provide the impact, and implement a permanent resolution to the issue to avoid future recurrences.</p>
<p>6.34</p>	<p>Recommend solutions to address recurring incidents or failures</p>	<p>Our Understanding of the Requirement</p> <p>The existence of recurring incidents or failures can be a result of one of many reasons. An underlying fundamental system or data issue, an incomplete resolution, issues with worker processing of cases, or issue with identifying, analyzing, and resolving reported problems.</p> <p>Our application support team will work closely with the DSHS’s application support team (tier 1 and tier 2 teams), as well as DSHS key stakeholders, to identify solutions (both final resolution and workaround) to address recurring issues, and to validate those solutions prior to implementation.</p> <p>How We Satisfy the Requirement</p> <p>Our team focuses on the root of the problem, to understand the historic, current, and potential future impact, cross-system impact, and any intra/inter agency impact. Once the impact is identified, the incident is prioritized for resolution and the solution is shared with your team for approval.</p> <p>Our team works on maintenance, operations, and enhancements of Integrated Eligibility projects in 26 states – and as such, our team has both the depth and breadth of experience to provide innovative and proven solutions to address such recurring failures. When our immediate application team cannot address the issue, we have the ability to reach out to our support teams in other state, and for other similar projects, to determine if they have faced and similar issue – and if so, how it was addressed.</p> <p>This ability to source solutions from our nationwide network and vast E&E footprint helps our team recommend solutions which have been proven to work,</p>

		<p>can be successfully implemented and which minimize impact to ongoing operations.</p>
<p>6.35</p>	<p>Provide status report detailing the root cause of and work around procedure for correcting recurring incidents until closure through a permanent fix as determined by DSHS</p>	<p>Our Understanding of the Requirement</p> <p>Interim resolutions – whether they are workarounds, data fixes, or some temporary business process – are often necessary to allow for continued processing while issues are being resolved. Our team understand the importance of such workarounds, and we will communicate workarounds and interim issue resolutions to DSHS while and until permanent fixes are developed and deployed.</p> <p>How We Satisfy the Requirement</p> <p>When an issue is identified, even after the root cause analysis is complete, there is a period during which the issue will exist in the production system and a permanent resolution cannot be provided until the next release. During this period, interim resolutions, in the form of workaround, data fixes, or other processes, are needed to minimize impact to the production system and to allow for normal business and system processes to continue as a permanent fix is worked on.</p> <p>Our team communicates workarounds (in a standard format/report discussed and agreed with DSHS) to identified issue(s) to both the DSHS’s application support groups (tier1/2). The workaround will be documented in the ticketing system, as well as communicated to any necessary DSHS stakeholders. Additionally, our team will work with DSHS to determine what communication needs to go out to specific user groups, and if any temporary business process documentation or guidance is required for the workaround. If a data fix is being provided, we will work closely as a team to validate any fix in a production-like environment before the data fix is executed in production.</p> <p>Specifically, depending on the issue, the impact, and the expected time to resolution, our application support team will recommend one of several interim solutions.</p>

		<ul style="list-style-type: none"> • Workaround: The optimal interim solution allows for DSHS users to resolve or workaround system issues without any additional intervention. When such a workaround exists, and users can take specific direct actions in the system to avoid issues, our team will work to clearly document and distribute the workaround to the appropriate user groups and provide a resolution date for the issue. Once the issue is resolved, the related workaround processes are retired. • Data Fix: In situations where a system workaround is not possible, is too cumbersome, or the impacted case volume does not make a workaround feasible, our application team will work closely with DSHS stakeholder to write, validate, and implement on-demand or recurring data fixes to resolve system issues until a permanent fix is found. Such data fixes will be retired once the permanent fix is promoted to production. • Monitoring and Resolution: For issues which cannot be proactively resolved by either a workaround or a data fix, our team will write queries to monitor the application for impacted populations and report those populations to DSHS. Based on a discussed resolution, and data fix can either be provided to resolve this population, or manual user action can be taken to resolve the impacted members.
Security Administration		
6.36	Adhere to access profiles and policies for adding, changing, enabling/disabling and deleting Log-On access for DSHS employees, agents and subcontractors to the ACES application	<p>Our Understanding of the Requirement</p> <p>Improperly provisioned and managed access privileges for ACES users including DSHS employees, agents and subcontractors could result in the compromise of sensitive information and improper use of ACES data. Our team will work with DSHS security team to understand the existing access profiles and policies and will assist in managing and maintaining the policies.</p>

		<p>How We Satisfy the Requirement</p> <p>We will assist in implementing permissions and access policies to protect resources on the server. Unrestricted user permissions and access could lead to accidental data exposure, intentional misuse, and abuse of data. As part of the collaborative effort between our team and DSHS, we work with multiple application teams to determine the type of access and, define user group policies to meet the user requirement.</p> <p>We adhere to DSHS controls including, but not limited to, role-based access control and least privilege for system access to comply with federal and state access control requirements. Additional activities we complete include:</p> <ul style="list-style-type: none"> • Provide real-time role-based security authorization service for (create, delete, modify and view) access to user interfaces, reports, data elements/field level, and menu items using DSHS-owned systems with user password configuration • Provide to DSHS, upon request, a listing of users having access to the employees, agents, and Contractor's components and/or data with details regarding the access granted to each user • Review user account access as per DSHS controls. User accounts must be appropriately disabled as roles and responsibilities change • Review and approve access requests for DSHS federated identity and access management solution that will perform user authentication and authorization through log-on for module components • Identify Providers to be assigned an inactive or terminated status, based on DSHS-approved rules, guidelines, and timeframes. <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our proposed delivery team has experience in successfully managing and supporting large IAM projects for global organizations in federal and several state</p>
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		<p>agencies. Our team has strong relationships with leading IAM product vendors and the expertise brought in by skilled IAM specialists to implement technology solutions as required (if necessary) to best suit the ACES system requirements.</p> <p>Our accelerators, artifacts and automation processes embedded in the delivery model will also increase productivity, bring efficiency, and maintain consistency throughout the lifecycle of the ACES M&O phases.</p>
<p>6.37</p>	<p>Adhere to Application security plan based on DSHS and Federal application security requirements, standards, procedures, policies which includes, but is not limited to, procedures for security monitoring and log management functions, Application vulnerability management</p>	<p>Our Understanding of the Requirement</p> <p>Our team recognizes the criticality of adhering to the application security plan based on various DSHS and federal requirements. Irregular configuration of application security plan can lead to compliance violations and improper log management functions. Our team will assist DSHS in managing their application security plan and will assist in maintaining application security requirements, standards, procedures, and policies.</p> <p>How We Satisfy the Requirement</p> <p>Our objective is to manage complex and evolving cyber threats, and to establish a risk-aware security monitoring program that transforms your ability to leverage Security Information and Event Management (SIEM) capabilities.</p> <p>Security monitoring provides the State with an in-depth defense strategy to secure the systems processing confidential data. Our team will assist the State in establishing the SIEM tool for compliance with MARS-E 2.2 requirements and provide near-real-time insights from a high volume of application audit logs. Our alliance with the leading SIEM vendors (including Splunk ES) allows us to bring experience and leading knowledge gained from multiple engagements where we have deployed, developed, and/or operated these various SIEMs for our clients.</p> <p>The SIEM team receives alerts as outage or threshold breaches occur, prompting action. We perform first-level</p>

		<p>triage of SIEM alerts and escalate potential security violations to State stakeholders for further investigation.</p> <p>Security monitoring requirements are ever evolving because of the increasing sophistication and accuracy of cyber-attacks. Therefore, our team recognizes the need to be innovative and vigilant when it comes to the use cases for monitoring. In addition to triaging the current alerts, there may be a need to manage new use cases to address changes in the threat landscape. We leverage industry leading cybersecurity frameworks such as MARS-E, NIST, and MITRE ATT&CK in the development of new security monitoring use cases. Such an approach begins with the mindset of understanding the environment through the eyes of the potential attacker. In addition to DSHS-specific institutional knowledge, our team combines the intelligence about relevant threat actor motivations and contemporary exploits to assess the relevance of use cases to detect potential security violations. The team would also provide a summary and review of NESSUS scans and identification of vulnerabilities.</p> <p>Functional Security Testing: We conduct functional security testing to complement the vulnerability scanning and provide a different lens on the application environment. It aims to identify weaknesses that may not typically be not detected through vulnerability scanning. The functional security testing includes, but is not limited to, the following topics:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="text-align: left; padding: 5px;">Subphases</th> <th style="text-align: left; padding: 5px;">Objective</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Role-based access controls</td> <td style="padding: 5px;">Validating that access of authorized roles is limited (positive and negative testing) to appropriate functionality that is necessary to accomplish the assigned tasks.</td> </tr> <tr> <td style="padding: 5px;">Audit logging & Monitoring</td> <td style="padding: 5px;">Validating that audit records contain the required information to establish what type of event occurred, when the event occurred, where the event occurred, the source of the event, the outcome of the event, and the identity of any individuals or subjects associated with the event. We will also validate the SIEM tool alerts and reports to identify indications of inappropriate or unusual activity.</td> </tr> </tbody> </table>	Subphases	Objective	Role-based access controls	Validating that access of authorized roles is limited (positive and negative testing) to appropriate functionality that is necessary to accomplish the assigned tasks.	Audit logging & Monitoring	Validating that audit records contain the required information to establish what type of event occurred, when the event occurred, where the event occurred, the source of the event, the outcome of the event, and the identity of any individuals or subjects associated with the event. We will also validate the SIEM tool alerts and reports to identify indications of inappropriate or unusual activity.
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		<p>Encryption Validate that approved mechanisms (e.g., digital signatures) to protect the integrity of data while in transit from source to destination.</p> <hr/> <p>Figure 4.2-22. Functional security testing phases.</p> <p>Our team will also be able to provide Penetration Testing support. Our Penetration Testing methodology is focused on identifying vulnerabilities, specifically infrastructure and applications for standard and advanced application security findings using industry-standard methodologies, and techniques (e.g., OWASP).</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>In Louisiana, we leveraged Splunk to collect system data usage and conduct trend analysis for several agencies, producing consistent, repeatable performance analysis and improving the monitoring process to track, maintain and improve system performance.</p>
<p>6.38</p>	<p>Adhere to DSHS' security policies and industry standards of physical and logical security plans</p>	<p>Our Understanding of the Requirement</p> <p>We acknowledge the importance of complying with various DSHS security policies and industry standards regarding physical and logical security plans. Non-compliance with security policies and industry practices can increase the risk of security incidents and data loss.</p> <p>Our team will comply with the enterprise security policies and maintain managerial, operational, and technical security controls to prevent unauthorized access to the system.</p> <p>How We Satisfy the Requirement</p> <p>Our team routinely performs work for clients whose data is sensitive and must be protected. As such, we are eminently prepared to adhere to DSHS' security policies and industry standards of physical and logical security plans. Key areas of focus include:</p> <p>People: We will validate that the stakeholders are following policies and procedures, identify areas where</p>

		<p>they are not, and areas where improvements can be made</p> <p>Processes: Our team will verify the processes in place to determine they comply with the organizations’ policies and identify gaps and areas for improvement</p> <p>Technology: Our team will review current technology using manual and automated methods to verify the technology and configurations in place are meeting the intent of the policies and procedures and are working as intended</p> <p>Our team will take reasonable steps to protect the confidentiality of the State’s data and adhere to appropriate physical, technical, and administrative safeguards to prevent unauthorized access by third parties. We will also validate that access is granted only to our associates who reasonably require access to such information with respect to our ability to meet the State’s expectations.</p> <p>Finally, we will destroy or return any State data upon request, cooperate with any attempts by the State to monitor compliance, and establish and maintain data security policies and procedures to confirm security and confidentiality of State data throughout the engagement.</p>
6.39	Review all security patches relevant to the environment and classify the need and speed in which the security patches should be installed as defined by security policies	<p>Our Understanding of the Requirement</p> <p>Security patch non-compliance can lead to the DSHS environment being vulnerable to various security threats. It is critical they are reviewed and installed with speed to make sure that Washingtonian data in DSHS’s possession is protected.</p> <p>How We Satisfy the Requirement</p> <p>Our team will monitor security release notes and use Tenable NESSUS findings to assess for security vulnerabilities related to software versions and perform a prioritized upgrade process through SDLC to secure the environments without impact to applications. We will conduct periodic reviews of the platform, hardware, software, COTS products and monitoring tools used</p>

		<p>across ACES. This will be discussed with the State on a regular cadence to identify the need for security upgrades and patches.</p> <p>Our team will perform an impact and risk analysis for the upgrades and confirm the right balance between the need to perform a security patch upgrade versus the appropriate moment to execute it.</p> <table border="1"> <thead> <tr> <th>#</th> <th>Step</th> <th>Approach</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Identify need for upgrade or patch</td> <td> <p>Our team communicates the need for security upgrade/patch to the State based on the analysis of functional and business features published by the product vendors. The need for a security upgrade/patch is categorized into:</p> <ul style="list-style-type: none"> • Major/minor version upgrades for the COTS products and other software to stay compliant • Upgrades needed due to end-of-support/end-of-life of software • Upgrades needed to support new product functionality • Upgrades to fix performance-related issues • Change in licensing model to support reduced licensure cost • Fix packs and upgrades on minor version of products to remediate security vulnerability </td> </tr> <tr> <td>2.</td> <td>Conduct preliminary impact analysis</td> <td> <ul style="list-style-type: none"> • Perform impact analysis to identify possible impacts that could affect overall system functionality, quality, and stability. Often, dependencies or compatibility issues between COTS products, middleware, DB, and OS versions are uncovered during this analysis. We will work with the State and obtain the required change approvals in accordance with established change control processes. </td> </tr> <tr> <td>3.</td> <td>Develop proof-of-concept solutions</td> <td> <ul style="list-style-type: none"> • As part of the security upgrade and patch process, create proof of concept as needed to validate that the code, framework, and platform components continue to perform optimally; use sandbox environment to perform the security upgrade/patch for validation, which includes preliminary business function, regression, and performance tests. </td> </tr> <tr> <td>4.</td> <td>Obtain approvals</td> <td> <ul style="list-style-type: none"> • Discuss the initial impact analysis of the security upgrade or patch with the State and prioritize for the upcoming release based on the team's and stakeholder's resources availability. </td> </tr> </tbody> </table>	#	Step	Approach	1.	Identify need for upgrade or patch	<p>Our team communicates the need for security upgrade/patch to the State based on the analysis of functional and business features published by the product vendors. The need for a security upgrade/patch is categorized into:</p> <ul style="list-style-type: none"> • Major/minor version upgrades for the COTS products and other software to stay compliant • Upgrades needed due to end-of-support/end-of-life of software • Upgrades needed to support new product functionality • Upgrades to fix performance-related issues • Change in licensing model to support reduced licensure cost • Fix packs and upgrades on minor version of products to remediate security vulnerability 	2.	Conduct preliminary impact analysis	<ul style="list-style-type: none"> • Perform impact analysis to identify possible impacts that could affect overall system functionality, quality, and stability. Often, dependencies or compatibility issues between COTS products, middleware, DB, and OS versions are uncovered during this analysis. We will work with the State and obtain the required change approvals in accordance with established change control processes. 	3.	Develop proof-of-concept solutions	<ul style="list-style-type: none"> • As part of the security upgrade and patch process, create proof of concept as needed to validate that the code, framework, and platform components continue to perform optimally; use sandbox environment to perform the security upgrade/patch for validation, which includes preliminary business function, regression, and performance tests. 	4.	Obtain approvals	<ul style="list-style-type: none"> • Discuss the initial impact analysis of the security upgrade or patch with the State and prioritize for the upcoming release based on the team's and stakeholder's resources availability.
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		<p>5. Determine level of effort (LOE) & timeline</p> <ul style="list-style-type: none"> Based on the outcome of the approval process, perform a thorough analysis to identify the business impacts, technical impacts, and define mitigation strategy, if needed. Determine the estimated timelines, staffing, and department interdependencies. <hr/> <p>6. Conduct patching & upgrade in lower environments</p> <ul style="list-style-type: none"> We will conduct the initial security patching/upgrade activity in the development environment. After the preliminary testing is completed in the development environments, we promote the security upgrade/patch to system test environments. <hr/> <p>7. Establish & implement release plan</p> <ul style="list-style-type: none"> We work with the release management team and the State to identify an appropriate release schedule for the higher environments. This release schedule governs the deployment plan for UAT, integration testing, and production. <hr/> <p>8. Future Proofing</p> <ul style="list-style-type: none"> As part of the security upgrade and patch process, we analyze long-term outlooks of software. We will work with the State to discuss future potential functionality shifts in software as well as possible alternative software that helps position the State for upcoming technology trends.
<p>Figure 4.2-23. Patch management approach.</p>		
<p>6.40</p>	<p>Support DSHS in performing security related activities and corrective action plans such as report development, controls documentation, HIPAA compliance activities, IRS 1075 compliance activities, performing security audits, etc.</p>	<p>Our Understanding of the Requirement</p> <p>We recognize the importance of performing security related activities and corrective action plans. Lack of well-defined action plans can lead to non-compliance with federal and state regulations and can affect the efficiency of the security activities/processes. Our team will work with the State to comply with federal standards and regulatory requirements, including agency policies, by using an industry proven approach informed by our experience working with 46 other states.</p> <p>How We Satisfy the Requirement</p> <p>As a leading provider of cybersecurity services to state government organizations, our team forges strong relationships with governing bodies and regulatory agencies (i.e., CMS, NIST) that enable us to support the</p>

		<p>current compliance activities at DSHS. We bring in templates and accelerators from our cybersecurity practice and prepare the State for upcoming additions/revisions to the regulatory landscape like assisting audits (IRS, SSA), supporting creation of System Security Plans (SSPs) and more. Our team will maintain ongoing compliance with security requirements, HIPAA requirements</p> <p>Our team will work with the State to comply with federal standards and regulatory requirements, including agency policies, by using an industry proven approach informed by our experience helping 46 other states. In addition, our team will continue to work with the State to maintain the ACES security posture and regulatory compliance through regular assessments of security control effectiveness, proactive identification of vulnerabilities and gaps, remediation of vulnerabilities and gaps, and security monitoring.</p> <p>Our team documents the security posture in compliance artifacts such as the System Security Plan (SSP) and Plan of Action and Milestones (POA&M) to demonstrate how ACES addresses regulatory requirements and supports the State with internal and external audits.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>We have assisted 30+ state agencies in developing and implementing SSPs. This includes assisting 20 states with MARS-E V2.0 compliance efforts and are actively assisting states with the new MARS E 2.2 compliance efforts. Our team has qualified security professionals with extensive knowledge security and privacy landscape to develop SSPs that meet the regulatory requirements.</p>
6.41	Maintain all documentation required for Application security audits and internal control and control testing	<p>Our Understanding of the Requirement</p> <p>We acknowledge the criticality of maintaining documentation required for application security audits, and internal control and control testing. Proper documentation that reflects the true and current state of</p>

the controls that in place for the application is essential for performing security audits and control testing.

How We Satisfy the Requirement

Our team will assist in gathering information on the level of existing documentation, determine system documentation needs (missing documentation or artifacts) and coordinate efforts with DSHS and vendors to improve system and operational documentation. We understand the importance of managing requirements of the ACES System and their traceability to detail design components and test cases to confirm designs are implemented. Our system documentation is intended to keep a detailed record of changes to the system. This documentation includes source code comments, system design documents, online help screens, user manuals, data dictionaries, and coding standards documents

We will document the security controls working with key stakeholders from State, application development and technology teams encompassing management, technical, and operational security controls aimed at protecting the data of ACES. Our team incorporates the details of each of the security controls, implementation approach, and steps of verification in the security plan to provide traceability to security requirements. These security controls protect the confidentiality, integrity, and availability of information.

We will provide DSHS with complete audit information of user logging, updates to user security roles and privileges, large data exports or unexpected execution of reports. This will help DSHS assess if the logins are atypical and take appropriate actions. Additionally, we can enable the audit trail which will provide a log of user-generated actions such as new fields created, or permissions changed. This will help you identify which user made the changes, when, and from where. This knowledge can help you prevent unauthorized access from the locations where the data should not be accessed from.

6.42	Support the placement of systems with particularly sensitive data in controlled access areas. Only end-users with authorized access permission will be allowed to enter these areas (e.g., read access in logs, write access in some folders, etc.).	<p>Our Understanding of the Requirement</p> <p>Our team understands the importance of placing systems with sensitive data in controlled access areas. Improper configuration of systems might lead to unauthorized access of sensitive data, and this might lead to data loss or corruption. We will support DSHS in verifying that the right end-users with authorized access are allowed to access sensitive data.</p> <p>How We Satisfy the Requirement</p> <p>Our team will work with the State to identify applicable data specifications around sensitivity levels. We will define a Personally Identifiable Information (PII)/Protected Health Information (PHI) data flow map by analyzing the State’s business processes that handle sensitive data, and determine the underlying assets for storing, processing, or using sensitive data and any applicable regulatory/privacy requirements. In response to the data flow map, we will determine the level of sensitivity, value, and criticality to the organization to classify the information assets. Classification of information aids in determining baseline security controls for data protection. Information assets are assigned owners, who use appropriate physical and electronic security measures to protect against misuse and harm.</p> <p>Our team understands that unauthorized access to the ACES needs to be blocked. Access to the solution is configured to lock out the account if it captures repeated unauthorized attempts. Once the account is locked, the account cannot be used or unlocked without the intervention of the administrative team. This prevents unauthorized access to the ACES application.</p> <p>Security controls implemented for access along with audit logging and monitoring capabilities safeguard the confidentiality and integrity of the application data.</p> <p>The process also includes determination of physical access to areas where systems reside. The access is restricted to users authorized to operate or maintain the physical assets. Encryption is enabled on devices to</p>
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		<p>reduce the risk of data loss (e.g., PII/PHI or confidential data) during theft. Additionally, users are not allowed to download or maintain client-specific sensitive information on their physical assets.</p>
6.43	<p>Provide a documented set of controls that is used to ensure the protection of data and security information among customer applications</p>	<p>Our Understanding of the Requirement</p> <p>We understand and acknowledge need for having a documented set of controls for the security and data protection of the ACES application. A lack of this documentation can adversely affect the protection of data and security information and can lead to compliance issues. Our team will assist DSHS in maintaining and managing a controls catalog that will help to appropriately management data and information security.</p> <p>How We Satisfy the Requirement</p> <p>Our approach to documenting security controls encompasses management, technical, and operational controls aimed at protecting the confidentiality, integrity, and availability of ACES data. These controls assist in avoiding, counteracting, and minimizing the risks to data loss or theft posed to the ACES solution.</p> <p>Continuous compliance with security and privacy requirements from federal standards and regulations is key to protecting ACES' data. Our knowledge of federal standards and regulations for information security is built into our proprietary controls catalog that has been utilized to support a range of projects. Deloitte brings a controls catalog includes requirements from 350+ laws, regulations, industry standards, and common practices across 45+ countries (e.g., CMS MARS-E 2.2, HIPAA, FISMA, IRS Pub 1075 Rev. 11-2021, FIPS 140-2, NIST 800-53 Rev 5). The controls catalog is designed to identify a rationalized set of security controls as well as streamline the compliance management process on an ongoing basis.</p> <p>Our team has an established data security and confidentiality information management approach that includes the data security policies, procedures, roles,</p>

		<p>responsibilities, scope of responsibilities and the development of the Confidential Information Management Plan (CIMP) which will meet and satisfy several of the data security, secure handling, and storage of sensitive data for ACES.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team brings experience, proven methodologies, and processes implemented across state and local government and federal projects, where we have helped data security teams, IT chief security officers, and data stewards establish policies, data standards, and procedures to confirm conformance and compliance to state and federal standards. Our global footprint, ability to bring strategic insights from complex multinational organizations, and our experience implementing and documenting controls for similar efforts enables us to align data protection and loss prevention use cases and controls to priority use cases and high-risk data.</p>
<p>6.44</p>	<p>Ensure all Applications and tools provide adequate protection of data that is covered by regulatory or other compliance requirements — for example, those of the U.S. HIPAA, IRS 1075, ACA and HITECH Acts</p>	<p>Our Understanding of the Requirement</p> <p>Our team understands how critical data security is for DSHS. Data loss may be triggered by hardware failure, human error, malware, or hacking that can result in significant business disruption. This reinforces the need to include data backup and recovery as an integral part of the business continuity plan and IT disaster recovery plan. Additionally, improper configuration or a lack of data security controls can lead to compliance violations and an increased risk of data loss or corruption. Data protection, in line with regulatory compliance requirements, assists DSHS in confirming applications and tools provide data protection.</p> <p>How We Satisfy the Requirement</p> <p>Our team brings best practices to create, store, secure, deliver, maintain, and archive ACES data. Our experience is that transactional data in eligibility systems grows at a rate of 8–10 percent per year; consequently, efficient</p>

data security and management is essential for reliable retention, on-demand availability. Our deep understanding of the data security procedures and standards of human service agencies enables us to manage and protect data of different types and sizes. Our team will also maintain the security for data in transit by enforcing authentication and encryption during communication with external third-party systems like MMIS.

We will implement a robust plan for day-to-day data backup and data recovery procedures. This procedure leverages three types of backups (Full, Differential, Transactional), which are taken in a periodic manner and stored in a separate drive on the server as well as in the backup store. Data obfuscation is the process of replacing sensitive information with data that looks like real production information, making it useless to malicious actors. It is primarily used in test or development environments—developers and testers need realistic data to build and test software, but they do not need to see the real data

Our obfuscation process has three phases:

- **Discover.** T&I will work with service providers of both the App Dev and Security bundles to identify columns that contains PII and PHI data.
- **Build and Validate.** Post discovering PII and PHI columns, we will work with service providers of the Security bundle to get the list and associated obfuscation rules reviewed and approved by ISPO.
- **Deploy.** Post approval, configurations are made on UAT first. Post dry run on UAT, the obfuscated database will be validated by the State ISPO, Security team, and T&I team. Post validation and approval from ISPO, the same steps are followed on production.

Lessons Learned/Best Practices/Examples of Previous Projects

Our reputation as a clear leader in data protection, our strong team of data protection specialists, our

		<p>experience assisting clients with regulatory enforcement, our background in multiple industries and operating environments, and our deployment accelerators are our differentiators. Our team has performed more than 150 enterprise-level data protection technology implementations involving some 200 qualified professionals.</p>
<p>6.45</p>	<p>Adhere to documented procedures to ensure background checks are performed on vendor personnel with administrative or other privileged access to servers, applications or customer data per CFR, RCW, DSHS, and vendor policy (whichever is more stringent)</p>	<p>Our Understanding of the Requirement</p> <p>We acknowledge and supports the State’s documented procedures for background checks of vendor personnel with administrative or other privileged access to servers, applications or customer data per CFR, RCW, DSHS, and vendor policy (whichever is more stringent).</p> <p>How We Satisfy the Requirement</p> <p>Our team maintains compliance with onboarding requirements for proposed project staff as required by DSHS, including compliance with Federal and State requirements, background checks, and work status requirements. Our team adheres to the requirements on background checks as specified in the Code of Federal Regulations (CFR), the State’s Revised Code of Washington (RCW), and DSHS’ Security Policy and will coordinate with DSHS to understand potential changes to project onboarding or regulatory requirements, as necessary.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team’s staff will submit to relevant security checks requested by the State. We have significant experience working with the State and a demonstrated record of complying with the State’s background check requirements. Promoting effective security, including information security, is a key priority for our firm and a cornerstone of our reputation.</p>

6.46	Adhere to documented procedures for super user privilege management and database activity monitoring controls or the equivalent to detect inappropriate behavior by personnel with administrative access.	<p>Our Understanding of the Requirement</p> <p>We understand the importance of privileged access management, and how role-based access confirms that the segregation of duties is maintained. A lack of documented procedures might lead to inappropriate behavior by personnel with administrative access not being detected. We will coordinate with the State and adhere to documented procedures for super user privilege management and database activity monitoring controls to detect inappropriate behavior by personnel with administrative access.</p> <p>How We Satisfy the Requirement</p> <p>Our overall Privileged Access Management (PAM) approach addresses password vaulting, password management, session management, system integration, governance, and reporting through design, implementation, and operations. PAM should be integrated with other identity and access management functions and be aligned with other organizational elements to drive operational efficiency, a positive user experience, and improved security and reporting. We will assist DSHS to identify requirements in advance and then provide consistent and documented processes for developers, enabling strong security hygiene.</p> <p>The proposed PAM approach fully supports different levels of privileges. The time frame of credentials, or time to live, is configured based on the account's risk to maintain proper security while optimizing user experience. The approach offers a few methods for restricting user access to privileged accounts for certain time periods. If a one-time password policy is chosen, credentials are rotated after a specific time or when checked in by the user after use. If the exclusive access policy applies, credentials can be used only by one person at any given time. This type of configuration allows nonrepudiation, especially for credentials that are shared amongst individuals. Administrators can restrict users to specific times using the built-in dual-control approval workflow, which can support either manual or</p>
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	<p>automated approvals with ticketing system integrations. Time frames can be requested by users and approved or denied based on policy</p> <p>Our team has vast experience in successfully deploying, managing, and supporting Database Activity Monitoring solutions such as IBM InfoSphere Guardium.</p> <p>We will proactively monitor thresholds and trends to manage the environment using near-real-time monitoring with alerts for long-running transactions, deadlocks, and other warning signs for online system performance and overall health.</p> <p>Our team proposes an approach that offers granular visibility into changes pertaining to systems, databases, files, folders, and permissions. With this approach, a before-and-after view of the actual content changes that took place in a monitored item, system, or database. Changes can be tied back to the user who made the change through the use of its agent and provide a bread crumb of the activity.</p> <p>Items that are tracked, before and after a change, include:</p> <ul style="list-style-type: none"> • Hashes of the items of interest • File size • Time stamps • Permissions • Content changes • Time of change • List of users added • User who made the change <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our objective is to help manage complex and evolving cyber threats, and to establish a risk-aware security monitoring program that transforms your ability to leverage Security Information and Event Management (SIEM) technology to monitor for events that matter and</p>
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		efficiently action those alerts to remediate vulnerabilities and decrease adversary dwell time within the environment.
6.47	Report any security violations to DSHS per DSHS policies	<p>Our Understanding of the Requirement</p> <p>We understand that prompt reporting of a potential violation is critical and can have a huge impact on our ability to mitigate any risk exposure for our team and the Agency. Any lapse in reporting a security violation would put DSHS in risk of compliance violation and security threats. Our team will notify the Agency in the event of any security violations in accordance with the notification requirements.</p> <p>How We Satisfy the Requirement</p> <p>Our team monitors critical database transactions to indicate anomalous activity, unauthorized change, or policy violations, and will work with DSHS to report any violations found.</p> <p>Such monitoring will consist of:</p> <ul style="list-style-type: none"> • initial review of alerts triggered from the SIEM solution • triage alerts based on alert matrix categories and agreed-upon SLAs • research alerts and incorporate supplemental research into alert, as needed and where possible • escalate alerts to appropriate incident response personnel • develop recommended actions and take remediation steps • add alerts from activity determined to be legitimate to the DSHS operations to operational runbook whitelist • monitor and manage SIEM solution components, including version upgrades, patch, and agent management

		<ul style="list-style-type: none"> • perform operations and SIEM system-level utilization and availability checks • provide SIEM operational incident management and resolution within agreed-upon SLAs • conduct ongoing SIEM content development and tuning • coordinate resolution of SIEM product-related defects with product vendor • perform on going operational reporting <p>Our approach is to investigate each incident from intake to closure proactively and transparently. The lifecycle of an incident begins well before an incident is officially logged. Our proposed processes will graduate us from a corrective to a preventive maintenance lens. We will collaborate with DSHS to develop procedures necessary to avert incidents and enable proactive troubleshooting to fully promote system up-time and consistent benefit delivery.</p>
6.48	Will follow and support DSHS Security Design Review process for all required actions.	<p>Our Understanding of the Requirement</p> <p>We acknowledge the importance of a security design review. Lack of or an improper security design review can lead to threats or risks that may occur at the architecture/design level.</p> <p>We will collaborate with the State and support DSHS in the security design process to resolve any build issues related to Security business use cases defined in the Security Design Document.</p> <p>How We Satisfy the Requirement</p> <p>Our team uses a layered approach to implement the security design. In this approach, security is integrated in different tiers within the application, thereby implementing the defense-in-depth security concept. Our team documents and lists the external system security dependencies, including:</p>

		<ul style="list-style-type: none"> • Port identification, network rules, firewall rules, and IP addresses for the application components as part of requirements and system design • Management and timely availability of existing products (e.g., Application Security Monitoring [ASM] and SIEM solutions) as well as infrastructure components such as servers and databases to be provided by the State • Management of project facility, physical assets, project off-site equipment, and backup sites by the State team • Timely access and availability to key stakeholders and third-party vendors <p>We coordinate with the appropriate State teams to implement the necessary changes to the external systems as required. Our approach is to configure only those components that are essential for application integration. This helps prevent undue maintenance of components that are not required as part of the solution.</p>
6.49	Support audit requirements, when applicable. Support resolution of audit findings.	<p>Our Understanding of the Requirement</p> <p>We are the world’s largest global provider of security assurance, security audits, and information technology audits, with extensive experience in providing assurance over complex technology environments and significant technology risks. We understand the importance of audit requirements and we will tailor our plan to your environment, aligning your organization. Our team will assist the State by providing technical expertise with respect to audit requirements and support the resolutions wherever necessary.</p> <p>How We Satisfy the Requirement</p> <p>Our team will help DSHS support to fulfill audit requirements. If regulatory audits and/or third-party assessments of the solution are required, our team will provide appropriate resources to support the audit and to confirm that required documentation and overviews of processes and process controls is provided. We will</p>

		<p>assist DSHS in defining Security requirements prior to the selection, deployment, and implementation of systems. Our approach generates audit logs across the layers of our multitiered architecture that can be integrated for audit and alerting. Our approach includes integration with the State’s existing SIEM solution for auditing, monitoring, and reporting of the user activities and communication between the various components of ACES.</p> <p>We will provide expertise for in-depth internal audits and design-specific control frameworks and assist ACES stakeholders with compliance and regulatory-focused technology strategies and application audit logs from the database for archival or reporting.</p> <p>Our team will review the existing deliverable submission process and recommend changes or a new process with respect to SharePoint and perform the following tasks:</p> <ul style="list-style-type: none"> • Host initial version of M&O system documentation within state document repository SharePoint • Manage documents within SharePoint during entire review cycle • Maintain final approved version of system documentation within SharePoint
6.50	Support Forensic Investigations	<p>Our Understanding of the Requirement</p> <p>Our team understands that a custom-developed solution can have inherent security risks. Our team will work with the State to identify the key incidents and support forensic investigations. At the completion of each significant incident, our team could assist the State to perform a post-incident review to identify any areas for improvement as well as areas that went well.</p> <p>How We Satisfy the Requirement</p> <p>Our knowledge of and experience with various investigative and forensic tools allows us to quickly respond to an incident. We have a broad suite of forensic and incident response services that will assist you in activities from identifying the “root cause” of information</p>

		<p>security incidents to investigation and restoration of deleted or modified files within your environment.</p> <p>If a third-party is engaged to perform forensic investigations, we will also work collaboratively with that organization to provide information required to support the investigation.</p> <p>We will provide subject-matter support and guidance to the security event monitoring team using our experience and understanding of adversarial tactics, techniques, and procedures. We will assist in the acquisition of forensic images of digital storage devices required for investigation of the incident and also support forensic analysis during a response to an incident with activities not limited to:</p> <ul style="list-style-type: none"> • Identifying data exfiltration, lateral movement, malware persistence, malware beaconing, and command and control communications • Identifying indicators of compromise for use in custom monitoring and signatures • Performing advanced analysis on network traffic, hosts, and malware to identify the root cause of an incident remediation, where possible, and provide recommendations to impacted ACES IT teams and business owners
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User Account Management

<p>6.51</p>	<p>Develop/document/manage and maintain Application user account maintenance procedures including, but not limited to:</p> <ul style="list-style-type: none"> • Configuration of new users, roles and responsibilities, credentials, etc. • Users Refresh/Change/Updates • Deletion of Users 	<p>Our Understanding of the Requirement</p> <p>We understand the importance of developing and maintaining user account maintenance procedures. Through our coordination with ACES and our strategy as described below, we will proactively develop, document, and manage the account maintenance procedures while covering the aspects related to user life cycle (creation, update/refresh and deletion).</p> <p>How We Satisfy the Requirement</p> <p>We will support DSHS as required with establishment and management of policies, processes, procedures and accountabilities for core identity and access management</p>
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		<p>services across the identity lifecycle of application user accounts: (a) creating a digital identity, (b) proofing to establish the identity is real and valid (c) provisioning access, (d) changing, maintaining, and controlling access, and (e) terminating access or removing relationship to an asset.</p> <p>We will coordinate with the ACES security team to configure and manage IAM process and settings, associated policy configurations including domain structure (organizational unit, group policy object, etc.). Provision groups and entitlements are granted to the users for different applications and determine whether the domain level controls align with the organization’s defined security policies and leading industry practices.</p> <p>Our team understands that unauthorized access to the ACES solution needs to be blocked. Access to the solution is configured to lock out the account if it captures repeated unauthorized attempts. Once the account is locked, the account cannot be used or unlocked without the intervention of the administrative team. This prevents unauthorized access to the ACES application. The security controls implemented for access along with auditing enable the confidentiality and integrity of the application data.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our M&O model leverages Information Technology Infrastructure Library (ITIL)-based processes and leading practices for delivering value to ACES by consistent execution of streamlined processes which provides for higher quality services and compliance requirements.</p> <p>Our accelerators, artifacts and automation processes embedded in the delivery model to increase productivity, bring efficiency, and maintain consistency.</p>
6.52	Provide assistance to DSHS, as required, in administering Application user accounts	<p>Our Understanding of the Requirement</p> <p>Our team understands that importance of user access management. Our team incorporates the details of each of the security controls, their implementation plan, and</p>





		<p>steps of verification to provide traceability to security requirements. Our strategy to manage user accounts utilizes innovative concepts such as RBAC and PBAC to prevent unauthorized access of ACES solution.</p> <p>How We Satisfy the Requirement</p> <p>We will effectively utilize concepts such as role-based access control (RBAC), attribute-based access control (ABAC), and policy-based access control (PBAC) to manage user-entitlement relationships and enforcing access policies consistently across similar user-profiles and personas as required by DSHS.</p> <p>We will also help with configuration and monitoring support for server administration, database, user access profiles, and performance tuning for the supported systems, applications, and third-party tools.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our proposed delivery team has vast experience in successfully managing and supporting large IAM projects for global organizations in federal and several state agencies.</p> <p>We have successfully enhanced system capabilities for managing the application access lifecycle as a specific component in aligning internal compliance requirements for user account and access management across integrated systems, databases, and applications for multiple clients.</p>
Break Fix		
6.53	Design, build and test application fixes	<p>Our Understanding of the Requirement</p> <p>Our team thoroughly understands the typical application lifecycle around design, development (build) and testing of application fixes and are committed to provide these services for the State.</p> <p>One of the critical success factors to effectively manage maintenance activities across systems is to provide</p>

		<p>transparency for production issues, failures, and user reported incidents. Production system issues may include user reported system bugs, program/application failures, data inconsistencies, errors due to underlying code issues, batch job failures etc. To process these application fixes, DSHS requires a partner that can design, build, and test ACES application fixes.</p> <p>How We Satisfy the Requirement</p> <p>We support DSHS by designing, building, and testing application fixes for the ACES Application. To do this, we leverage refined processes from over 45 years of E&E experience and expertise from 31 IE&E projects across the country.</p> <p>During break fix analysis, our team provides resolution to defects encountered including analysis, impact, design, developing, testing, communications, and documentation. If appropriate, the team develops a temporary work around and/or data fix to avoid benefit interruption. Additionally, when the code fix is ready, tested and approved, it will be deployed as part of release governed by release management process.</p> <p>Timely resolution of application defects serves as the foundation of maintenance and operations. Our team will design, build, and test application fixes/enhancements in lower environments prior to moving them in UAT for DSHS validation and approval before moving to production.</p> <p>The figure below provides an overview of the activities used to manage the break-fix lifecycle:</p> <table border="1"> <thead> <tr> <th style="color: green;">Break-Fix Activity</th> <th style="color: green;">Description</th> </tr> </thead> <tbody> <tr> <td>Analyze and prioritize the issue after identification</td> <td> <p>As a precursor to design activity, the team performs analysis to identify the issue type (application, data, batch etc.), log it for tracking purpose and discussion during triage meetings.</p> <p>Assess severity and impact of the issue to determine priority and release candidacy. We also perform 'Root Cause Analysis' (RCA) analysis to understand the root of the issue prior to formulating the design fix.</p> </td> </tr> </tbody> </table>	Break-Fix Activity	Description	Analyze and prioritize the issue after identification	<p>As a precursor to design activity, the team performs analysis to identify the issue type (application, data, batch etc.), log it for tracking purpose and discussion during triage meetings.</p> <p>Assess severity and impact of the issue to determine priority and release candidacy. We also perform 'Root Cause Analysis' (RCA) analysis to understand the root of the issue prior to formulating the design fix.</p>
Break-Fix Activity	Description					
Analyze and prioritize the issue after identification	<p>As a precursor to design activity, the team performs analysis to identify the issue type (application, data, batch etc.), log it for tracking purpose and discussion during triage meetings.</p> <p>Assess severity and impact of the issue to determine priority and release candidacy. We also perform 'Root Cause Analysis' (RCA) analysis to understand the root of the issue prior to formulating the design fix.</p>					

		<p>Design</p> <p>RCA plays a critical role in the design activity of the 'Break Fix' process e.g., the issue might show up on a screen of the application, but the real issue might exist in the interface data being exchanged with a trading partner. With RCA completed, our team provides the right fix the resolve the root of the issue. We then review existing design documentation, update functional and technical designs for any changes and collaborate with DSHS to gain design approval prior to implementation.</p>
		<p>Develop</p> <p>We leverage our DevOps capabilities, operational and change release management process to develop the fix to the agreed upon design that is approved by DSHS. During development process, we develop code to resolve the fix and follow strict guidelines to maintain and improve overall quality of development such as unit test checklist and build automation to reduce manual build processes.</p>
		<p>Test</p> <p>We leverage a robust series of testing in lower environments to validate the fix is working as designed and other functionality is not adversely affected by the fix. We utilize automation to SMOKE and Regression test application to manage stability of the application. We also communicate and test with trading partner(s) where applicable, depending on if the fix involves interface with a trading partner.</p>
		<p>Release and production monitoring</p> <p>Break fixes are released to production based on the Release Management Process and monitored to confirm resolution. We also assess new trends coming out of the fix.</p>
<p>Figure 4.2-24. Break Fix Approach.</p> <p>This approach is proven across our HHS M&O states. For example, the following outcomes were achieved at the State of Indiana for our M&O services of a system similar to ACES:</p> <ul style="list-style-type: none"> • 62% reduction in Production defects in 2021 due to enhanced break-fix process and quality assurance • 45% reduction in logged incidents from 2020 to 2021 • Over 60% reduction in data fixes in 2021 		


		<p>Lessons Learned/Best Practices from Previous Projects</p> <p>Our team brings 45+ years of managing break fixes while serving Health and Human Service (HHS) clients across 48 states. Over this time, we have collaborated with states across the country to successfully build, maintain and operate their HHS systems. Our team brings best practices and lessons learned from experience in other States, such as.</p> <ul style="list-style-type: none"> • Thorough Root Cause Analysis • Impact based prioritization process • Design to resolve root of the issue and any process to clean up any historical data (related to the issue) • Methodical process for development managed by checklists and tools to compile the software <p>Automation process to test and maintain stability of overall application</p>
6.54	<p>Address failures that cause crashes, hang-ups, data loss or corruption, erroneous results or any other Application related issues which impact the business' ability to perform their work (excluding warranty fixes and design issues, which are addressed elsewhere)</p>	<p>Our Understanding of the Requirement</p> <p>We understand the importance of, and are committed to, quickly addressing failures (crashes, hang-ups, data loss/corruption and erroneous results) that impact business user's ability to perform their work based on the severities defined by DSHS.</p> <p>How We Satisfy the Requirement</p> <p>To address this, we leverage our extensive functional, technical, and operational experience from other E&E State, similar or larger in size and scale of WA. To address the issues our team focuses on</p> <ul style="list-style-type: none"> • Define Incident, Defect and Release Management process to address failures • Communicate with State and trading partners the process to maintain and define readiness and ownership to respond to failures

		<ul style="list-style-type: none"> • Proactive monitoring procedures to identify the potential issues as early as possible • Methodically respond to issues reported by performing RCA, prioritization, design, develop, test and release to production activities • Post release monitoring to maintain desired system functionality
<p>6.55</p>	<p>The Bidder will be responsible for fixing failures (not functioning as designed) that cause a crash, degraded state, data loss or corruption, erroneous results or no work around for a major documented function. Includes associated analysis, design, coding, testing, configuration, communications, documentation, and implementation. Also includes issues encountered in the course of keeping purchased application packages up and running.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Application errors • Release errors • Code merge errors • System is down • Data records not processing as designed due to coding problems • Problems transmitting data between systems • System generating Incorrect or misleading data 	<p>Our Understanding of the Requirement</p> <p>Similar, to application failures, other system related components are critical to maintain as well. Our team works to analyze, prioritize, resolve, document, communicate and implement fixes for failures that cause a crash, degraded state, data loss or corruption, erroneous results, or no work around for a major documented function. This includes issues encountered in the course of keeping purchased application packages up and running.</p> <p>How We Satisfy the Requirement</p> <p>Our development approach focuses on utilizing DSHS’s and industry standard coding guidelines and processes. Our break-fix approach is tailored to allow fast tracking of issue resolution, while maintaining high quality. We mitigate compounding break-fix issues through process and quality checklist that our team has refined from our M&O experience across other States.</p> <p>Prior to starting code development, the team reviews the detailed design deliverables and approved application behavior by DSHS. We then conduct coding, to address failures to resolve the issue. The graphic below depicts the ‘Break Fix’ process that we follow.</p>

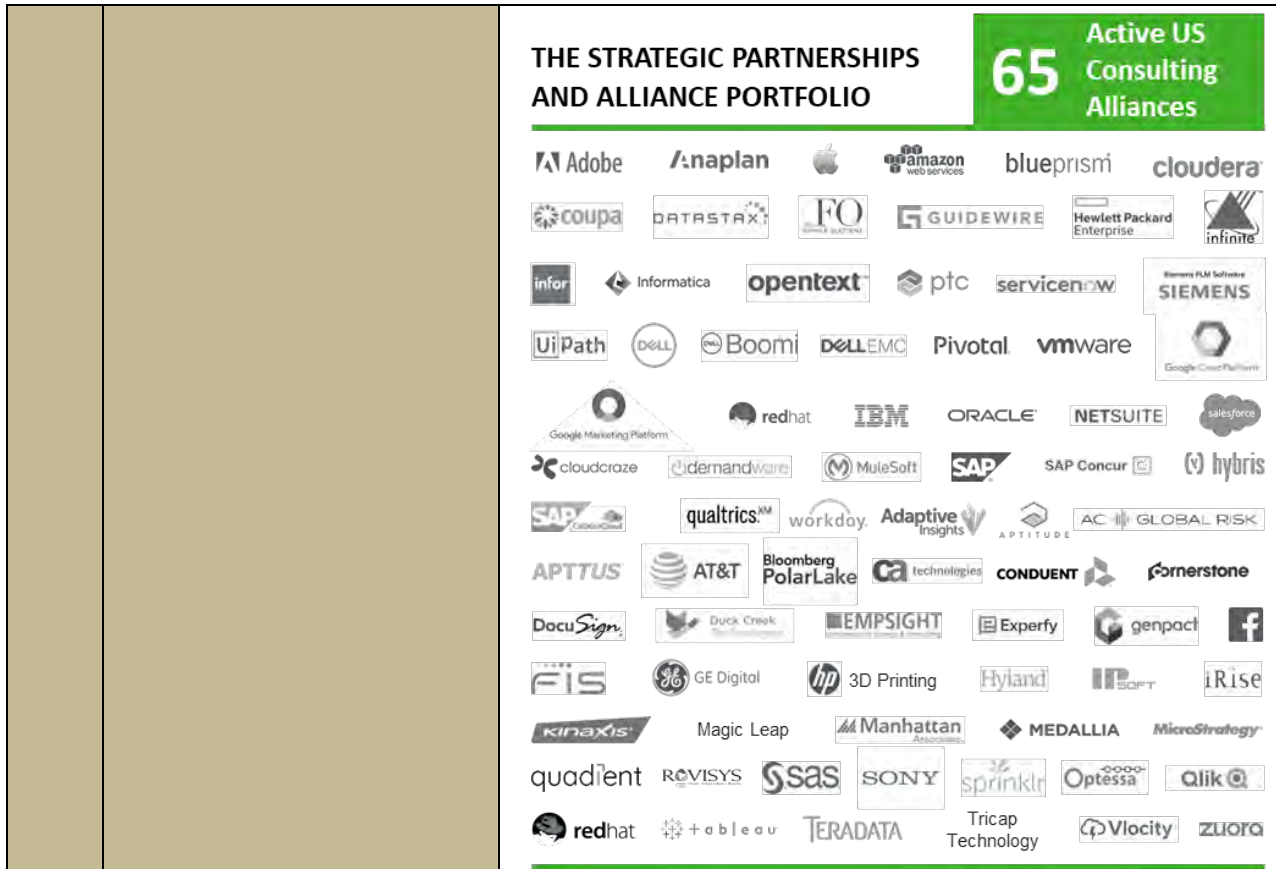
	<ul style="list-style-type: none"> • Data download failures • System clocking (due to an application problem) • Unacceptable user work around due to system bugs • Data contention errors 	<div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center; font-weight: bold;">BREAK-FIX</div> <div style="border: 1px solid #ccc; padding: 10px;"> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>ISSUE IDENTIFICATION</p> <p>This is the first step when an incident arises. The Help Desk team and Deloitte Operations team plays a key role in issue identification.</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>INVESTIGATION AND PRIORITIZATION</p> <p>The Deloitte Operations team performs investigation of the critical incident issue and prioritizes the issue in collaboration with DSHS</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>DEVELOP AND TEST FIX</p> <p>After issue identification and prioritization, the critical incident is resolved by applying the fix. This will occur via development, testing, and deployment phases.</p> </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>SYSTEM/USER DOCUMENTATION</p> <p>For the analyzed and identified fix, the Deloitte Operations team will update the user and system documentation prior to production implementation and submit to DSHS.</p> </div> </div> </div> <p style="text-align: right; font-size: small; margin-top: 10px;">WA_CON_ACES M&O_SLHE_MO-185048_2022-0011_3</p> <p>Figure 4.2-25. Steps For Addressing System Failures.</p> <p>Issue Identification - Identification of the issue is the first step in the process prior to impact analysis, design, build and test application fixes. A system issue can be an error, failure, or fault in the application that produces an incorrect or unexpected result. A caseworker may report their inability to edit the review date field on a SNAP case. This incorrect or unexpected result may be caused by a worker not having the appropriate security profile, other similar issue or from an actual defect in the code.</p> <ul style="list-style-type: none"> • Investigation and Prioritization – Our team will gather the required information, perform the root cause analysis including understanding the root of the issue, determine the severity and priority, and assign the defect to the appropriate resource to work on it. We review and validate existing system issues and work with DSHS to prioritize the fix based on criticality and impact to the business. We also address root causes so that the issue does not persist and impact other DSHS users. • Develop and Test Fix – Upon accepting the defect, we execute the defect management process that includes design, development, testing activities. Our
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		<p>Technical team consists of functional and technical leads who are skilled as highly qualified technologists and are experienced in required tools and technologies, our system development methodology, and HHS integrated eligibility systems.</p> <ul style="list-style-type: none"> • System/User Documentation – During the process of break fix cycle, system design document is updated, this is referenced by test teams to validate the fix. Additionally, user documentation is updated as well to communicate release notes, which is reference by business users and other stakeholders. We also proactively update documentation and procedures like coding checklists and regression test scripts to increase test coverage so similar issues are caught in advance in the future.
<p>6.56</p>	<p>Where the resolution of a defect or error requires changes to the application functionality or technology, the Bidder will initiate and fulfill a work request indicating the urgency. The following, non-exhaustive, list of changes are included in the Corrective Maintenance Services as part of defect or error resolution:</p> <ul style="list-style-type: none"> • User interface changes • Changes to system interfaces • Application module changes • Database changes • Modification to standard query structure • Report changes 	<p>Our Understanding of the Requirement</p> <p>DSHS requires a partner that will provide corrective maintenance, including defect or error resolution to the ACES application or its core technologies. Our team develops a process with DSHS and follows it to initiate and fulfill a work request based on the urgency of the issue. This entails managing communications and collaborating with other technology partners/vendors and the critical process of prioritizing work requests collectively so that DSHS can make informed decisions.</p> <p>How We Satisfy the Requirement</p> <p>Our overall approach to defect or error resolutions which require changes and/or enhancements to the application starts with analysis of the issue and identification of the change. Our team understands that an effective and mature Change Management Process is key to driving changes and enhancement on projects so that best value is being achieved by DSHS at a given time.</p> <p>We organize a set of prioritization meetings at a project determined frequency to review items in consideration to optimize the value of slotted changes scheduled for a release. The level of urgency is then confirmed with your team and documented into the work request.</p>

		<p>The figure below provides details of our approach to system changes including User interfaces, system interfaces, application modules, databases, standard query structures and reports.</p>		
<hr/>				
<table border="0"> <tr> <td>Focused on detailed upfront analysis for new implementations and enhancements</td> <td>Helps understanding the full breadth of the changes required/enhancement, minimizes unknowns and downstream impacts, and initiates the work request.</td> </tr> </table>			Focused on detailed upfront analysis for new implementations and enhancements	Helps understanding the full breadth of the changes required/enhancement, minimizes unknowns and downstream impacts, and initiates the work request.
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<table border="0"> <tr> <td>Supports close collaboration with DSHS business and technical teams for increased transparency</td> <td>Enables close collaboration to keep DSHS well-informed about the progress and timeline for delivery of critical changes</td> </tr> </table>			Supports close collaboration with DSHS business and technical teams for increased transparency	Enables close collaboration to keep DSHS well-informed about the progress and timeline for delivery of critical changes
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<table border="0"> <tr> <td>Draw upon our proven Enterprise Value Delivery (EVD) for Transition and Operations (TO) Method, to provide a stable and efficient process to manage system changes/enhancements</td> <td>Establishes and adheres a structured process for implementation of new or enhanced capabilities using a repeatable change management process (initiate and fulfil a work request) to confirm quality and stability for ACES Applications</td> </tr> </table>			Draw upon our proven Enterprise Value Delivery (EVD) for Transition and Operations (TO) Method, to provide a stable and efficient process to manage system changes/enhancements	Establishes and adheres a structured process for implementation of new or enhanced capabilities using a repeatable change management process (initiate and fulfil a work request) to confirm quality and stability for ACES Applications
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<table border="0"> <tr> <td>Focused on delivering greatest business value</td> <td>Confirms prioritizing items with the greatest business value for DSHS and positive user impacts</td> </tr> </table>			Focused on delivering greatest business value	Confirms prioritizing items with the greatest business value for DSHS and positive user impacts
Focused on delivering greatest business value	Confirms prioritizing items with the greatest business value for DSHS and positive user impacts			
<table border="0"> <tr> <td>Structured and robust quality assurance approach</td> <td>Confirms quality for the final product and avoid disruptions to DSHS' daily operations</td> </tr> </table>			Structured and robust quality assurance approach	Confirms quality for the final product and avoid disruptions to DSHS' daily operations
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<table border="0"> <tr> <td>Communicate changes</td> <td>Confirms stakeholders and partners understand any changes in functionality caused by the fix, so that their work is not interrupted by changes in usability.</td> </tr> </table>			Communicate changes	Confirms stakeholders and partners understand any changes in functionality caused by the fix, so that their work is not interrupted by changes in usability.
Communicate changes	Confirms stakeholders and partners understand any changes in functionality caused by the fix, so that their work is not interrupted by changes in usability.			
<p>Figure 4.2-26. Features Of Our Approach.</p>				
<p>Our team understands that although the size and complexity of potential enhancements and fixes could vary significantly, our change management approach enables managing these implementations based on the scope provided by DSHS, which is prioritized based on business impact.</p>				
<p>Tool Usage</p>				

<p>6.57</p>	<p>Leverage all tools available to DSHS. DSHS' preference is to continue using the same tools, however, is open to changing tools if the Bidder can justify the migration.</p>	<p>Our Understanding of the Requirement</p> <p>Solid methodologies, processes, and supporting tools play a significant role in confirming maintenance and operations activities are efficient and effective. Our team has reviewed the comprehensive list of software and tools provided in the RFP Attachment 11 and subsequent amendments. We understand the existing investment in the toolsets used to manage the platforms. As a result of this investment, DSHS prefers the bidder to leverage the existing toolset to support maintenance and operations of the ACES environment. We also understand that this is driven by the need to be least disruptive and maximize the use of assets and investments already in place.</p> <p>How We Satisfy the Requirement</p> <p>During the knowledge transfer phase, our team will work with DSHS to confirm the tools listed in the RFP for the ACES environment used to support maintenance and operations. There are dozens of tools that are used to facilitate various M&O activities, as noted in the figure below.</p> <div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Monitoring Automated monitoring identifies and mitigates application and infrastructure risks</p> </div> <div style="width: 45%;"> <p>Tracking Transparency Task automation provides transparency and project management tracking for efficient prioritization and execution</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p>Performance Automation Performance automation ensures application stability, efficiency, and compliance</p> </div> <div style="width: 45%;"> <p>Configuration Management Our configuration management strategy ensures controls and safeguards that promote reliability and continuity of service delivery</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p>QA Automation Testing quality automation supports requirements compliance, test resource utilization, and low enhancement costs</p> </div> <div style="width: 45%;"> <p>Code Quality Our development tools minimize defects, improve code quality, and help to meet aggressive release schedules</p> </div> </div> <div style="text-align: center; margin: 20px 0;">  </div> <p style="text-align: right; font-size: small; margin-top: 10px;">WA_CON_ACES M&O_SLHE_MO-185048_2022-0062_1</p> </div> <p>Figure 4.2-27. Tools Usage Approach.</p>
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		<p>As one of the largest technology providers in the world coupled with our experience performing similar services in other projects of similar size and scope, we have in depth expertise and experience in almost every tool used on ACES. We are experienced supporting and developing applications using IBM technologies like WebSphere and Rational Application Developer (RAD) which are currently used by ACES. Other industry standard software listed like Tableau, Splunk, Jira, etc. are well known by our practitioners and we can work with DSHS during knowledge transfer sessions to learn how each software is used and identify opportunities to further mature and expand each software's use cases.</p> <p>We are strongly positioned to be able to leverage your existing toolset and be least disruptive in your ongoing maintenance and operation processes. We will work with you to identify appropriate suggested software replacements that may benefit DSHS. Any suggested changes will require approval by DSHS before they are implemented.</p> <p>Alliances to Support Future Tool Needs</p> <p>With our team, DSHS will benefit from our strategic partnerships and alliance portfolio. Through our experience serving a wide array of clients on technology-based projects across industries and service offerings, we have developed vendor partnerships and relationships which benefit our clients by providing our teams unmatched levels of support.</p>
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Figure 4.2-28. Our Strategic Partnership and Alliance Portfolio.

As we perform knowledge transfer sessions with DSHS and learn about the existing application ecosystem, we apply our industry knowledge to identify opportunities for continuous improvement. We work with DSHS to identify any onboarding or replacement of software is aligned with the strategic IT direction and vision for modernization. Any recommended change will be assessed for functional, technical, and cost impacts so an informed decision can be made aligned with the State priorities.

Application Operations Support	
6.58	<p>Maintain/enhance procedures for performing Application specific administration.</p> <p>Our Understanding of the Requirement</p> <p>DSHS requires a partner to manage application specific administrative procedures. Our team will maintain and enhance application administration related procedures. It</p>

is imperative to keep these procedures up to date, so DSHS and our team members have the latest and greatest information for performing administration that keeps the ACES Application up and running.

How We Satisfy the Requirement

Our approach to manage the application administration procedures is based on 4 rule strategies:

1. **Processes driven maintenance:** Our team works with your team to define clear processes for M&O activities. These processes once agreed upon are repeatable and provide a framework to operate on M&O activities for teams and removes ambiguity. This provides for increased predictability, stability, and accountability to the procedures that drive application changes.
2. **Maintain System Documentation:** We maintain and update system documentation to keep it current, in an organized fashion, after each release. This drives clarity about the system design activity when it comes to analysis of a reported issue or design of a new enhancement.
3. **Transparent communication:** We set up scheduled and ad hoc meetings with the State team to provide status update and details on various M&O threads, starting from functional reports, to performance, to batch results etc. This provides for increased transparency in M&O operational processes for the State.
1. **Learn and Improve:** With experience in other E&E states, we know that with time some of the defined application administration processes need to change to meet the updated business/technical needs. Our teams perform periodic retrospective reviews focused to identify lessons learned. These are then formulated into action items which result in updating of the maintenance, operational processes, and procedures to better the service that our team provides.

PROPRIETARY

		<p>Our team submits newly created and modified deliverables and work products associated with the service requests and releases for DSHS review and feedback in a timeline compliant with the deliverable review and approval process. Additionally, when changes are introduced to the system or processes, the related system documentation (e.g., configuration management process, architecture) will be updated.</p> <p>Our approach, with features described below, is comprised of steps that are in alignment with industry standards.</p> <hr/> <p>Multiple iterative review cycles, with version control, and a standard plan for distributing documentation to the right audience</p> <ul style="list-style-type: none"> • Provides clear and repeatable process to establish and maintain standards • Reduces risk and enhances team collaboration • Confirm compliance with DSHS standards <hr/> <p>Use of DSHS' tools and Technologies for documentation submission and review cycles,</p> <ul style="list-style-type: none"> • Streamlines the documentation submission and review cycles • Reduces overall risk and improves the overall efficiency <hr/> <p>Maintains strict document control information, including revision history, a description and date of the changes, and a revision number</p> <ul style="list-style-type: none"> • Provides traceability with enforcing version control • Provides efficiency • Minimizes change and rework <hr/> <p>Figure 4.2-30. Features of Our Documentation Approach.</p>
<p>6.60</p>	<p>Validate and maintain the existing data dictionary and business glossary for schemas, tables, and elements in the DB2 data model. This documentation shall include both technical details (description, data type, character length, acceptable values, required, null</p>	<p>Our Understanding of the Requirement</p> <p>When dealing with a system that is the size and scale of ACES, maintaining technical documentation such as data dictionaries, business glossaries for schemas, tables and data elements is an important function. DSHS is seeking a partner with expertise in managing database related documentation while leveraging cutting edge tools like 'Alation' to reduce manual effort and risk, while increasing overall documentation quality.</p>

<p>acceptable, etc.) and business definitions. The vendor should use a modern data governance tool that supports a data dictionary and business glossary and establish a process for ensuring it is easily accessible, updated and maintained</p>	<p>How We Satisfy the Requirement</p> <p>During transition-in, as part of the complete documentation request, our team will validate and maintain existing data dictionary and business glossary for tables and elements in the IMS and DB2 data models. If the data model documentation does not exist this will be escalated to DSHS leadership to be decided if an enhancement should be prioritized to create the missing documentation. Data dictionaries are a fundamental component to the system documentation and should be used as a guide during the decomposition of ACES and the associated data conversion to the new platform.</p> <p>We plan and conduct analysis sessions with technical and functional SMEs to collaborate with DSHS staff to review and understand existing data dictionary. We then use this analysis to validate existing DSHS documentation and update it based on our findings. Finally, we prepare and review the revised documentation with DSHS stakeholders to validate changes. Once updated, we maintain ACES documentation as the application changes with enhancements and fixes.</p> <p>The following are procedures we follow for establishing any new entities in the ACES data model:</p> <ol style="list-style-type: none"> 1. We analyze ACES to identify the data entities and underlying data as well as to determine how this data builds upon itself and is created or updated through various business/system processes. We further analyze what data is common and how it is shared among systems. This allows us to give complete insight into the data entities and attributes that are in use and the significance of those data attributes. 2. We employ repeatable procedures to complete this task efficiently and effectively for ongoing maintenance purposes. We leverage existing documentation, such as schema definitions, entity relationship models, data dictionary, process flows, and worker handbooks/manuals to gain an initial understanding about the data. We then collaborate with your subject matter experts to validate our assumptions and understanding of the data and
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		<p>obtain additional details that are not available in the existing documentation. Our experienced analysts bring to the table the knowledge to ask the right questions in this activity and be effective in gaining the needed knowledge. For example, we thoroughly understand the data flow for business processes like intake, case changes, renewals and how these processes update the data to form case structure/composition.</p> <p>3. As we go through the analysis process, we begin documenting the As-Is data using DSHS templates and tools such as Alation for data cataloging and governance. The documentation is provided in a way that is easily understandable for technical and business users to enhance understanding of the current system. Once the analysis and current state documentation is created, the information will be kept in sync when changes occur to existing database elements as well as when new elements are added. As updates occur, they are reviewed with DSHS prior to implementation.</p>
<p>6.61</p>	<p>Prepare pre-production release software for production and pre-production testing</p>	<p>Our Understanding of the Requirement</p> <p>Our team understands the importance of validating software prior to moving changes to production. Release Management is critical due to the dynamic nature of the process, which addresses defects fixes, enhancements and other periodic State and Federal policy changes, often with mandated implementation deadlines. Our team will prepare and validate the pre-production release software functionality in an environment which closely mimics production prior to releasing to production.</p> <p>How We Satisfy the Requirement</p> <p>We plan our releases far enough in advance, and package releases appropriately, to reduce the risk of missing deadlines and avoid quality issues. Prior to production deployments, we prepare production builds for pre-production testing. Once release software is verified during pre-production testing, production release</p>

		<p>packing activities begin. Our team will follow DSHS standard process and procedures, and leverage industry best practices for release management and support DSHS with release packaging.</p> <p>We also utilize lessons learned and best practices from our experience in other States to provide required scripts and documentation for ACES change/release to automate and control the process end-to-end. The below figure further defines deployment steps, including release preparation and pre-production validation.</p> <hr/> <table border="1"> <tr> <td>Deployment and validation into pre-production environment</td> <td>Software build deployed to pre-production environment. Validation is conducted to perform necessary checks and stability of the builds</td> </tr> <tr> <td>Collaborate with DSHS and trading partners (State and Federal) for production/code migration</td> <td>We know that ACES is an integrated system that interacts with multiple other applications (Healthplanfinder, ProviderOne, etc.). We will collaborate with DSHS and other trading partners for "Go/No Go" decision based on outcomes of testing in pre-production environment.</td> </tr> <tr> <td>Manage release packaging and production deployment</td> <td>Stabilized build is deployed to production</td> </tr> <tr> <td>Perform post-deployment validation</td> <td>Key business scenarios are tested and validated</td> </tr> <tr> <td>Post-deployment enhancement and release checklist creation</td> <td>Enhancement and release checklists are created and validated to confirm activities have been completed.</td> </tr> </table> <p>Figure 4.2-31. Production Deployment Approach.</p>	Deployment and validation into pre-production environment	Software build deployed to pre-production environment. Validation is conducted to perform necessary checks and stability of the builds	Collaborate with DSHS and trading partners (State and Federal) for production/code migration	We know that ACES is an integrated system that interacts with multiple other applications (Healthplanfinder, ProviderOne, etc.). We will collaborate with DSHS and other trading partners for "Go/No Go" decision based on outcomes of testing in pre-production environment.	Manage release packaging and production deployment	Stabilized build is deployed to production	Perform post-deployment validation	Key business scenarios are tested and validated	Post-deployment enhancement and release checklist creation	Enhancement and release checklists are created and validated to confirm activities have been completed.
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Manage release packaging and production deployment	Stabilized build is deployed to production											
Perform post-deployment validation	Key business scenarios are tested and validated											
Post-deployment enhancement and release checklist creation	Enhancement and release checklists are created and validated to confirm activities have been completed.											
6.62	Continually monitor data quality and identify opportunities for improvement	<p>Our Understanding of the Requirement</p> <p>Maintaining a high quality of system data is an important ongoing maintenance activity. Bad data can be introduced in the system due to data entry errors and system issues. When bad data is introduced into a system, it can cause system crashes, hang ups, and create a poor user experience that impacts productivity. Our team will continually monitor data quality and</p>										

proactively look to identify opportunities for improvements.

How We Satisfy the Requirement

A responsibility of our team will be to continuously monitor the quality of application data so that bad data can be identified, and root cause issues can be eliminated that lead to instances of bad data. To monitor data quality, our team leverages a series of data quality rules that check for data quality across ACES active/closed cases, benefit programs and historical data. As the rules are run against the application data, Data Quality Reports are generated so that the bad data can be properly analyzed. While it is important to continue to monitor for bad data in existing production system, it is equally important to identify any bad data that gets created in PROD as soon as possible.

The below steps outline how we will identify data quality issues, analyze them, and define improvements.

- **Define data quality rules:** These rules will look for common occurrences of bad data across the ACES Application. These rules will check for standard issues such as SSN numbers having less than 9 digits, names having special characters and invalid address data and complex interdependent data issues such as benefits being given out in a closed case etc. As new trends are identified the quality rules are updated to cover the specific scenarios to continually improve.
- **Generate Data Quality Reports:** These reports will display the results of the rules that are run across ACES data. These reports will be analyzed so that data quality trends can be identified.
- **Determine Root Cause:** Once analyzed and prioritized in the release management process, we determine the root cause of the bad data so that the issue does not continue to occur and repeat itself. This can include things like changes to the database or data entry process.

		<ul style="list-style-type: none"> • Implement Changes and Repeat: Once the root cause is determined, the bad data is corrected a data fix, code fix or process change and if possible, the root cause is also addressed through the standard Release Management Process. <p>Lessons Learned/Best Practices from Previous Projects</p> <p>As a best practice, these processes are repeated periodically, and reports are enhanced with each occurrence to cover new scenarios. We also take a proactive approach to data quality management by incorporating our findings into documents like our coding checklists and revising procedures to monitor for similar issues in the future. At Washington Health Benefit Exchange, over the last five (5) years we have reduced the number of data anomalies and data quality issues by over 90%.</p>
System Performance/Monitoring		
<p>6.63</p>	<p>Maintain/enhance monitoring policies, procedures and standards for the Applications including, but not limited to:</p> <ul style="list-style-type: none"> • Monitoring of buffers, database buffers, table space fragmentation, database space, unusual growth and propose solution in case of alert • Monitoring of System logs, update error, database corruption, jobs, and propose solution in case of alert • Monitoring of transaction and trace logs, network event logs and traces, garbage collection, memory and CPU utilization, indexes, etc., and propose a 	<p>Our Understanding of the Requirement</p> <p>For a system to maintain its performance and scalability, it must be monitored to identify potential performance issues and to determine root causes of problems if performance issues occur. The monitoring of ACES system for availability and performance is critical to determine that caseworkers are not experiencing any performance hindrances during the online operation and that batch finishes within the designated window. Additionally, as so many of Washington’s residents are impacted by DSHS’s ACES system, it is imperative to have a proven vendor to meet performance standards and to maintain a high-quality, reliable ACES production system to support caseworkers.</p> <p>We have reviewed the performance management and monitoring requirement 6.63 and agree to monitor, at a minimum, the areas of the applications and infrastructure listed. We look forward to meeting with DSHS during the transition phase to confirm that our</p>

	<p>solution in case of an alert or resource issues</p> <ul style="list-style-type: none"> ☐ Monitoring of middleware (e.g., workflows, in- and out-bound queues) and report to DSHS according to agreed procedure ☐ Monitoring of end-to-end transaction response time to allow measurements against SLAs ☐ Monitoring of interfaces and batch and job scheduling 	<p>understanding of the standards and performance requirements align with your expectations. These discussions enable us to clarify the understanding of definition, measurement, tracking, and reporting of the performance standards and are documented in Performance Management Plan.</p> <p>How We Satisfy the Requirement</p> <p>Our approach for system monitoring is developed from the principles of proactive monitoring. As our team brings extensive experience in system monitoring and performance management built on a foundation of industry-leading tools that are flexible and adaptable to diverse needs, our technical team will proactively examine the operation of ACES system as well as the overall environment, including performing a scheduled System Health Check whenever a major or minor release is implemented in Production.</p> <p>The following figure outlines our approach to system monitoring. Our proactive approach to system growth management enables us to maintain the existing system as well as support the implementation of new business functionality, support increased caseload processing while maintaining performance and availability objectives of ACES.</p> <div> </div> <p style="text-align: right; font-size: small;">WA_CON_ACES M&O_SLHE_MO-185048_2022-0069</p> <p>Figure 4.2-32. Critical Areas of Application and Infrastructure Monitoring.</p>
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		<p>During the transition period, we will review, shadow, and understand the completeness of current monitoring practices. Where applicable, our team will propose continuous improvement options for monitoring along with highlighting any gaps discovered during transition period.</p> <p>Use of OperateEdge for Monitoring</p> <p>Through our experience working with similar platforms to manage system performance/monitoring, we developed our OperateEdge tool. OperateEdge provides automation which uses AI technologies to innovate and transform delivery and operations. It is available for our clients as part of our EVD for Transition and Operate methodology. OperateEdge allows our team and DSHS to view at-a-glance, visual representations of application-level operations status and health, which enable strategic decision-making to occur. DSHS can access monitoring across the multiple infrastructure domains through the server-level, which provides a transparent, real-time view of key operating metrics, such as CPU, RAM, Hard disk, and network utilization. This allows the detection of potential problems before they occur and allows DHS to adjust resources as needed to support service continuity.</p> <p>The following figure highlights OperateEdge’s ability to provide a tailored view that supports DSHS’s System Operations.</p>
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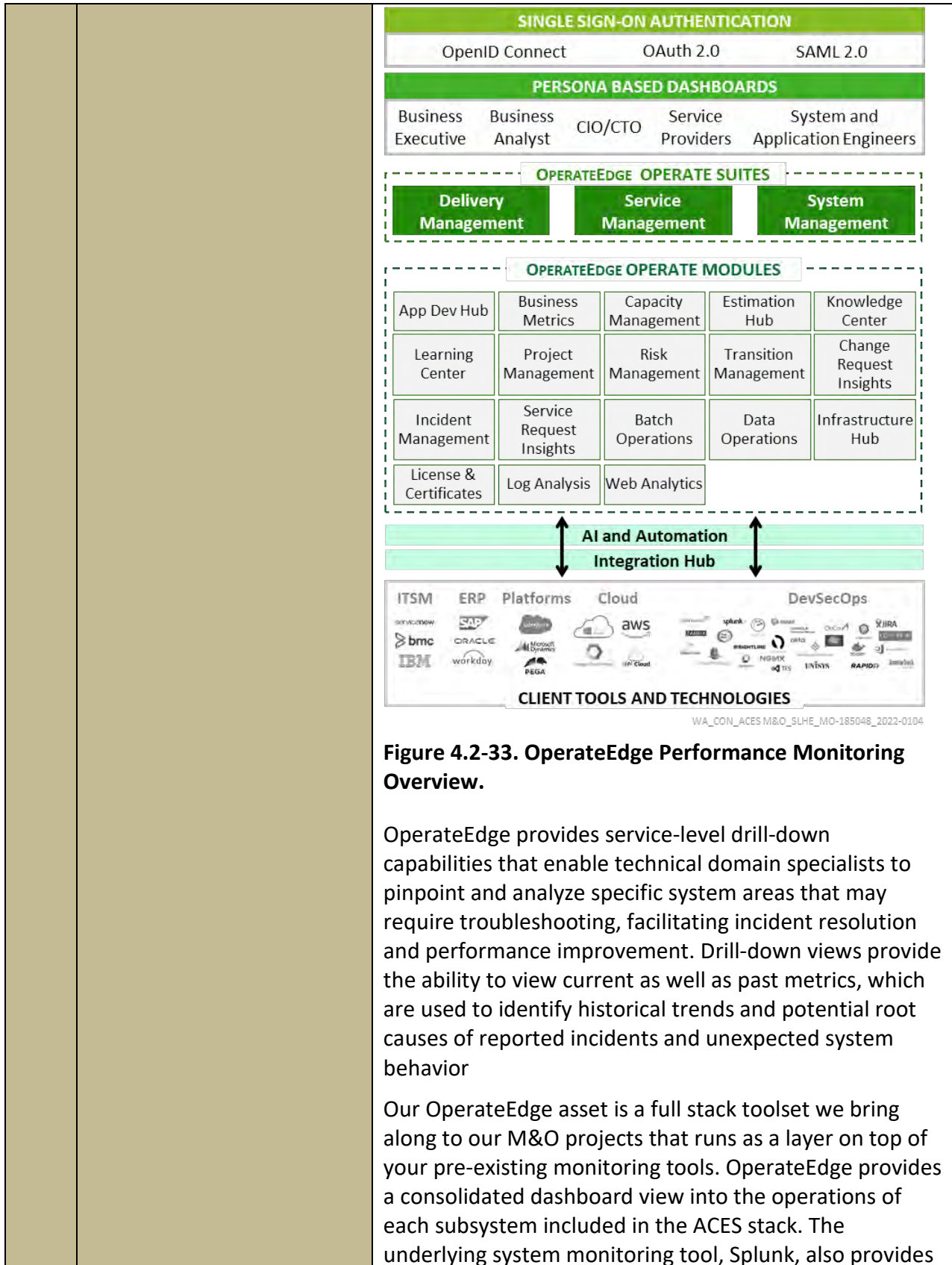


Figure 4.2-33. OperateEdge Performance Monitoring Overview.

OperateEdge provides service-level drill-down capabilities that enable technical domain specialists to pinpoint and analyze specific system areas that may require troubleshooting, facilitating incident resolution and performance improvement. Drill-down views provide the ability to view current as well as past metrics, which are used to identify historical trends and potential root causes of reported incidents and unexpected system behavior

Our OperateEdge asset is a full stack toolset we bring along to our M&O projects that runs as a layer on top of your pre-existing monitoring tools. OperateEdge provides a consolidated dashboard view into the operations of each subsystem included in the ACES stack. The underlying system monitoring tool, Splunk, also provides

customizable dashboard reports as depicted in the figure below which provides a detailed summary of the application load, availability of the system, and the load on available resources including application pages that do not meet the service objectives. The reports generated over a period are analyzed and evaluated to identify potential areas of improvement.

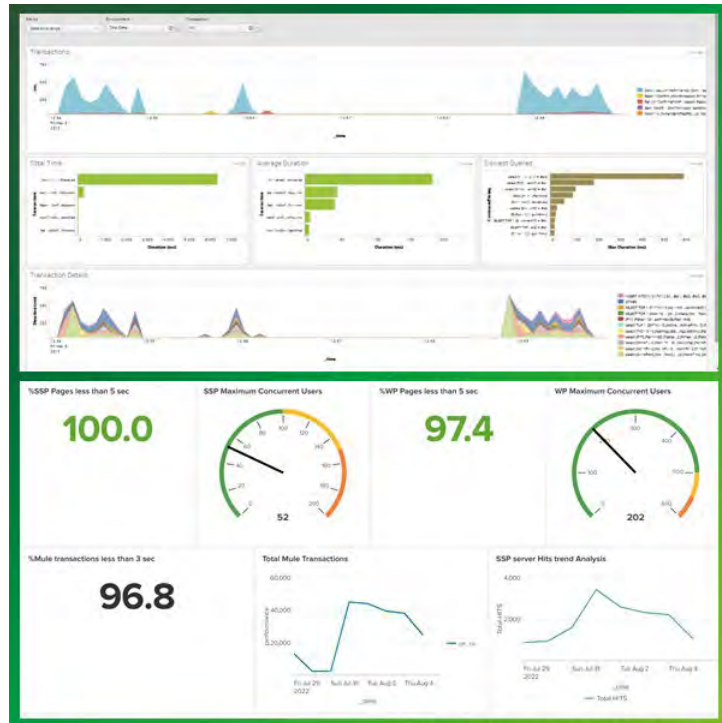


Figure 4.2-34. Example Monitoring Dashboard.

Processes for Resolving Performance Issues

Our team has thorough experience in maintaining and monitoring complex data processing systems and associated infrastructure such as the mainframe and servers across projects in other states. Our methodology for establishing system performance and monitoring standards for these systems include capacity planning, performance monitoring, and management includes an integrated set of processes, methods, and tools that provides the capability to obtain a holistic view of the status and health of the system, its components, and services.

As depicted in the below figure, the following steps are included as part of the process to support monitoring, measuring, reporting, and managing of performance against established objectives and to promote continuous improvement initiatives and actions.

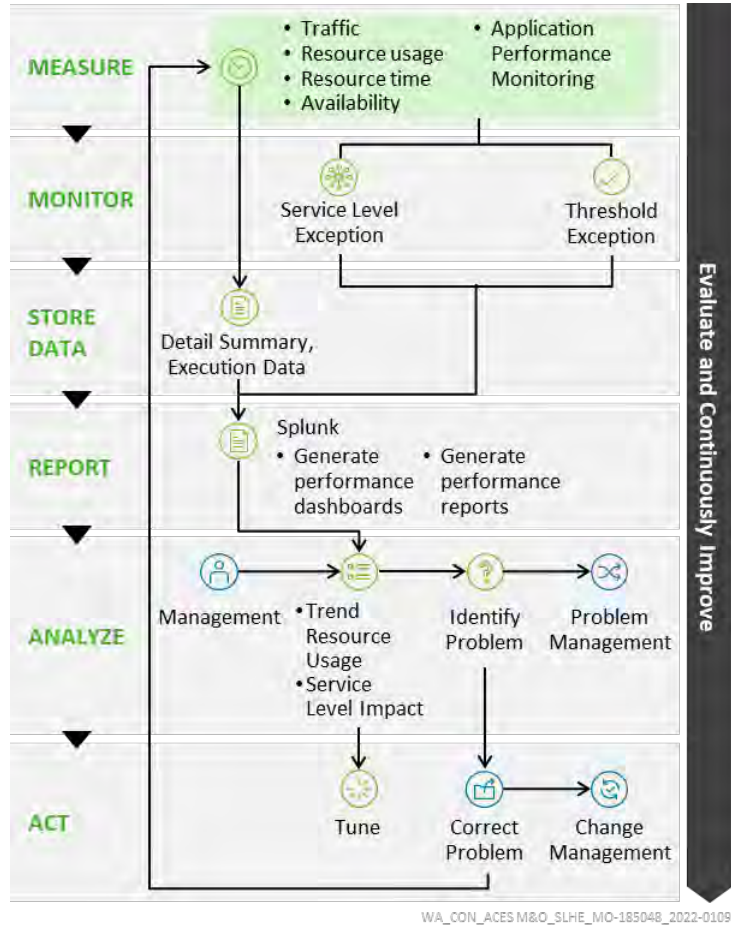
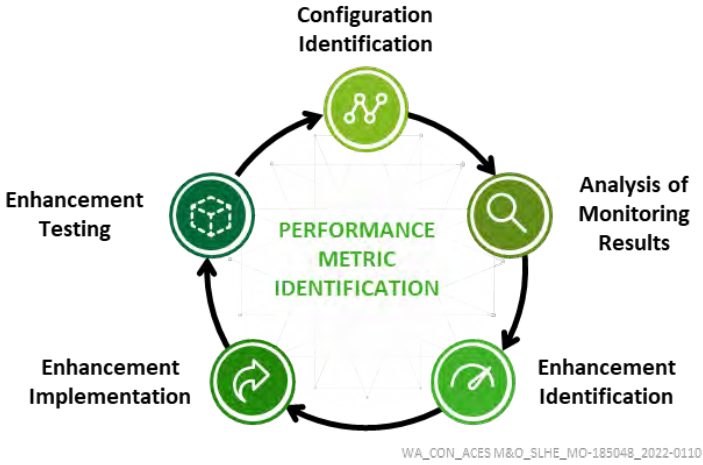


Figure 4.2-35. Steps for Continuous Improvement of System Performance and Monitoring.

We leverage our extensive experience from similar HHS systems and work with DSHS to develop, maintain and enhance system performance and monitoring procedures and standards for ACES. The system behavior and performance are monitored in alignment with these defined standards for ACES.

The following figure highlights the different areas we monitor to deliver solid ACES performance:

		Monitoring	Activities
		Database Monitoring	<ul style="list-style-type: none"> • Provide monitoring of the DB activities like long running queries, Tablespaces, Buffers, cache, procedures • Custom alerts to identify utilization of resource at warning and critical levels • Manage system growth and predict capacity changes • Reduces risk of system failure.
		Infrastructure Monitoring	<ul style="list-style-type: none"> • Identify the availability of system at all times • Identify CPU, RAM, I/O, Disk space on the Servers • Resolve failures and end user performance issues proactively • Reduces overall risk and improves the overall efficiency
		Application Monitoring	<ul style="list-style-type: none"> • Monitor alerts within the system by analyzing logs • Create custom alerts for capturing errors, exceptions proactively • Proactively fix any uncaught errors • Create reports to be shared with stake holders • Identify transaction times • Identify any deviation from SLA
		Interface Monitoring	<ul style="list-style-type: none"> • Monitor request and response for transactions • Monitor custom alerts to identify any errors in internal or third-party systems • Identify exceptions in responses promptly • Identify any unresponsive interfaces and alert users promptly • Proactively resolve any issues with interfaces.
		Batch Monitoring and Scheduling	<ul style="list-style-type: none"> • Monitor batch jobs daily • Monitor batch performance • Identify relationships between different batches and schedule them parallelly to reduce batch time • Use batch schedulers for scheduling batches
		<p>Figure 4.2-36. Areas of Monitoring and Benefits.</p> <p>Based on the metric results, issues, system changes or enhancements maybe identified to improve the metrics, if needed. If identified, these items will be classified and implemented following established project processes.</p>	

		 <p>Figure 4.2-37. Performance Metric Identification.</p>
<p>6.64</p>	<p>Perform Applications related database administration tasks</p>	<p>Our Understanding of the Requirement</p> <p>Databases are the backbones of the business systems that power public assistance applications, storing critical data that is used for determining eligibility and issuing related benefits. Having proven operational processes for managing the environments that host this data is critical to the success of your project. Our team understands that database performance and administrative tasks play an important role for overall application performance and stability of the ACES system. Throughout maintenance and operations activities, we perform the related database administration tasks.</p> <p>How We Satisfy the Requirement</p> <p>Our production proven database administration approach utilizes proactive code and data model reviews to establish and enforce stringent guidelines for the development team. We rigorously review and enforce only efficient SQL and code structures to execute with a deep commitment to controlling DHS’ costs and perceived system response time. In addition to performing routine back-ups and assessing data storage requirements, we also work collaboratively with the DSHS to support application databases for high performance.</p>

		<p>Our Database Administrator (DBA) staff will focus on the management of the data stored in ACES database and the upkeep of the data infrastructure documentation. DBA also oversee the ACES database documentation, including the data dictionary. They will monitor data integrity, including regular reviews of reporting design to identify anomalies for correction of data and/or root cause issues driving discrepancies. DBA governs with definition, provision, and subscription of trading partners within and outside the State.</p> <p>Our database administration activities include tasks required to manage, monitor, and maintain the database and the data essential for ACES and the business operations it supports. Our DBAs responsibilities include:</p> <ul style="list-style-type: none"> • Installing and upgrading the database server and/or application tools • Planning for and allocating the database system’s physical requirements, such as memory, disk space, network requirements, etc. • Modifying the database structure using information provided by application developers • Creating user’s profiles, and confirming system security by careful allocation of user permissions • Monitoring compliance with database vendor license agreement, including number of installations, and taking care of licensing renewals • Creating a backup and recovery strategy for the database, and regularly testing the backups to confirm usability • Monitoring technical support for both database systems and related applications • Monitoring and optimizing the database’s performance using either manual or automated tools <p>During the transition phase, our team will shadow, learn, and adopt the processes that are currently followed and continue to work with the Department to refine DB2 to keep pace with changes in the various areas.</p>
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		<p>Our detailed knowledge and experience to integrate new database changes, while maintaining the integrity and viability of the existing design of the DB2 and IMS data models, positions us to provide strong database administration support during the next phase of ACES maintenance. We will continue to team with DSHS to obtain their approval to complete database activities such as introducing structural changes. We are committed to helping to support the integrity and accountability of changes by maintaining an audit trail of database updates. The audit trail will include the date of the change, the user.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our experience in Wisconsin includes developing and maintaining the processes and procedures relating to database administration, problem reporting, and performance tuning that directly contributes to high performance, flexibility, and scalability to support evolving programmatic needs. One key focus of our project teams is developing a long-running query plan. Our DBAs in Wisconsin (and other projects across the nation) monitor the top 10 long-running queries and work with application development staff to raise change requests to tune the performance of the application queries.</p>
M&O Improvements		
6.65	<p>Continually identify, and where appropriate and approved, implement M&O improvement opportunities such as:</p> <ul style="list-style-type: none"> Improving or automating support processes Removing unused, orphaned or "dead code" 	<p>Our Understanding of the Requirement</p> <p>While break-fix and resolving incidents is one of the key responsibilities of our team, being proactive in identifying M&O efficiency opportunities to both the ACES system and its delivery processes is a top priority for our team. We understand that DSHS requires a partner who continually identifies and implements M&O improvements and opportunities as part of this engagement. This includes collaborating DSHS on recommendations for automations, code improvements, legacy system decommissioning, eliminating root causes</p>

<ul style="list-style-type: none"> Identifying opportunities to retire legacy systems Improving the quality and modularity of developed code Proactive elimination of recurring problems Improve performance management Improve capacity management 	<p>that spread issues throughout ACES, performance enhancements and capacity management. Continuously automating manual processes, establishing delivery pools, and identifying patterns in help desk tickets leads to reduced need of staff thus reducing M&O costs over the period of time.</p> <p>How We Satisfy the Requirement</p> <p>We focus on preventive maintenance where we improve performance and maintainability of ACES, and proactively address latent defects and eliminate errors before they can impact ACES performance rather than relying on a reactive, corrective approach. Once opportunities to optimize the application are identified, we log them as incidents so they can follow the standard prioritization and resolution process. Key criteria we use when identifying whether to make changes are highlighted in the figure below.</p> <div> </div> <p style="text-align: right; font-size: small;">WA_CON_ACES M&O_SLHE_MO-185048_2022-0012</p> <p>Figure 4.2-38. Code Refactoring Selection Criteria.</p> <p>Our team will also work with DSHS staff to improve internal support-related processes, identify ‘pain points’ or ‘operational workarounds’ that increase case processing time and decrease case worker productivity. This includes identifying processes for reducing time spent looking for the root cause of problems and proactively addressing documented problems that would save enough analyst support time.</p> <p>From perfective maintenance principles standpoint, we collaborate with DSHS to integrate our operational activities into standard processes. How we approach</p>
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different improvement opportunity areas is in the figure below.

Improvement Opportunities	Our Approach
<p>Improving or automating support processes</p>	<p>We use our experience across the country supporting E&E systems to review automation opportunities. We review repetitive tasks that are consuming effort as potential candidates for automation. As they are identified, we often compare notes with other projects to see how they have dealt with similar issues. Special reports for daily batch and data-fix execution, running automated code quality scans, a case copy tool which creates copy of the case by removing PHI/PII data on lower environment, tools to compare eligibility decision tables are just a few examples of improvements shared across our projects.</p>
<p>Removing unused orphaned or "dead code"</p>	<p>Our team looks to identify dead code by performing various level of code analysis (live-variable, static code, data flow, control flow analysis) using 'SonarQube' for removal to reduce technical overhead. This analysis is executed periodically and any dead code that is identified is commented/removed, and application run through regression test to test for any functionality loss.</p>
<p>Improving the quality and modularity of developed code</p>	<p>Our approach utilizes code refactoring using tools like PMD, where we monitor high volume transactions, critical business functions and transactions that take a longer time to respond to than usual. The issues are ticketed and prioritized with DSHS for resolution.</p> <p>Our team brings experience of building modular systems and will introduce these concepts when developing ACES code. We believe that a modular design not only simplifies the maintenance and operations of the module, but also drives re-usability of assets within the agency and State. Particularly, in the State of Washington, our team already has a track record modularizing systems, as we have implemented such action on Washington HealthPlanFinder over the past several years with great success.</p>

		<p>Continually monitor data quality and identify opportunities for improvement We continuously improve the ACES data quality by running rules against the data, analyzing trends in data quality reports, and making appropriate process, data, and application changes to improve overall quality.</p> <hr/> <p>Proactive elimination of recurring problems An important aspect of issue resolution is the recreation of the issue in lower environments and being able to definitively narrow down root-causes causing the issue. Our team looks to reproduce problems through stress testing and address root causes when implementing fixes. This approach eliminates recurring issues instead of reacting to problem symptoms. Incident management is another area where we do pattern analysis; this continuously help us identify worker training, break-fix and enhancements that leads to reduction of help desk incidence resulting into M&O cost reduction to the state in the longer term.</p> <hr/> <p>Improve performance management Our team leverages performance dashboards developed in tool like Splunk or OperateEdge that display trends in components like online response time, database, batch, and system utilization and performance bottlenecks to identify areas of improvement that can be implemented for better performance. We also perform performance testing to validate and quantify performance improvements. We baseline performance test results for every major release this helps in identifying issues if any ahead of time. Batch cycle execution improvement is another area we will look at for example in Indiana we kept improving batch performance throughout the roll out. Our daily batches continue to improve its execution time while new roll out waves continuously brought additional cases to the system.</p> <hr/> <p>Improve capacity management Our team understands that preparing for key events, throughout the year such as the annual Cost of Living Adjustment, Open Enrollment, etc. are critical to support the needs of Washingtonians. To allow uneventful operations, our team is continuously collecting data on system utilization, user behavior, socio-economic trends, and technology innovation to create</p>
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		<p>a capacity management plan that is accurate and realistic. We not only look at historic data, but we also anticipate future trends in the marketplace that allow both our team and DSHS to have a steady and stable system in Production. This is also a time where our broader HHS network becomes an advantage as our account teams connect with other State teams on a regular basis to share experiences and help each other to better prepare themselves for these events.</p>
<p>Figure 4.2-39. Approach to M&O Improvements.</p>		
<p>Implement Enhancement Requirements</p>		
<p>6.66</p>	<p>Ensure all service and enhancement requests are logged in the DSHS defined ITSM tool.</p>	<p>Our Understanding of the Requirement</p> <p>Service Requests (SRs) and Enhancement Requests (ERs) management is critical to providing transparency across the different needs, activities, and priorities across ACES. Using ITSM tool to log and manage SRs and ERs promote traceability and transparency of planned work. Our team will log SRs and ERs in DSHS defined ITSM tool.</p> <p>How We Satisfy the Requirement</p> <p>Our team is experienced in managing the ever-changing and dynamic nature of Eligibility and Enrollment system like ACES and recognizes the constant need for enhancements stemming from legislative and policy mandates as well as from technological advancements. While our M&O plan centers around providing consistent, cost-effective monitoring and incident management, we constantly focus on enhancements to improve the overall application.</p> <p>To effectively manage these changes, our team adds service and enhancements requests to the DSHS defined ITSM tool. During transition-in phase, we review with DSHS their current processes for logging SRs and ERs and document them for our team’s reference including our project onboarding and training documents</p>

		<p>Additionally, each staff person receives a demo of how to utilize these ITSM tools. Our team commits to using DSHS's defined tools and processes for this activity.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team has used ITSM tools in multiple other systems similar in size and scope. Our team is well equipped with designing and adapting the process workflows. For example, our team is using Jira in states of Colorado and Louisiana. We have helped Louisiana transition from Waterfall to Agile based development model while helping them manage this transition using Jira based workflows. Our team has developed a process that creates traceability across the phases of development life cycle which starts with SR or ER. This diligence in maintaining information in Jira provides maximum value to the clients by causing minimal disruption to M&O activities.</p>
6.67	Support the annual planning for technology refresh in compliance with software vendor licensing and specifications and upgrades	<p>Our Understanding of the Requirement</p> <p>Our team will proactively identify potential technology upgrades necessary to support ACES and will work collaboratively with DSHS staff to actively support the annual planning for technology refresh in compliance with software vendor licensing and specifications. We will track the key dates for each software product used in ACES and support the state in making decisions for annual planning.</p> <p>How We Satisfy the Requirement</p> <p>Our team will work with DSHS and other vendors to maintain a software upgrade calendar that captures important dates regarding upgrades, patches, and infrastructure related activities. This holistic view of infrastructure helps provide transparency and efficient planning for DSHS.</p> <p>Our team will conduct a regular meeting (at agreed upon cadence) with DSHS staff and vendors/partners to:</p>

- Review End of Life (EOL), End of Support (EOS), and plan for upgrades. We will conduct a thorough assessment and impact analysis around any product line switches, or any software coming to end-of-life and plan an upgrade or provide alternate option.
- Recommend the upgraded version and benefits to the DSHS
- Monitor the available patches that are needed to satisfy security and compliance requirements
- Confirm impact (if any) on business due to software renewal/new licenses and upgrades/patches. We will work with DSHS to identify any right-sizing opportunities that exists for capacities utilized on ACES infrastructure resources to confirm that there are no unplanned cost overruns.

Strong Product Alliance Support

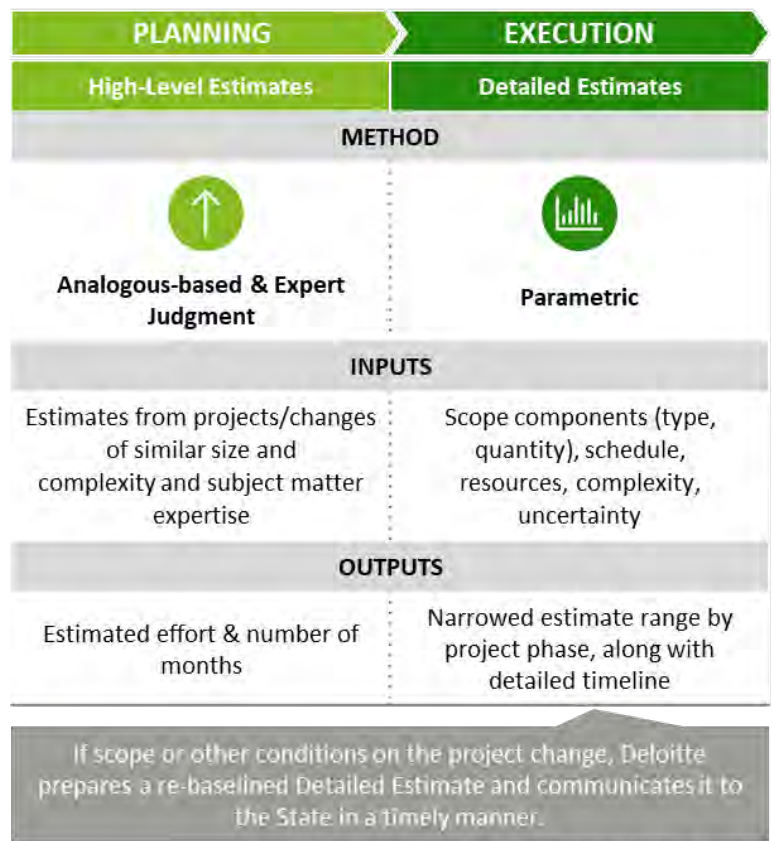
Our team has strong partnerships and alliances with major software vendors. This provides our team the ability to leverage these relationships to provide benefits to the State that include priority support and access to internal troubleshooting information along with when the vendor is ready to release a major version upgrade. This helps us to plan ahead with DSHS to not complete functional/technical any changes prior to the major version upgrade which we may have to re-do after the upgrade is completed.

Our strong alliances capabilities coupled with approach to infrastructure & technology management provides DSHS with minimal risk of unexpected business disruptions and helps protect sensitive data by keeping its infrastructure up to date.

Lessons Learned/Best Practices/Examples of Previous Projects

Our team has completed annual support plans successfully with our state clients, such as the Commonwealth of Pennsylvania's Department of Human Services (DHS). In collaboration with Pennsylvania's DHS, our team developed a 3-year runway overview, which

		<p>included identified DHS business priorities and target implementation dates. The team also considered the projected technology/infrastructure updates and considered impacts to current in-flight initiatives. This process resulted in a comprehensive and holistic annual support plan. We are committed to bring the same approach to DSHS.</p>
<p>6.68</p>	<p>Produce cost and labor hour estimates based on DSHS' scope definition document</p>	<p>Our Understanding of the Requirement</p> <p>Accurate estimation is the foundation for making the right decisions about scope, schedule, resources, and project priorities. We bring to DSHS our refined estimation methodologies and tools which we have refined by our experience in delivering enhancements to Eligibility and Enrollment(E&E) systems like ACES in size and scope. Our approach to enhancement pricing is measurable, and transparent. It promotes trust and increases DSHS confidence that parameters impacting cost and labor have been considered.</p> <p>Our team will customize our methodology and tools to align with DSHS processes and produce cost and labor hour estimates based on DSHS scope definition document.</p> <p>How We Satisfy the Requirement</p> <p>Our estimation process for an enhancement involves two steps: High-Level Estimates and Detailed Estimates as shown in the following figure. High-level estimates are pre-design and enables us to schedule the enhancement. Detailed estimates are post-design created using the estimation tool that we have developed based on our work in E&E domain across the nation.</p>



WA_CON_ACES M&O_SLHE_MO-185048_2022-0039_2

Figure 4.2-40. Types of Estimation.

High Level Estimates

Our team works with DSHS to understand the general scope of enhancement. We develop and overall summary of understood requirements and a high-level impact analysis. This includes rough range of hours for enhancement prioritization purposes. This is provided to DSHS staff and discussed.

Detailed Estimates

Our team works with DSHS to understand the detailed requirements during this phase to provide with accurate estimates and fix the scope for each of the enhancements. Our team takes into consideration efforts required for requirements definition, design and documentation, development, unit testing, system testing, training, and implementation support before

		<p>providing with the final estimates for each of the enhancements.</p> <p>The hours calculated by the above process determine the final price of the enhancement based on our Estimation tool.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our estimation tool has been developed by taking inputs from our Estimation Center of Excellence (COE) & historical data across different E&E projects. Our team has measured and learned through various project implementations the time and effort it takes to develop and complete each phase of SDLC for a successful implementation of an enhancement.</p> <p>Our team has customized and used the same estimation tool for developing and maintaining E&E projects including but not limited to State of Louisiana, Indiana, and Connecticut. Our team will bring our estimation tools, methodology and lessons learnt from across our E&E projects and collaboratively work with DSHS to customize it as per ACES to produce cost and labor estimates. We will continuously work towards taking actual data into account for improving estimation accuracy over time.</p>
6.69	Collaborate with DSHS to clarify any ambiguous requirements and/or to collect more information required to produce a proposal for a specific scoping document	<p>Our Understanding of the Requirement</p> <p>Ambiguous requirements results can result into incorrect pricing or end product not meeting the business goals. To avoid these issues, our team will collaboratively work with DSHS, and other vendors partners to clarify ambiguous requirements and collect the required information needed to produce a scoping document.</p> <p>How We Satisfy the Requirement</p> <p>At the beginning of enhancement, our team carefully reads the information that is documented with the enhancement in Jira along with existing process</p>

documentation, and the desired future-state goals of the enhancement.

To avoid any ambiguous requirements and to collect detailed information, we use a workshop approach to validate requirements, our team conducts facilitated sessions with key stakeholders across the identified business, functional, and technical areas of ACES. These sessions confirm, document, and elaborate on the functional and technical requirements, and go into sufficient detail to support system design and development activities. In addition to our approach, we use visual aids such as wireframes, storyboards, and future user interface screen mockups to validate our understanding of the requirements.

To provide transparency, meeting minutes, decisions, action items and their owners are tracked in Jira. The validated and approved requirements are documented and as part of SDLC our team creates complete traceability between the requirements, design artifacts, development activities and test cases.

Lessons Learned/Best Practices/Examples of Previous Projects

Some of the best practices that has helped our team deliver quality scoping documents to our partners are as below

- Early in the cycle log meeting minutes, decisions and action items in the State supported ITSM tool which proves to be a reference for future
- We train our team to ask the right questions and raise the correct flags at the right time; in doubt never assume, always clarify
- Be highly descriptive while documenting requirement and review them with the State.
- Experience working on similar systems is always a key, it enables to ask thoughtful questions which leads to clarity. Our team would bring in required experience in designing changes to ACES.

6.70 Provide architectural design approach and cost estimation documentation and justification to DSHS and receive approval from DSHS prior to commencing DDI activities on any scoping document

Our Understanding of the Requirement

Once requirements are clear and design has clarity, our team will document architectural approach. Before we commence any DDI activities for an enhancement, our team will provide the cost estimation documentation and its justification to DSHS staff for review and approval.

How We Satisfy the Requirement

For creating architectural approach and accurate estimate for each enhancement we do impact analysis where we consider variety of aspects. This is illustrated in the following figure:

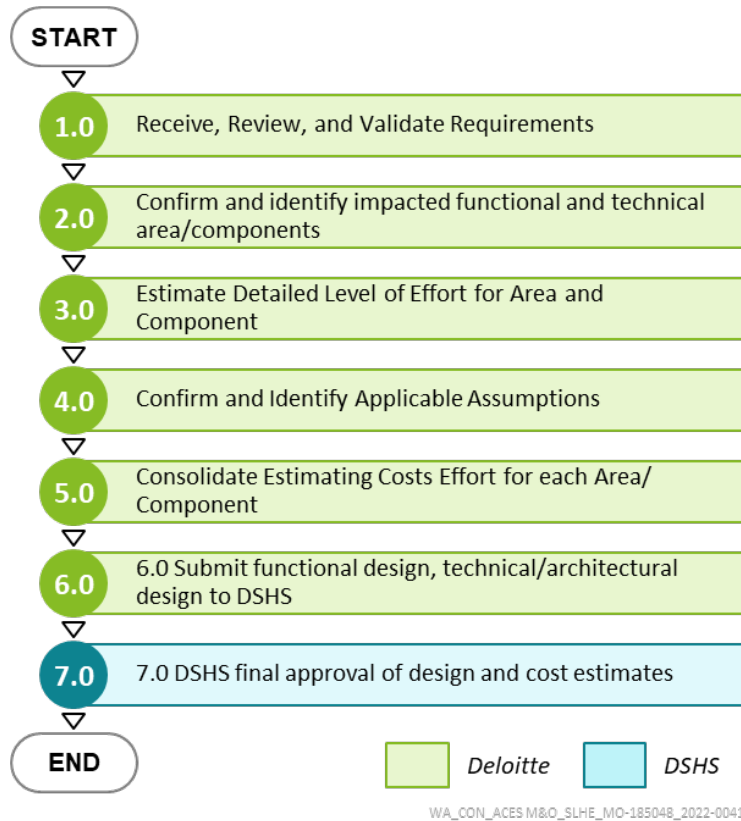


Figure 4.2-41. Architectural Approach and Estimation Flow.

Key areas we analyze, and document include:

- **Technical Architecture:** Overall considerations about technical architecture which includes database

PROPRIETARY

6.71	Provide estimates which capture the projects scope, schedule, budget (including DSHS resources), testing plan, staffing plan, infrastructure impact training plans and milestones/deliverables and a release checklist	<p>Our Understanding of the Requirement</p> <p>Developing well documented and upfront estimates creates predictability in planning and scheduling enhancements across stakeholders, including our team, DSHS staff, and others (for example interface partners). It also allows to be more prepared for key activities across infrastructure, application development releases, and user readiness. Our team commits to provide detailed estimates that captures impact to scope, schedule, budget, testing, staffing and infrastructure.</p> <p>How We Satisfy the Requirement</p> <p>Once an enhancement request is captured, our team conducts a holistic analysis to analyze impacts to people, processes, and technology. Our detailed and transparent method of estimation for each enhancement enables us to produce estimates which capture, scope, schedule, budget, development plan (includes testing and staffing), and impact to infrastructure. Our estimates coupled with existing DSHS processes and change management procedures enable us to properly prioritize and schedule the enhancement or modification through the DSHS change control processes.</p> <p>Our estimation approach will be performed based on DSHS's scope definition document and the components that require changes. The estimate will include a high-level analysis of the effort needed for Design, Development, Testing, UAT support, Deployment and Training. Our functional experts will consider changes to potentially impacted areas, such as data collection, eligibility determination and benefit calculation, online screens, interfaces, reports, correspondence, reporting, manual and automated dependencies across the system landscape, solution integration needs, scheduling constraints, and external requirements.</p>
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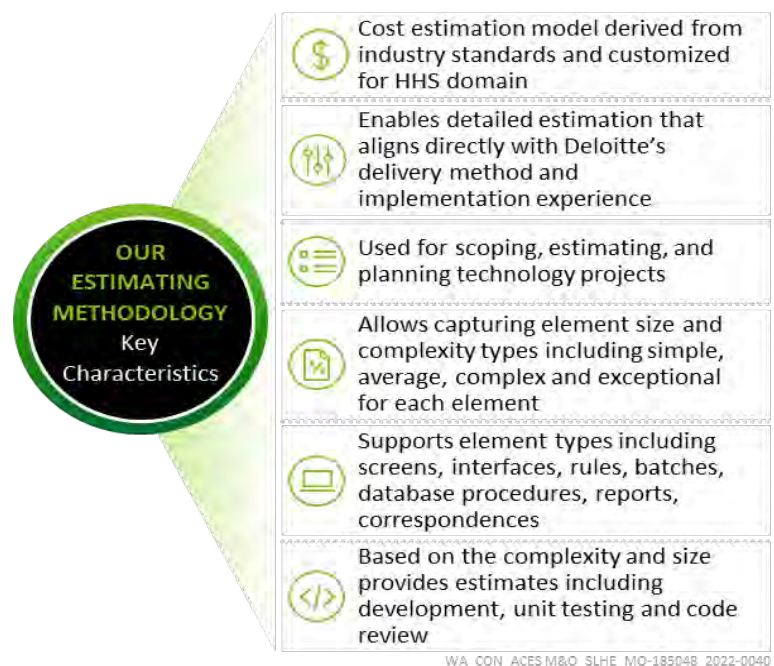


Figure 4.2-42. Our Estimating Methodology.

Lessons Learned/Best Practices/Examples of Previous Projects

Some of the best practices that we follow to provide accurate estimates that capture impact to scope, schedule, budget, testing plan, staffing plan, and infrastructure are below

1. Break down each component into smaller requirements and tag them to individual tracks such as data collection, eligibility, correspondence, Interfaces, and other vendor contractors. These granular requirements enable us to understand the breadth of the work needed and help reduce errors in estimating
2. Identify environment requirements and timeline including that of vendor partners to facilitate timely end to end testing.
3. Identify if any special testing will be required and measure impact to existing smoke and regression test scenarios
4. Identify impact to infrastructure and hardware

6.72 Create conceptual and functional specifications

Our Understanding of the Requirement

Developing conceptual and functional specification helps in elaborating how a business flow will be conducted. These specifications always prove to be foundation for technical specifications, test scenarios and training documentation. We understand that it is vital to keep the end user at the forefront of problem solving when designing a future solution. These insights also may change the nature of requirements making it critical to uncover early. Our approach to functional design uses a human centered design approach represented by the figure below

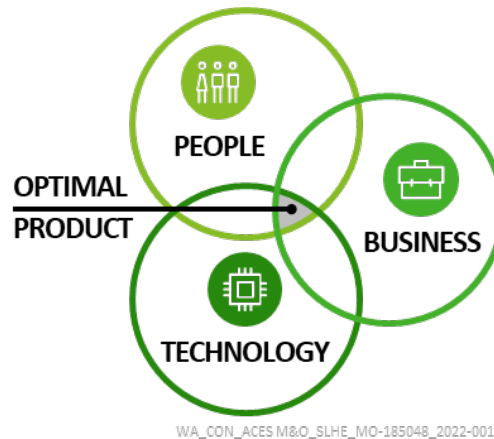


Figure 4.2-43. Human-Centered Design.

Our team commits to create conceptual and functional specifications. Our team emphasizes on visual design techniques such as prototypes and process flow while creating conceptual specifications. For functional specifications we focus on identifying business logic, screen flows and business rules.

How We Satisfy the Requirement

Our team conducts workshops and design sessions with relevant stakeholders and brings a human-centered design (HCD) lens to the requirements and design process. The aim is to seek out intersection between business, technology, and people. Our team will use human-centered design techniques through the requirements and design process by engaging users at

various touchpoints along the way. Throughout the process, we collaborate with DSHS to partner in research and ideation activities such as focus groups, in-depth interviews, co-creation sessions, and evaluative testing. In HCD, we maintain a hyper-focus on business needs and outcomes.

DSHS's Product Owner and our team will engage with research materials created throughout the above phase. These materials may include user mindsets, journey maps, and insights reports. This is a quick way for parties to confirm they are designing with the end users in mind. This also gives designers the ability to frame the requirements from the lens of the end user and create a better product. There are a variety of ways in which we may engage end users throughout this design phase depending on the research needs along the way. We call these user validation touchpoints, which may include traditional field research, focus groups, surveys, co-creation sessions, and participatory research or usability testing (where we have end users refine concepts at a low or high fidelity).

After identifying research needs, our team and the Product Owner will work collaboratively to put together user stories which represent our understanding of the requirements from the end-user point of view. User stories allow the team to clearly articulate the requirement in business terms and captures the expected end-to-end experience in functional specifications. Moreover, User stories are accompanied by acceptance criteria that is written so that the development team can easily interpret the desired functionality and expected user experience/behavior. The criteria should easily translate into design documents and later to UAT test cases for user acceptance.

As user stories are prioritized, pulling from research and insights, the team will begin to create mock-ups and functional specification of the user stories as and when required. The Design deliverable is created at the end of the Design phase articulating our understanding of the requirements and submitted to DSHS for review.

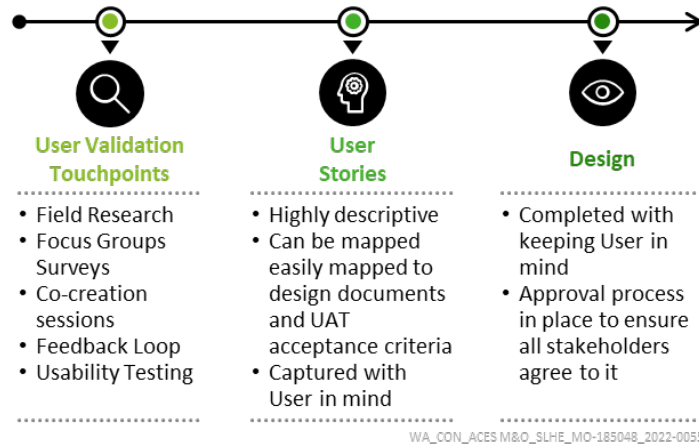


Figure 4.2-44. HCD Approach for Requirements and Design.

Lessons Learned/Best Practices/Examples of Previous Projects

Some of the best practices that we follow as part of our HCD approach to design and documentation are as below:

- **Empathize:** Understand and gain proper insight into the problems, experiences, and motivations of workers and stakeholders through qualitative and quantitative research methods.
- **Define:** Analyze and synthesize data from research to define the core problems associated with providing a seamless customer experience. Co-create design artifacts with the Stakeholders.
- **Ideate:** Work and co-create with relevant stakeholders and experts to generate ideas or solutions for a seamless customer experience.

HCD is our go-to approach for requirement gathering and design documentation in HHS space which makes us stand out from the competition. Our understanding of the workers and stakeholders separates us from the others and helps us deliver solution with high satisfaction to the end users.

6.73 Create design documents including architecture, security and technical design

Our Understanding of the Requirement

Systems such as ACES which maintains PHI and PII data while delivering much needed benefits demanding responsiveness and predictability. To achieve this, with every change, we will critically look at security and technical architecture as well as design. Our team will create design documents including architecture, security, and technical design.

How We Satisfy the Requirement

Our proactive approach for system design aligns with industry standards and leverages the processes, tools, leading practices, and artifacts developed from our experience. It includes design planning, execution, submission, review, and approval of the detailed design before making them available for development.

For each prioritized enhancement, we work with DSHS stakeholders to define the detailed design that aligns with DSHS requirements and produce architecture, security, and technical design documents.

To achieve this, our team organizes and conducts design sessions with DSHS and other stakeholders to discuss and construct design documents. Each design session contributes toward creating a robust system design, taking into consideration the requirements and the knowledge of the SMEs, as well as DSHS staff and other stakeholders. Our team comes prepared with the necessary questions after detailed review of the user stories logged prior to these sessions. Our diligence to understanding the requirements and documentation is key to our successful design phase. The open questions and risks stemming from these discussions are captured in JIRA as well to track and triage to closure.

This approach provides our team and DSHS staff to work together in creating the design documents which meets the requirements and appropriate reuse of business and technical services are identified and planned whenever possible.

		<p>With output from these sessions, we develop a detailed system design document for each architecture and technical component of the system that encompasses application, database, architecture, and network-related components, as well as interfaces to external and internal data sources.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>For the IE&E system we maintain, we follow a practice of developing functional security scenarios. These are arrived at doing impact analysis of the change and the goal is to manually test parts of changed functionality with application security in mind. For example, a change to upload documents screen would trigger testing of scenarios which will attempt different document extensions. This approach encourages the documentation of security design impacts with each change.</p>
6.74	Provide infrastructure requirements to DSHS in DSHS' required format	<p>Our Understanding of the Requirement</p> <p>As we evolve ACES with new enhancements, we must consider system hardware scalability. Lack of insight into the growth rate characteristics of ACES for new enhancements could quickly lead to deteriorating system performance once the enhancements are implemented. At the same time, we will also think of reduced needs of hardware if any, as the ACES system component start their decomposition journey. As new enhancements are planned and implemented our team will conduct capacity planning to identify changes to infrastructure requirements and will share with DSHS in the DSHS' required format.</p> <p>How We Satisfy the Requirement</p> <p>Our approach to capacity management uses formalized capacity planning to estimate, measure, and forecast expected resource impact on the servers, network, database, and other parts of the infrastructure which support application processing. This information is used</p>

to determine the infrastructure and hardware requirements necessary to support anticipated transaction volume. Using those requirements, we strategically plan for infrastructure needs and future growth.

The objective of this analysis is to estimate the infrastructure resource requirements based on the estimate of actual work, including expected transaction growth that the application expects to serve during normal and peak usage periods. It must also account for changes in underlying or support loads. For example, turning on additional auditing logs or adding field-level encryption of PII/PHI to additional data elements may result in an increase in load even though the transaction volume is unchanged.

Our team will use capacity planning and a capacity model to forecast future capacity needs for ACES and will share the infrastructure requirements to DSHS in the desired format.

Lessons Learned/Best Practices/Examples of Previous Projects

Our approach to capacity and demand management has been used to determine infrastructure and hardware requirements in many systems similar in size and complexity to ACES. For example, in Tennessee, we have leveraged our approach to conduct thorough analysis of infrastructure changes due to enhancements and the impacts to forecast utilization of infrastructure in both non-production and production environments. Our team then collaboratively worked with the State and other vendors to bring in the needed infrastructure and hardware requirements necessary to support anticipated transaction volume. This enabled us to maintain productivity and continuity of essential business functions.

6.75	Develop application changes including configuration changes/modifications and custom development	<p>Our Understanding of the Requirement</p> <p>We acknowledge the requirement of developing application changes including modifications to the configurations and custom development</p> <p>How We Satisfy the Requirement</p> <p>Our team is a leader in delivering and maintain large-scale custom solutions using Agile methodologies. We have a robust network of talented professionals, including 1,700+ certified Agilists and 12,000+ professionals with at least five years of Agile experience. We facilitate over 100 mission-critical agile projects, including WA-HBE for the state of Washington. Our team has the right mix of skills, experience, and will collaboratively work with DSHS to implement Agile delivery methodology.</p> <p>Our SDLC process focuses on collapsing relevant phases of a release's life cycle into a condensed timeline. We achieve this because the focus of our methodology is effective decomposition of work. The following figure illustrates our Development Methodology and its five key phases.</p>
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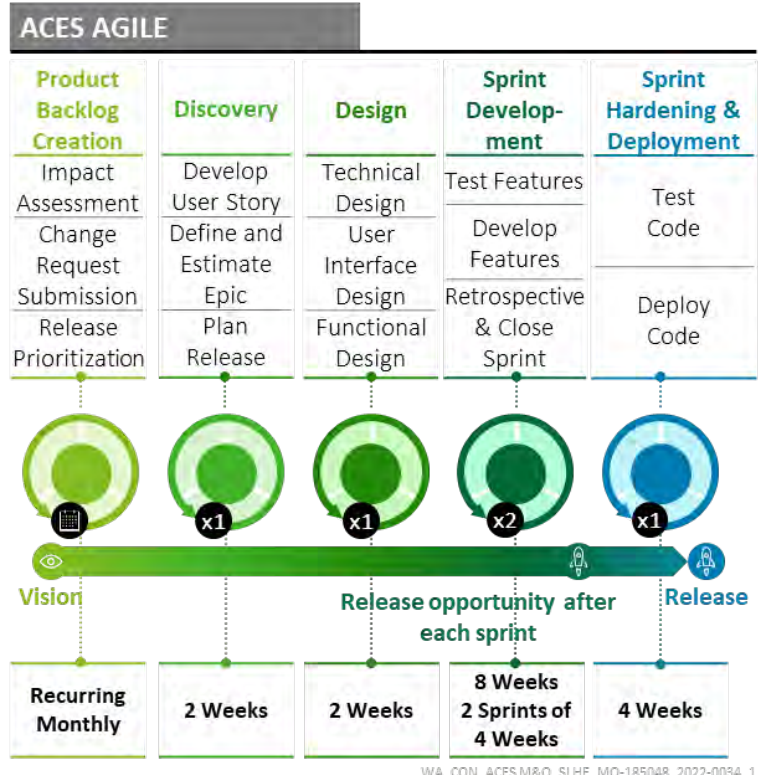


Figure 4.2-45. Development Methodology.

The following describes the key activities in each phase.

Inception Product Backlog Creation: During the Inception and Product Backlog Creation phase, our team and DSHS collaborate to assign a target release to enhancements. This is a continuous process and not tied directly to a release cycle.

As enhancements come to inception, our team will detail the enhancements submitted by the DSHS in JIRA. For our team to capture accurate estimates and analysis that reflect dependencies, impact assessment sessions will be held to integrate stakeholders and receive the necessary inputs. The estimate along with the priority given to the enhancements in the Product Backlog Creation will be used to assign its release within the release charter.

Discovery: The discovery phase is dedicated to integrating project stakeholders and performing thorough analysis of enhancement dependencies and requirements. Discovery sessions are facilitated by Scrum Masters, with representation across impacted teams

present. Enhancements are used as the jumping off point to review with the group the preliminary analysis performed at the time of project inception. The group will discuss and coordinate to meet project dependencies, including testing and development timelines with trading partners. User stories will be drafted and presented to the group. DSHS staff and other stakeholders can give live feedback during the sessions and shape the way in which the requirements are captured. Once requirements have been documented, the product owner will do a final review and approval of the stories ahead of the onset of the design phase.

The primary outcome of discovery is appropriately sized requirements with details on what standards must be met for the requirement to be considered complete. Effective requirement elicitation and decomposition during discovery defines the full scope of impacts stemming from the enhancement.

Design: Design transposes requirements captured in user stories into a clear plan to modify the existing functional and technical modules to be impacted. We have chosen to include this phase for ACES as we recognize the complexity and scale of the system, as well as the DSHS need for quality documentation to track proposed changes to system architecture and functional flows.

Sprint Development: Sprint development focuses on the iterative and incremental development of working functionality to address the requirements given by DSHS. In this phase application changes including custom development and configuration changes are completed. Over the course of the sprint, multiple forms of testing are executed to substantiate requirements including Unit, and System testing. Sprint teams facilitate demos to receive feedback from stakeholders and obtain approval for completed work.

Sprint Hardening and Deployment: The purpose of the Sprint Hardening and Deployment phase is to fortify work developed in the prior sprint(s) with additional testing before the new functionality is deployed to production. During this phase, multiple forms of testing occur,

		<p>including UAT, usability and accessibility, Regression, Performance, and Security.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>We understand DSHS’ ACES is currently waterfall and moving to Agile can look difficult. That’s where State needs a partner like our team which comes with vast experience of transitioning projects from waterfall to Agile. Our success stories include States like Louisiana, Texas, and New Mexico where our teams successfully transitioned systems’ deliveries to Agile and increased the rate at which we deliver tangible solutions to the State. Moving to Agile helped States in reducing risks to business by -</p> <ul style="list-style-type: none"> • Reducing lead time from scope identification to production release aka shorter wait time to go live • Iterative development allowing State an opportunity to provide frequent feedback, which improves delivery effectiveness and avoids potential pitfalls/requirement gaps later. • Flexibility in responding to change • Increased focus from day one to work collaboratively in short sprints and on delivering working software reduces risk compared to long drawn waterfall model <p>Our proposed approach will reduce risk, help improve communication between ACES stakeholders, allow enhancements to go live more quickly and effectively enable ACES to react nimbly to changing policy and operational needs, and promote a culture of continuous delivery improvement.</p>
<p>6.76</p>	<p>Conduct walk-through review of configuration change/modification/development</p>	<p>Our Understanding of the Requirement</p> <p>Introducing iterations, demos, and walkthroughs for delivered solutions fosters an open channel of communication. The communication and feedback create flexibility in otherwise rigid phases. Iterative development allows for pivoting throughout the</p>

development cycle and enables changes to be made as feedback is received. To enable a continuous feedback loop, our team commits to conduct walk-through review of code and configuration modifications.

How We Satisfy the Requirement

During each Agile Sprint cycle, modular components will be built and tested by scrum teams. While in sprint review sessions, the Product Owner and DSHS staff will have an opportunity to review working product developed during the Sprint. In these sessions, the product owner conducts walk-through review of configuration and demos developed components. The activities conducted in this stage will develop a quality product that is modular and enables end-to-end business flows for each phase. This further improves transparency of project execution and mitigates the risks for schedule variance.

The purpose of the demos is to provide a tangible solution based on the approach provided in the design phase. By incorporating the design artifacts and the prototyping, the development phase benefits from an established goal to strive towards. During this phase, our team begins capitalizing on **Iterative Development** phases in the SDLC approach to consistently provide changes by conducting regular demos while incorporating feedback from key stakeholders. This iterative approach to delivering technical changes to the design improves transparency for stakeholders and reduces risk with each new iteration.

Lessons Learned/Best Practices/Examples of Previous Projects

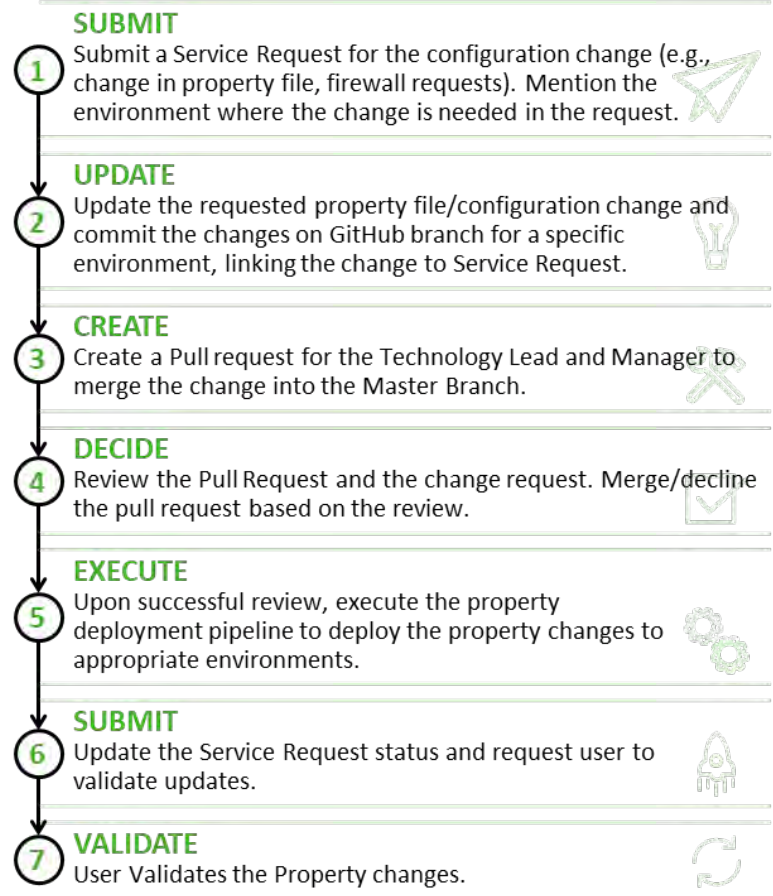
Our previous experience in implementing Eligibility and Enrollment projects has taught us to implement multiple quality checks throughout the SDLC process to minimize the risk of regression issues. In a system with multiple modules, there is a risk of introducing regression issues, not identifying required changes in specific modules, or missing the end-to-end process impacts. To mitigate this, we design our quality management processes to start

		<p>even prior to implementation and to continue through SDLC's each phase. Besides our functional and technical SME reviews, we introduced automated regression testing to help confirm the existing functionality continues to behave as expected. This helped us in reducing business risks in production and we plan to bring the same experience to Washington's ACES.</p>
6.77	<p>Program, compile and document configuration changes/modifications/new code developed</p>	<p>Our Understanding of the Requirement</p> <p>Effective development needs efficient programming, compilation, and documentation for new code and/or configuration changes. Our team commits to program, compile and document configuration changes and modifications to the new developed code.</p> <p>How We Satisfy the Requirement</p> <p>From our experience of maintaining E&E solutions of similar size and complexity like ACES across 26 states in country, we have listed below processes that allow us to properly track, execute, trace, and maintain audit of the changes that are done.</p> <p>Program, Compile and Documenting Code Changes:</p> <p>Our team follows test driven development. Any new code changes or modifications to existing code are programmed based on the detailed use case scenarios written based on well-defined functional specifications. Changes are version maintained using the standard versioning tools (e.g., GIT) and are integrated with DSHS's GitHub repository.</p> <p>Code changes programmed are thoroughly documented in the form of both functional and technical design documents (e.g., Functional Design Specifications, Technical Design Specifications – Entity Relationship Diagrams, Technical Design Document, Class Diagrams). Besides these, team also captures detailed Unit Testing checklists to confirm changes are committed properly in the repository, design documents are reviewed, and</p>

version controlled in the document repository (e.g., SharePoint, Teams and Confluence).

Configuration Change Process:

Our team understands the need of effective development including documentation for each configuration change that goes into production. Our team follows a comprehensive process for the systemic implementations of configuration changes as shown in below figure.



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Figure 4.2-46. Steps for Configuration Management.

Configuration changes are only promoted to production after the Change Request work is reviewed and provided a 'GO' for implementation by the DSHS. Results of SIT, UAT, Performance and Security test will be made available for the 'GO/NO-GO' meeting. User as well as

		<p>third party vendor partner readiness is also recommended to be considered for making this decision.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>We understand more systematic handling of code and configuration changes plays an important role in maintaining integrity, reliability, uptime, and the scalability of application. With our robust release and configuration management processes, we demonstrated capability of managing relevant code, avoiding rework and wasteful duplication of technology assets, resulting in resource savings to our clients. Our team commits to bring our experience on the said processes to help DSHS in maintaining consistent pipeline of enhancements delivery avoiding any business risks to the ongoing application.</p>
<p>6.78</p>	<p>Develop integration strategy (with external applications) and provide functional specifications for any development required on external system</p>	<p>Our Understanding of the Requirement</p> <p>A change introduced to an interface either by ACES or by an interfacing partner often entails a change to the underlying business process and/or technical implementation for ACES as well as the interfacing agency. This necessitates close coordination between ACES and interfacing agencies to preserve a predictable flow of data between them. Capturing these changes in the functional specifications becomes even more important for quality delivery. We commit to develop an integration strategy to enable close coordination between ACES and interfacing agency and provide functional specifications for development required by external system.</p> <p>How We Satisfy the Requirement</p> <p>To manage this complexity, we will take lead in coordinating and creating an effective partnership using existing ACES interface management processes by complementing them with our team’s adaptable and extensible Interagency Coordination Framework (ICF), developed from best practices gathered across our</p>

Eligibility & Enrollment implementations which are similar in size and scope to ACES.

The ICF includes processes and procedures to guide the teams in maintaining the appropriate levels of coordination between interfacing systems. The framework is designed to complement DSHS's existing processes, while increasing transparency, escalating issues quickly, driving innovation, and increasing efficiency in service delivery.

The ICF outlines a series of steps to guide the necessary interface stakeholders in the collaboration, communication and decision making. The steps are

- **Establish Inter-agency Coordination Group.** The framework requires setup of an Interagency Coordination Group (ICG). Our team works with the DSHS to designate our team and DSHS staff to serve on an ICG to take responsibility for communication and coordination with interface partner.
- **Establish Interagency Coordination Plan.** The ICG is responsible for creating and maintaining an Interagency Coordination Plan (ICP) that clearly documents the interface points that currently exist in ACES. The ICP also documents the business processes involved in and affected by data exchange, the schedule for executing the changes to existing cooperation agreements or building new ones, business and technical contact staff and their roles in data exchange, and communication procedures that the project management team follow to maintain communication with data exchange partners during the project lifecycle, including release management, design, testing, defect management, and system downtime coordination.
- **Define Interagency Communication Matrix.** Our team understands that a key component of the coordination process is to initiate and maintain communication with each data exchange partner throughout the project lifecycle. The types of communications that may be needed for different stakeholders include Initial Communications to inform the ICG of the proposed change request and

the potential need to coordinate expected changes in the technical data exchange process for their solution components, and general communications to keep relevant parties informed about project progress in a consistent and concise manner.

- **Define Change Management Protocol.** The ICG works within the established change management processes to facilitate improved collaboration among ACES and data exchange partners from the time the change is identified to the time it is implemented and operational in production.
- **Define Service Level Language in Interagency Agreements.** Our team understands that in addition to establishing change management protocols, reaching consensus on service levels elevates the status of interagency agreements and provides clear and measurable targets for each partner to meet.

Guided by ICF, our team will work with interfacing partner to construct the functional specifications for the interface. In this document, to-be processes are defined, and file specifications are identified. Synchronous or asynchronous integration options are analyzed, and messaging formats agreed on. Clear bi-directional API requirements are defined to enable seamless integration and data transfer.

Lessons Learned/Best Practices/Examples of Previous Projects

We bring to DSHS our Center of Excellence (COE), which maintains re-usable technical design documentations and best practices for common Federal interfaces like BENDEX, SSA, 40 quarters etc.

We have brought together our state clients to create a Knowledge Hub called the Health and Human Services Nerve Center. Comprised of experts from our E&E practice, this group works collaboratively to tackle any new challenges across different states in conjunction with guidance from the federal agencies. We have collaborative team across our practice which works together for designing interactions with different state and federal agencies. When needed, our team also has

		<p>access to Subject Matter Experts (SMEs) for different interfaces which can be leveraged for ACES. Any state project team can access Nerve center resources for any guidance on state specific agencies or any private exchanges if similar implementation has already undergone for other state.</p>				
<p>6.79</p>	<p>Perform testing outlined in the proposal (E.g., unit testing, integration testing, regression testing) on all changes</p>	<p>Our Understanding of the Requirement</p> <p>The overall objective of testing is to find and fix solution defects in a controlled process, to provide an incremental, high-quality, and business aligned application. We commit to perform the testing phases as outlined in the proposal. Additionally, we will automate testing as much as possible to enhance the quality of ACES.</p> <p>Our established processes provide a well-structured, reliable, and predictable testing approach for enhancements to confirm quality of the final product and avoid disruptions to daily operations as changes are introduced.</p> <p>How We Satisfy the Requirement</p> <p>For each enhancement, various types of testing will be conducted to help anticipate, validate, and mitigate potential technical, business, and operational challenges inherent in large systems implementations.</p> <p>Our team believes extensive test executions must be combined with extensive coordination within and across project teams. System Entry and Exit criteria are defined for each test cycle, with a focus on achieving stable code, lowering risks, and improving the quality of the delivered software.</p> <p>Below are some of the key testing phases that will be conducted for each enhancement.</p> <table border="1"> <thead> <tr> <th>Testing Phase</th> <th>Summary</th> </tr> </thead> <tbody> <tr> <td>Unit Testing</td> <td>Unit testing includes meeting unit test checklist requirements, peer and code reviews, and lead testing of each deliverable to begin validation of development and quality of each change. Use of code quality PMD, Findbugs, and SonarQube rulesets is automated.</td> </tr> </tbody> </table>	Testing Phase	Summary	Unit Testing	Unit testing includes meeting unit test checklist requirements, peer and code reviews, and lead testing of each deliverable to begin validation of development and quality of each change. Use of code quality PMD, Findbugs, and SonarQube rulesets is automated.
Testing Phase	Summary					
Unit Testing	Unit testing includes meeting unit test checklist requirements, peer and code reviews, and lead testing of each deliverable to begin validation of development and quality of each change. Use of code quality PMD, Findbugs, and SonarQube rulesets is automated.					

		<p>System Testing Moves testing expectations to dedicated testers where scenarios are prepared to elaborate on a step-by-step process. To accelerate this process and cover more scenarios, initial test case creation is automated to meet base criteria prior to validating each scenario.</p> <hr/> <p>Integration Testing Integration testing verifies that continued communication between DSHS and its interface partners is successful, with the goal of decreasing disruption of existing processes. Our team creates sample test cases and data using scripts that reduces manual effort. This enables a larger number of integration scenarios to be covered in this phase.</p> <hr/> <p>Regression Testing We firmly believe that maintaining quality and dependability of ACES hinges on successful regression testing. To cover the largest number of scenarios possible, our team will build on existing regression test suite and build additional test scenarios.</p> <hr/> <p>Performance Testing Performance testing allows for iterative testing aimed at optimizing application code, evaluating application and infrastructure performance, forecasting the amount of computing resources required to sustain a system, and ultimately building confidence that the ACES performs under peak volume conditions. This is achieved by execution of an automated suite of performance test scripts that our test team will create and continues to maintain with each new release.</p> <hr/> <p>Security Testing Understanding sensitivity of data stored and processed in DSHS, we strive to confirm data is secured as mandated by security requirements in federal standards, regulatory requirements, and State policies. During security testing, we validate that security and privacy safeguards are implemented as designed and functioning as expected. Automated tools are used to do static and dynamic code scans.</p> <hr/> <p>User Acceptance Testing (UAT) Our team works closely with the DSHS to deliver a tangible solution that is tested by key stakeholders to validate those expectations specific to each change are met.</p> <hr/> <p>Figure 4.2-47. Testing Phases.</p> <p>In addition to the test mentioned above, our team will conduct additional testing to enhance quality.</p>
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		<p>End-to-End Testing Testing in this phase requires a holistic approach to meet standard processes stakeholders commonly encounter. This includes smaller tasks and communication with interface partners to confirm entire scenarios are up to expectations for each change. Automation is administered via test data automation and utilization of soap and mock services.</p> <hr/> <p>Usability and Accessibility Testing To validate that ACES is accessible to workers with disabilities, an automated test suite confirms newly introduced changes meet expectations of ADA and Section 508 standards using tools like JAWS and their automation features.</p> <hr/> <p>Automated Smoke Testing This is run daily in lower environments to detect potential defects to alert developers to unforeseen issues related to new features or fixes to a code base.</p> <hr/> <p>Figure 4.2-48. Additional Testing Phases.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our test execution methodology, which we have successfully used in E&E project implementations throughout the nation, is tailored to the unique complexities of the HHS business environment. Key best practices include:</p> <ul style="list-style-type: none"> • Involvement of key stakeholders throughout the different phases of testing • Enable testing automation to significantly reduce the occurrence of human error, simplify environment setup and configuration, and reduce the investment required to perform repetitive regression and smoke testing • Code Freeze during regression helps to avoid confusions and results in better outcomes
6.80	Manage Application environments during test cycles	<p>Our Understanding of the Requirement</p> <p>Application environments during test cycles are often the most contended resources among release teams. Hence,</p>

application environment management becomes a key aspect of delivering releases successfully. We manage application environments during various development and test cycles. This enables us to support multiple releases planned across multiple work streams that are needed to maintain and enhance ACES.

How We Satisfy the Requirement

Approach to Manage Multiple Environments

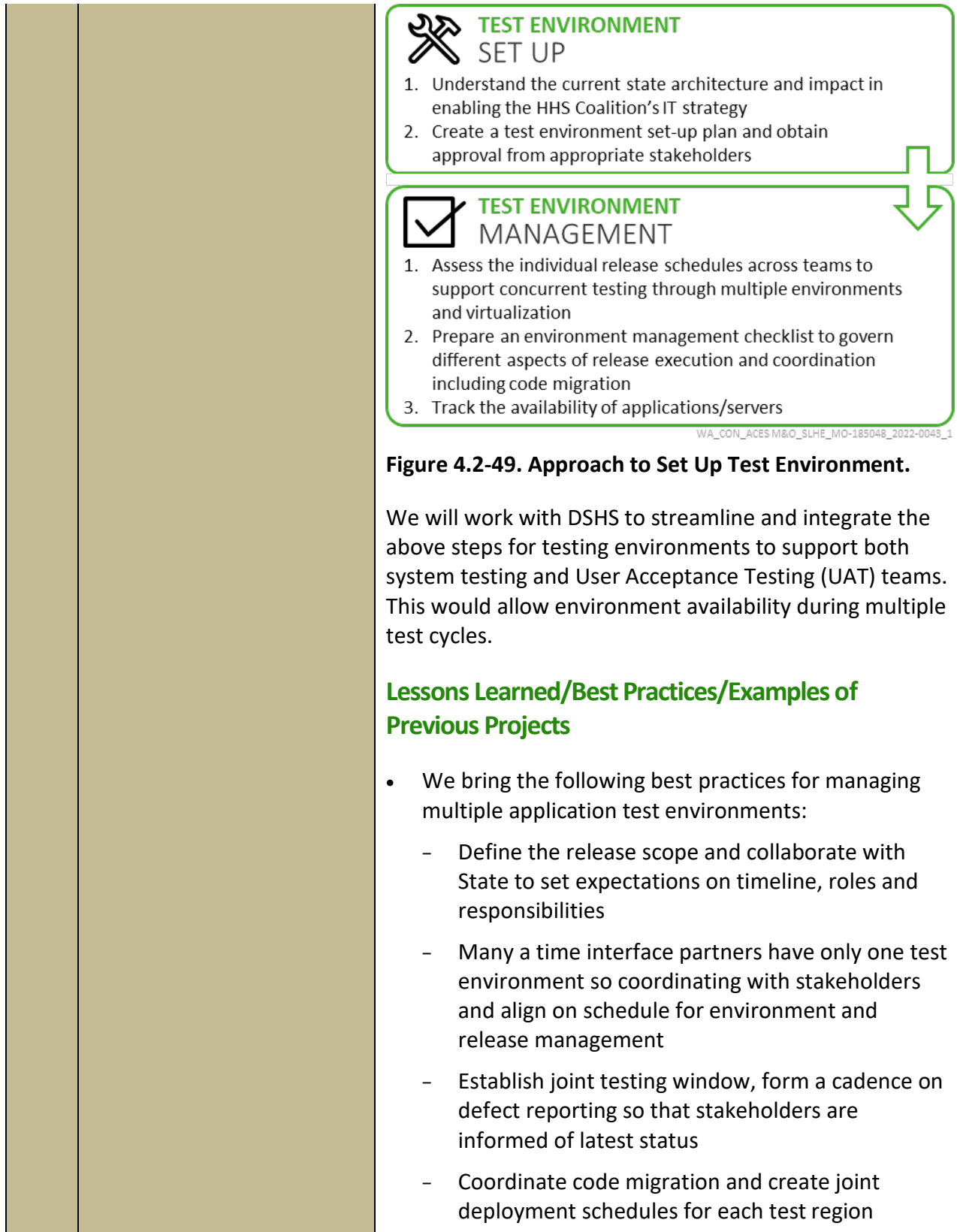
Our approach to application environment management starts with establishing an environment management plan that is based on a detailed assessment of current architecture and infrastructure, identification of gaps, and creation of a prioritized environment build plan in collaboration with DSHS.

We emphasize on having strong configuration and change management controls to maintain the integrity of application environments, as well as regular performance monitoring to maximize the availability and reliability of these environments. Our environment management plan focuses on the tools, processes, and resources needed to identify, coordinate, and provision test environments required to support releases.

Our team will work closely with DSHS to identify the application environment requirements to document and implement our environment management plan. There are two primary steps as part of our environment management approach:

1. Establishing the test environment after careful assessment of current architecture, infrastructure, identification of gaps, and creation of a detailed environment build plan upon discussion with stakeholders
2. Devising a methodology to manage End-to-End test environments to support the different releases planned across multiple work streams

Our environment management process activities can be grouped into two phases:



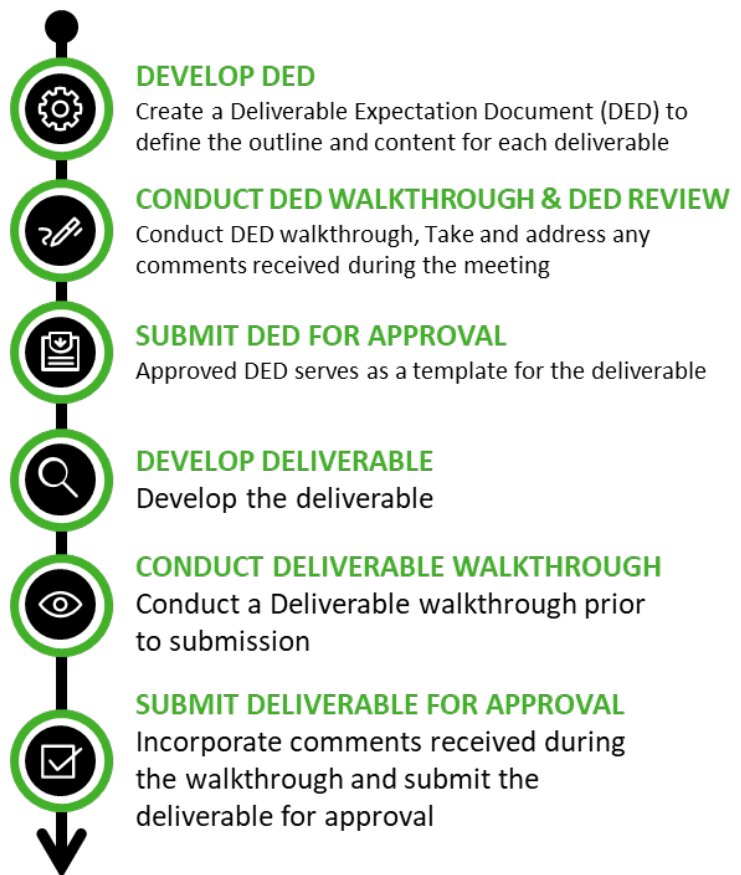
		<ul style="list-style-type: none"> - Confirm with stakeholders that any fixes that are going to be deployed in production are included in future release
<p>6.81</p>	<p>Update all related technical architecture and design documentation</p>	<p>Our Understanding of the Requirement</p> <p>Accurate system documentation not only aids DSHS staff and other stakeholders in understanding how the system is designed but it also helps architects and developers in understanding how and what needs to be configured and developed. We commit to update related technical architecture and design documentation for planned changes.</p> <p>How We Satisfy the Requirement</p> <p>During the design phase, our team focuses on “how” the requirements will be implemented. To demonstrate the “how”, our team creates storyboards, business rules specification documents, notice specification documents, Interface control documents, batch control documents and business process flows.</p> <p>Our team in collaboration with DSHS staff identify and update related technical architecture and design documents as per the enhancement. If the change requires introduction of new component (e.g., screen interface, report, or correspondence), then our team will create new design and architecture documents and submit them to DSHS staff and other stakeholders for approval.</p> <p>Upon completion the design phase, team provides bi-directional end-to-end traceability from requirements to design documents and reverse. This process allows us to track each requirement and clearly demonstrates the link between requirements and design artifacts to DSHS.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our approach to developing and maintaining technical architecture and design documentation is based on six guiding principles – ease of use, technology</p>

		<p>independence, adaptability, interoperability, reduced cost of ownership and reuse of existing technology and services. These guiding principles establish a set of key activities to develop a robust technical design and high-quality design artifacts in the process. We use a collaborative approach by doing reviews of our technical design with key stakeholders and SMEs to validate that functional and technical constraints have been accounted for.</p> <p>We worked with Connecticut Department of Social Services and created the overall architecture blueprint and design documentation for one of their largest systems migration enhancements across 4 large scale applications. Our comprehensive design and documentation approach helped State of Connecticut in reducing time to set up new environments from ~5 days to less than 4 hours and reducing long-term infrastructure costs and Total Cost of Ownership (TCO).</p> <p>Similarly, our guiding principles on design and documentation helped State of Louisiana in maintaining compliance and consistency across enhancements leading to reduced risk of delivery and less ambiguity.</p>
<p>6.82</p>	<p>Maintain overall accountability for management of technical/System documentation</p>	<p>Our Understanding of the Requirement</p> <p>System documentation is an essential component not just to support knowledge transfer and transition, but also to support the day-to-day maintenance and operations of an enterprise-level application such as ACES. Our team commits to maintain overall accountability for management of technical/system documentation.</p> <p>How We Satisfy the Requirement</p> <p>During the system design and development efforts, our team will utilize the existing set of documentation (e.g., configuration management process, architecture) as baseline and will continue to update them based on required changes being done as part of the enhancement.</p> <p>We understand that not each document has to be a deliverable. For example, meeting minutes are not</p>

deliverables but it's a document that our team will produce and submit to DSHS. Documents like meeting minutes will not follow the deliverable submission and approval process but technical design document like architecture diagrams, configuration management documents are deliverables and will be updated based on the agreed upon deliverable management process.

The following figure details our approach for deliverable (documents that are deliverables) management process. We show the key steps, timelines, and decision points in the deliverable process.

Our approach to maintaining these deliverables and creating any new documents sets the expectations of both our team and DSHS staff, promotes quality deliverables, and advocates adherence to project requirements. These steps are as follows:



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Figure 4.2-50. Deliverable Management Process.

Developing and Approving Deliverable Expectation Document (DEDs)

Our Document Management process includes a step to define and review a Deliverable expectation document (DED) with stakeholders in order to clearly document the content and acceptance criteria.

This helps in setting the right direction and expectations for the deliverable, minimizes potential re-work that may arise from misaligned expectations from a deliverable, helps tailor the deliverable to the right audience and streamlines the overall deliverable creation and acceptance process. DEDs are created and finalized using the following approach:

- Our team drafts the DED for the deliverable.
- Our team holds a meeting and walks stakeholders through the DED, taking and addressing any comments received during the meeting.
- Our team submits the DED to the Consortium for approval.
- Upon approval, the DED is considered final, and serves as the template for the creation of the deliverable

Deliverable Development and Walkthrough

Upon approval of each DED, our team begins developing the associated deliverable. Prior to completion of the deliverable, our team conducts a walkthrough with DSHS for both the draft and final versions of the deliverable.

Our team conducts the walkthrough and presents the contents of the deliverable to DSHS, taking and incorporating comments received during the walkthrough into the deliverable prior to initial submission of the deliverable.

The walkthroughs are focused on how to navigate through the deliverable and a high-level overview of the contents of deliverable. Our approach to deliverable walkthroughs reduces the possibility of surprises and greatly helps in expediting post-submission review and recovery cycles.

Deliverable Submission and Finalization

For each deliverable, our team submits a first submission on the agreed upon submission date to DSHS for review and response. When comments are first received back, our team performs an initial high-level review of the comments. If there are any potential concerns or clarifications needed, we schedule a comment review session or schedule a response walkthrough session. In this session, our team works with DSHS staff and address the comments inline and in-person along with the DSHS staff so that comments are resolved. This collaborative approach expedites deliverable approvals.

For comments that cannot be resolved in the first walkthrough, our team reviews the outstanding comments, comes up with a resolution and schedule a second walkthrough. Walkthroughs follow the same inline and in-person updates process, to expediate the approval of the document. Once outstanding comments from DSHS have been resolved, our team submits the deliverable for final submission and approval.

Lessons Learned/Best Practices/Examples of Previous Projects

Some of the best practices that has helped our team deliver quality deliverables and maintain overall accountability are as below:

- Identifying deliverable templates early and setting expectations make the review and approval process easier and more efficient as well as less contentious allowing the review team to focus on the content rather than formatting
- Full visibility and early informal reviews reduce risk and promotes quality from the beginning
- We incorporate lessons learned from past implementations to provide comprehensive and understandable content that reduces review time for DSHS staff

6.83	<p>Maintain existing technical/System documentation as required to reflect System changes and/or to enhance or improve quality of documentation</p>	<p>Our Understanding of the Requirement</p> <p>Documentation is a critical component of maintaining an effective and efficient system to establish a source of truth regarding system functionality and to transfer knowledge among end users over time as functionality is modified. Our team commits to maintain existing technical/system documentation as required to reflect system changes and improve the quality of documentation by documenting who changed what and why was it changed.</p> <p>How We Satisfy the Requirement</p> <p>We perform a quality check on each document after the document has been updated at two stages during SDLC—once after design approval from SMEs and again after UAT has signed off on the functionality. In each stage, our team conducts a quality check to confirm that technical and functional design changes are correctly updated and reviewed and approved by DSHS. We also check that changes are properly merged. We also validate smoke test and regression scenarios are modified to accommodate the latest design changes. This process enables us to confirm that documents are updated correctly, and the highest-quality documents are being produced by our team.</p> <p>Our approach, with the features described below, consists of steps that align with PMBOK standards. As a product of our experience working with 26 U.S. states, we bring a deep understanding of the approach to system documentation and align our processes to meet DSHS documentation needs.</p> <p>Features of our approach:</p> <ul style="list-style-type: none"> • Designed to be a clear and repeatable process that reduces risk and enhances team collaboration by including multiple iterative review cycles, with version control, and a standard plan for distributing documentation to the right audience • Collaborative with DSHS tools and technologies to streamline the documentation submission and review
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		<p>cycles, reducing risk and driving efficiency for the agency</p> <ul style="list-style-type: none"> • Maintains strict document control information that includes a revision history, a description and date of the changes, and a revision number <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <ul style="list-style-type: none"> • Our project management approach focuses on embedding quality in every aspect of our work from the very beginning and is integral to our delivery mindset. Our focus on quality (even on aspects like maintaining existing/new documentation) allows us to sustain excellence limiting the need for corrective actions. <p>Our 100% user documentation compliance for State of Indiana is a testament to this fact and we are determined to deliver the same quality to the state of Washington ACES as well.</p>
<p>6.84</p>	<p>Establish coding standards (based on DSHS policies and standards), document standards, obtain DSHS approval, and ensure all project teams conform to these standards. The process for enforcing coding standards must:</p> <ul style="list-style-type: none"> • Include validations to ensure that code comments and in-line code documentation is properly implemented • Utilize a combination of code peer reviews, custom tools and third-party tools including open source tools 	<p>Our Understanding of the Requirement</p> <p>We will establish coding standards that adhere to DSHS policies and standards. We will document the standards generate a baseline report where automation or coding standard is possible and obtain DSHS approval for them. Once approved, we will confirm project teams conform to these standards both for M&O changes and enhancements.</p> <p>How We Satisfy the Requirement</p> <p>We have outlined below how our team would work with DSHS to conform to the coding standards and produce high quality code for ACES.</p> <p>Code Level Validations</p> <p>Our code development process has the following highlights that are used to conform to high code quality:</p>

- Include the production of reports demonstrating code standards enforcement and coverage across code base
- Include specific processes to ensure code reusability and enforcement of code reusability standards
- Include support for the DSHS quality assurance team to perform periodic or random audits and code reviews
- Use detailed design deliverables to program, compile and document configuration changes for the new code developed for ACES
- Use bidirectional traceability from functional/technical requirements through design to development and testing
- Follow standard naming conventions for system artifacts being created (e.g., database tables, code classes, page elements, property files, etc.).
- Follow established coding standards common coding structure, in-line code documentation, code reusability and **proper comments to enable readability**, and easier support when deployed to production
- Utilization of code versions for source code management to confirm updates are properly managed and regression does not occur in the code with subsequent releases.
- Documentation of system configuration needed for successful implementation of the code in a structured and managed process

Code Reviews

High quality code development standards are enforced through structured code review and tooling that automatically validates and enforces standards. The code review process results in higher quality code with fewer issues. Highlights of our code review process include:

- Software code modified or created for a change or enhancement is subject to a peer review and a lead developer review prior to promotion for testing.
- Reviewers confirm that code comments and in-line code documentation are properly implemented
- Utilization of tools SonarQube and Findbugs for development and management team to identify code not conforming to standards early in the game and get them fixed before handing over the code to the testing team.

- Produce reports to demonstrate code standards are enforced and covered across the code base
- Post development sign-off, work with DSHS quality assurance team to review code samples for adherence to industry standards.

Coding Standards Compliance Reports

Our team utilizes automated tools to generate code compliance reports and addressing uncaught issues upfront. We will leverage and integrate SonarQube/SonarLint and PMD to achieve continuous inspection of code quality and to perform automatic reviews to detect bugs, code smells, and security vulnerabilities. We also leverage open-source tool FindBugs to scan the static codebase and identify any potential coding loopholes/bugs uncaught in unit testing. Our team will leverage DSHS vulnerability scanning tool Tenable SC to perform scanning of the entire code base regularly to analyze the source code for security vulnerabilities and make ACES highly secure.

Code Reusability

Our structured peer and lead review processes confirm code reusability and code modularization standards are followed strictly minimizing redundancy of utility functions and code meeting a common business need.

Code Audits

Our team understands the importance of code audits in maintaining coding standards and will support DSHS QA team for periodic code audits/reviews.

Lessons Learned/Best Practices/Examples of Previous Projects

To inculcate best practices and guidelines on coding, we manifested our resource on-boarding process with materials and standards (including documentation, version controlling, SDLC, coding etc.) that are reviewed with each staff member before they begin coding.

		<p>Working with State of Indiana, we successfully conducted quality management planning, assurance, and control with initiatives such as incorporating lead & SME testing of sub-components to confirm that each deliverable and their respective modules work end to end and identify any cross functional impacts which resulted in a significantly lower number of UAT defects due to early detection as well as reduction of gaps between planned and executed functionality.</p> <p>Further, our Delivery Excellence group (consisting of senior leaders from various state projects having deep understanding of E&E business) conducts a quarterly independent review of project health metrics, detailed audit to uncover any unidentified pitfalls and monitors operational outcomes from an outside point of view to bring meaningful insights to manage risk and improve quality of delivery for the States. This independent quality assessment report is shared with both client and teams on the project. We intend to provide these experiences with the same quality to Washington’s ACES as well.</p>
6.85	<p>Continually identify and implement software development process improvement opportunities such as:</p> <ul style="list-style-type: none"> • Implementing automated regression testing, performance testing, etc. • Implementing tools • Enhancements to methodology 	<p>Our Understanding of the Requirement</p> <p>Our team commits to continually identify and implement software development process improvements for ACES. To provide high quality work, continuous improvement is the key. We work with HHS agencies nationally and commit to bring process improvements and automations that has worked across other E&E systems to ACES.</p> <p>How We Satisfy the Requirement</p> <p>We will bring innovations and lessons learned from other States, assess applicability, and propose ideas or innovations that bring value to DSHS. Some of the improvement opportunities that we can bring to DSHS on Day-1 are:</p> <ol style="list-style-type: none"> 1. Our Use of Automated Testing to Improve Efficiency and Consistency

Our team has extensive experience in automating test scripts. The inclusion of automated testing efficiently reduces manual testing efforts and accelerates speed of delivery while further improving the quality of the software produced. Our team implements testing automation using:

- **Automated Smoke Testing:** This is run daily in lower environments to detect potential defects to alert developers to unforeseen issues related to new features or fixes to a code base.
- **Regression Test Scenarios:** We will create test suite of commonly occurring scenarios and run them in automated manner in every sprint to identify potential issues
- **Code Merge Smoke Testing:** In the week following a sprint release, code merge is completed to move code from production to lower environments. The merge is followed by automated smoke testing to validate a successful code merge and notify the team of potential production issues.
- **Performance Testing:** This is conducted on a periodic basis so that code changes do not result in system performance issues under load.
- **Unit Test Automation:** We automate unit tests executed during builds for efficient code testing for faster service delivery.

2. Enhancements to Methodology

a. Human Centered Design

Our team takes a Human-Centered Design (HCD) approach for development. By focusing on the worker experience, we will provide ACES users with an intuitive and rewarding experience to help increase their efficiency by presenting a clear path to contents and workflows. Through our HCD practices, we've instituted wireframing and rapid prototyping to accelerate system demonstrations and aid Product Owners in informed decision making even before code is developed and deployed.

b. Agile Delivery Methodology

Changing something that works can pose risks. For highly customized systems like ACES, the SDLC methodology must be adjusted over time to continue the momentum of excellence.

We are a leader in delivering large-scale IT solutions using Agile methodologies and is well equipped in helping DSHS transition to Agile methodology. We have a robust network of talented professionals, including 1,700+ certified Agilists and 12,000+ professionals with at least five years of Agile. We facilitate over 100 mission-critical agile projects including the WA-HBE for Washington state.

Here are some important aspects of Agile Delivery Methodology that can help DSHS in effective utilization of resources:

- **Improved collaboration** where DSHS and, our team, staff work together in a scrum team
- **Shorter lead times** because sixteen (16) week sprint cycle provides additional opportunities to do a production release at the end of eight (8) and twelve (12) weeks, rather than waiting longer to have production builds
- **Intentional focus** on developing minimum viable product (MVP) mindset
- **Continuous improvement** with planned retrospective sessions planned at end of each sprint cycle
- **Improved transparency** with daily scrum meetings and use of information radiators (e.g., Sprint Burndown chart, Cumulative Flow Diagram) that enable better risk monitoring and decision-making for DSHS.

Transitioning to Agile does not mean reinventing the wheel in terms of how we deliver with you. It means restructuring the way in which work is organized to produce better outcomes at regular intervals.

c. Enhanced System Monitoring

Our OperateEdge platform brings together a collection of artificial intelligence, cognitive, self-healing technologies, and building blocks, including machine learning as well as prescriptive and predictive analytics, and orients them around functions to enhance maintenance support services delivery. The figure below shows the features suite, scope and capabilities of OperateEdge.

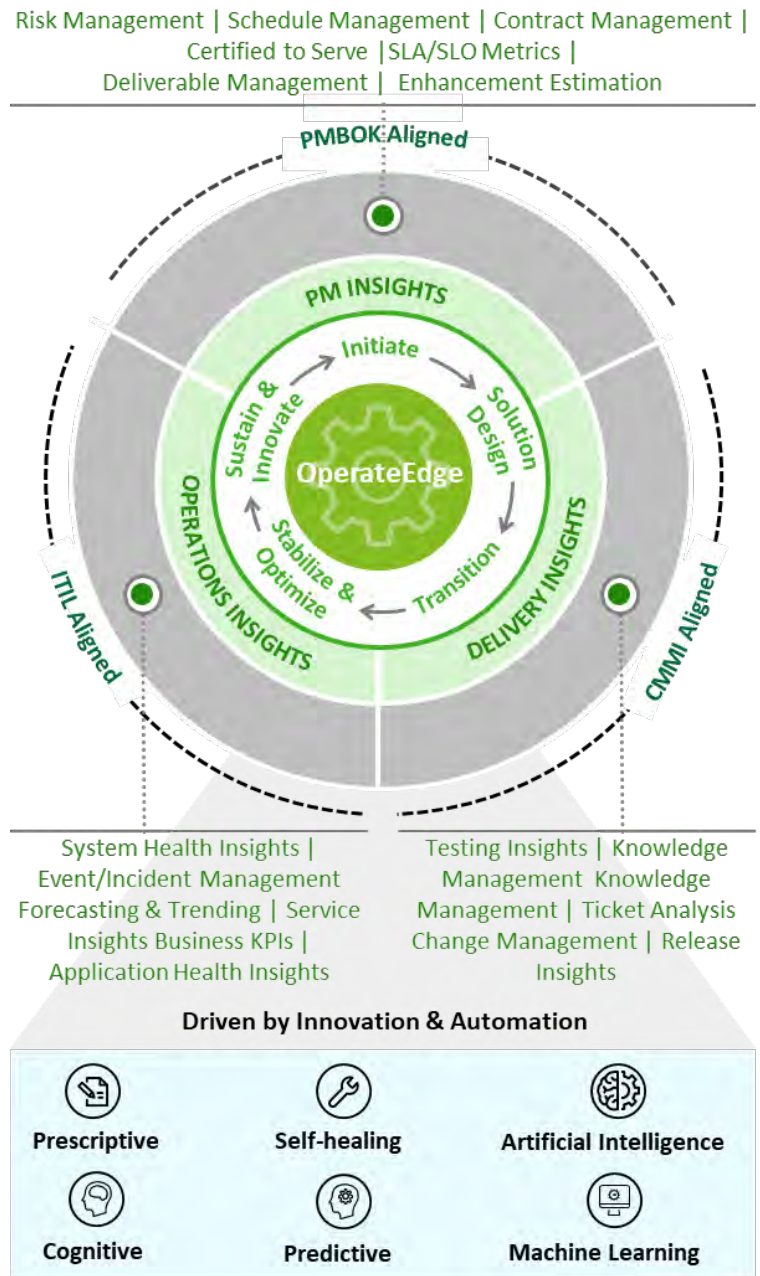


Figure 4.2-51. OperateEdge Scope and Capabilities.

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utility post implementation. Our team understands that success begins with analyzing the business users' request to gain a comprehensive understanding of requirements and to determine high-level costs. Our 45-year experience implementing large-scale HHS projects with states enables us to ask the right questions from the get-go. Moreover, we leverage analytics accelerators and frameworks used in other states to support effort estimation, helping business users prioritize enhancements with the understanding of effort estimate and costs. The following sections provide a glimpse on how the tools and assets we have developed over the years will help DSHS define better requirements and determine more accurate cost estimation.

How We Satisfy the Requirement

Our **Enterprise Value Delivery (EVD) for Transition and Operate** methodology combines a multitude of processes, accelerators, deliverables, and best practices to guide large scale, enterprise data warehouse enhancement delivery and management. Discovery is the first phase, during which we analyze the needs of business users. This includes developing a **requirement scope document** with our understanding of program objectives, expected user benefits, and data reporting enhancement needs (e.g., data for integration, or on-demand or canned reports/dashboards). We work closely with the business users to validate our scope understanding through a stakeholder kickoff meeting, interviews, surveys, or review of previously documented user feedback. We then draft a work plan that outlines the tasks, timelines, deliverables, and dependencies that will serve as the foundation for **level of effort (LOE) estimation** to inform cost.

A sample LOE template to develop a data product (e.g., Tableau dashboard) will consider new or enhanced Extract, Transform, Load (ETL) processes for existing functionality, data conversion or integration, data cleanup, dashboard development, security and architecture, training and implementation, and integrated testing with external systems. The LOE is refined after the design is completed. We will collaborate

		<p>with DSHS to obtain approval of the project scope and initial LOE prior to requirements gathering sessions.</p> <p>The requirement scope document, the stakeholder kickoff meeting, and the work plan in conjunction with the level of effort estimate provide business users and DSHS stakeholders with better alignment on goals and objectives, high-level requirements, budgetary expectations, as well as the overall strategy and approach for the work ahead.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>An advantage of our years of experience delivering analytics solutions to HHS agencies is our ability to help our business users interpret policy changes and translate that into data solutions that help their programs evolve. Throughout the years, our team developed the Health and Human Services Interactive (HHSi), an analytics asset implemented in 10+ state agencies to integrate and visualize data to improve executive and operational decision making, as well as the Enterprise Data Management (EDM) framework, which provides a comprehensive framework for data architecture, master data management, data modeling, business intelligence, metadata management. HHSi is a suite of pre-built dashboards and hundreds of key performance indicators that answer critical business questions across SNAP, TANF, Medicaid, Child Care and more, while EDM framework provides best practices to effectively manage data assets supporting DSHS DW. We will be leveraging these assets and frameworks as accelerators and best practice from parallel implementations – whether they are enhancements for data management, federal reporting, operational efficiency, or policy transformation, our accelerators can help guide the requirement gathering and analysis, and cost estimation.</p>
6.87	Work with requestor to fully understand their business need	<p>Our Understanding of the Requirement</p> <p>As consultants at the core of our workforce, we enjoy working with clients to understand the business needs</p>

PROPRIETARY

- Communicate across business users and project stakeholders of prioritized user stories and backlog, timeline, dependencies, and next steps on design
- However, our process to maximize business user alignment does not stop at requirement gathering. Throughout design, development, and testing phases, we leverage multiple techniques such as design demos and user acceptance test cases to verify and re-verify that our solution fulfills the requestor’s business objectives and usability.

Lessons Learned/Best Practices/Examples of Previous Projects

Understanding the requestors’ business need and pain points is prerequisite to drafting user stories and acceptance criteria. In our other engagements, especially those that seek to modernize legacy reports, we found the following methods to gather business understanding to be especially helpful.

Method	Description and Benefits
Stakeholder meeting	Invite end users to provide feedback or clarifications to understanding of the requirements. This is beneficial when consensus is needed across various stakeholders from different departments and when clarifications needed are straightforward. If usage statistics are unknown, stakeholder meetings can help identify power users.
Focus group	Invite selected power users to provide feedback or clarifications to understanding of the requirements, or to demonstrate a sample or initial prototype. This is beneficial when detailed input is needed, and that the users are open to sharing feedback.
Interview	One-on-one interviews with product owner for in-depth understanding of current pain points, desired future state, and expected outcomes of the solution.

Figure 4.2-52. Gathering Business Requirements.

Our team will work with DSHS leadership to determine the most productive and efficient method to understand requestors’ business needs.

6.88	<p>Leverage multiple techniques to ensure their business needs are fully understood and addressed including, but not limited to:</p> <ul style="list-style-type: none"> • Developing mock-ups • Developing proof of concepts • Providing training/demos • Leveraging DSHS's approach to development 	<h3 style="color: green;">Our Understanding of the Requirement</h3> <p>Clear and complete understanding of the business needs is critical to define accurate data transformation rules in the ETL process for EDW and the accuracy of the data presented in the reports and dashboards. With years of experience in delivering the integrated eligibility solutions across multiple states, our team has developed techniques and frameworks for requirement solicitation. We bring accelerators specific for the HHS agencies such as DSHS that enable us to engage with business stakeholders effectively and early, on understanding, clarifying and replaying our understanding of the business needs. This section outlines how we will leverage multiple techniques as we support and enhance the EDW and reporting to clearly understand the functional needs and deliver to those requirements.</p> <h3 style="color: green;">How We Satisfy the Requirement</h3> <p>Our team is flexible when working our clients to design solutions that meet business needs. We understand different business needs may require different techniques to solve the problem. With over 45 years of experience in implementing and managing large-scale HHS systems, our team has a deep knowledge of HHS and the complexity of the business programs and policy and especially, data. Leveraging multiple techniques including mockups or report solution wireframes, proof of concepts or prototypes, and demos, we will work hand in hand with DSHS teams to visualize and validate your business needs. We consider which of these techniques to best use for each project, whether the project is developing a new dashboard, fixing incorrect reporting or ETL processes, or enhancing existing reports based on laws, new functions, or end user request. We will facilitate multi-level stakeholder reviews to confirm the design with stakeholders and end users. At the end of the design phase, our team will provide DSHS with a design document, using DSHS pre-approved template, that outlines the mockups, functional requirements and</p>
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technical specifications of the solution and any considerations.

Our design principles focus on what is feasible, viable, and desirable. We use a **human-centered design** (HCD) approach, focusing on the end user with the goal of maximizing adoption through an easy-to-understand user experience. Gathering information on the end user's needs may come from surveys, focus groups, and **joint application design** (JAD) sessions. We will develop user stories based on the gathered data that outline the acceptance criteria of how end users will use the solution. These user stories will guide the design discussions so that the final solution is centered around the end users' business intelligence needs and experience.

Leveraging HHS Interactive as Accelerator

A typical JAD session considers how the application functionality, member and worker processes, and data flow will impact the reporting solutions. We will use user stories as a guide to determine what metrics should be included in the report and those metric criteria. Our HHSi solution will be used to accelerate the project delivery for DSHS by utilizing standard design principles, architecture, user interface, and best practices. HHSi is a guidepost of the reporting, data model, and data management best practices that we have implemented in other states that can streamline the requirements process through the following inputs.

- Pre-built reporting templates and adoptable data model that are proven to provide hindsight, insight, and foresight needed to make strategic decisions and drive policy formulation. These templates can be customized according to DSHS's requirements.
- Standard key performance indicator definitions and calculations that are commonly used to answer critical business questions for federal reporting, operational efficiency, or policy transformation.

Our engagements have proven clear benefits – the ability to expedite delivery, increase efficiency, and enhance

quality. However, we acknowledge that every state agency has their unique business processes, and we will use HHSi simply as an accelerator. Our team of subject matter advisors in Analytics and Data Engineering practice will work closely with your JAD session participants to design a solution that meet your specific business and technical requirements.



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Figure 4.2-53. Multiple Techniques to Confirm Business Needs are Met.

Getting Iterative Design Feedback

The proposed reporting solution will be shaped by the end user’s needs and the reporting metrics. Some examples of data artifacts are Tableau interactive dashboards, or tabular operational reports. Our team will develop mockups of the solution and iterate the design with DSHS. Proofs of concept will be completed to confirm solution functionality as required.

Once the solution design is finalized, our team will develop a prototype and share with DSHS and other key stakeholders through interactive demos. DSHS can provide input based on the prototype for the final iterations of the design. Interactive demos will also be used for any solutions that require additional end-user training.

		<p>The provided design document will be shared with DSHS for approval that includes the design information gathered through JAD sessions, focus groups, and surveys. Information that may be included in the design documentation include user stories, metric criteria, report mock-ups, changes to existing processes, and new extract, transform, load (ETL) processes. Our team will follow DSHS’s approach to development when constructing the deliverable.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team used the above approach to develop a public-facing Tableau dashboard in Wisconsin that illustrates statewide health insurance coverage landscape. We used an agile and iterative approach to understand their business needs and work closely with requestors to understand the various potential end user groups, what information is most relevant to them, and how they will slice and dice the data. Once we completed user stories, we created dashboard mock-ups and reviewed a design document with the requestors to iterate on the design through JAD sessions. Subsequently, we offered the requestor another opportunity to incorporate feedback before user acceptance testing by demonstrating the dashboard in Tableau with production-like layout and functionality. In each phase, we used HCD principles to guide discussion and consider how the end user would interact with the dashboard, focusing on ease to understand and ease to use.</p>
6.89	Support testing to ensure accurate data prior to migrating to production	<p>Our Understanding of the Requirement</p> <p>Data is one of the most influential challenges our project teams have had to work with in similar takeover projects. Accumulation of system defects, data mismanagement, design deficiencies and technical debt can lead to the accumulation of problematic data that requires routine cleansing and clean-up prior to any deployment. We understand that if bad data gets migrated to production, it will lead to potential flawed insights, leading to inaccurate reports and dashboards including submissions</p>

made to the federal government and other state agencies. Business decisions are being made based on the data being displayed in the dashboards and reports. While there is no direct impact on benefit issuance or eligibility determination for a client, the reports help with providing key metrics and early warning signals for the operational inefficiencies and can help DSHS leadership to take decisions in streamlining their operations. Our team equipped with years of knowledge of HHS systems will put in procedures to validate that the data is correctly transformed and delivered to the data warehouses and reporting databases. We have deep understanding of the federal submissions made to CMS and FNS and the impact of the data and will conduct rigorous regression test of reports if the changes are made to the entities that are impacting these federal reports. The section further elaborates how our matured processes would support the testing of any changes/enhancement we make related to the data before it moves to production environment.

How We Satisfy the Requirement

Our team uses a multi-faceted **testing** approach to confirm data accuracy prior to moving the report or Extract-Transform-Load (ETL) changes to production. The types of testing we conduct ourselves, or provide support to the State to conduct, include:

- Unit Testing
- System and Integration Testing
- User Acceptance Testing
- Mock Production Data Testing
- Regression Testing

Our team will develop a test plan that includes each of these types of testing and the test scope, assumptions and constraints, communication plan, exit criteria, and scenario execution. The impacted system components will first be tested through unit and system testing by executing each of the test scenarios to verify data at the base level is correct. The exit criteria for system testing

will be met before releasing the solution to DSHS for joint **user acceptance testing (UAT)**. There will be a pre-determined process on how to log defects with the defect priority level. Defects that result in critical functionality issues could be required to be fixed prior to releasing to production. Other defects that result in moderate to minor functionality issues may be put in the **defect backlog** or prioritized for a future enhancement. This process will be used throughout each testing phase to support continuity of testing quality and defect prioritization.

The project development team will complete the initial unit testing once development is completed to review the code and solution for defects. Once the development team resolves defects or moves them to the backlog, a separate team will complete system testing to thoroughly test the solution to confirm that the product is meeting the specified criteria outlined in the DSHS-approved design document focusing on the data accuracy. The bad data can be created at multiple stages in the EDW solution:

- Source system produces bad data before it is sent to EDW.
- EDW has ETL with incorrect data transformation logic that causes the bad data getting created in the EDW.
- Report level metrics are incorrectly configured and as a result incorrect information is presented in the report or a dashboard.

Prior to releasing the solution to UAT, our team generally performs an interactive demo with the key stakeholders and testers. The solution will be tested with production quality data, which will allow for more accurate testing with production-like scenarios. We will perform regression testing to major existing reports so that the new changes do not inadvertently impact existing code.

Lessons Learned/Best Practices/Examples of Previous Projects

Our team is actively engaged with multiple HHS agencies across the country on delivery and maintaining EDW

PROPRIETARY

lineage required to manage change for enterprise data warehouse and BI reporting requirements. Our team will use industry-leading frameworks, best practices, and technologies while following DSHS's existing metadata practices and policies to confirm that data is defined, trusted, and accessible as appropriate to data consumers throughout the enterprise. During our transition in, we will request data dictionary documentation on EDW components. Maintaining mission-critical metadata is vital for users to search for, understand, and securely access business data needed to perform jobs confidently.

How We Satisfy the Requirement

As part of the comprehensive Enterprise Data Management (EDM) framework, our approach to metadata management considers how metadata is created, collected, documented, managed, and shared with users across the enterprise.

Our approach to metadata management provides the following key benefits:

- Data integration visibility across DSHS's Enterprise Data Architecture.
- Visibility into data objects, rules, transformations, and reference data.
- Data lineage and impact analysis performed across Enterprise Data Architecture.
- Advanced search and browse capabilities of a metadata repository.
- Operationalization of continuous information governance and data quality improvements.

We provide these benefits through an iterative, phased approach that involves people, processes, and tools to confirm that the capturing of metadata with each data integration and BI-specific project. The following figure shows the type of metadata we will capture.

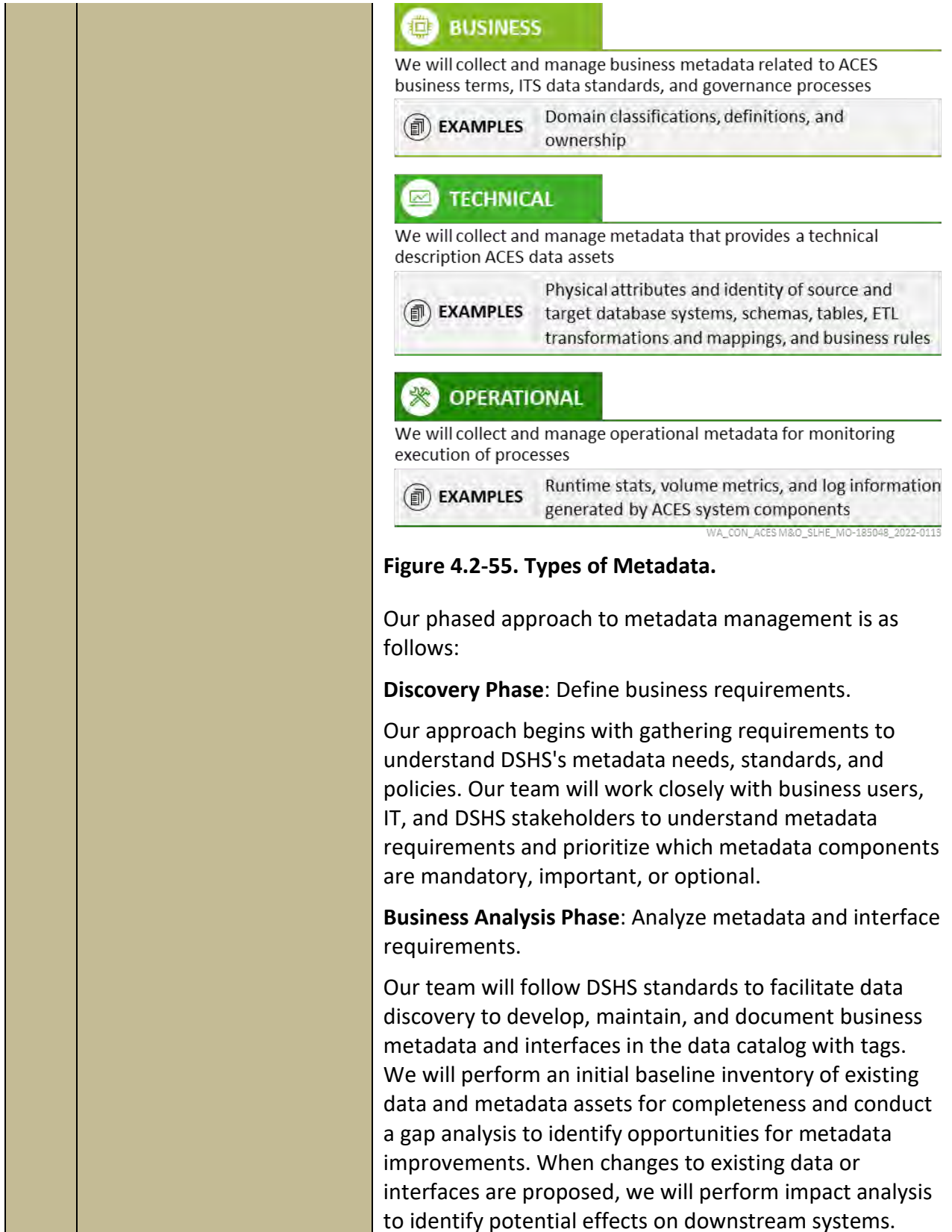


Figure 4.2-55. Types of Metadata.

Our phased approach to metadata management is as follows:

Discovery Phase: Define business requirements.

Our approach begins with gathering requirements to understand DSHS's metadata needs, standards, and policies. Our team will work closely with business users, IT, and DSHS stakeholders to understand metadata requirements and prioritize which metadata components are mandatory, important, or optional.

Business Analysis Phase: Analyze metadata and interface requirements.

Our team will follow DSHS standards to facilitate data discovery to develop, maintain, and document business metadata and interfaces in the data catalog with tags. We will perform an initial baseline inventory of existing data and metadata assets for completeness and conduct a gap analysis to identify opportunities for metadata improvements. When changes to existing data or interfaces are proposed, we will perform impact analysis to identify potential effects on downstream systems.

Also, we will work with DSHS to resolve and standardize data discrepancies or definitions of business terms.

Design and Construction: Building business glossary, developing the metadata data model, and populating the metadata repository.

We will update and maintain a logical metadata model in the metadata repository based on the defined business requirements captured early in the process. We will work with DHS to determine ACES metadata objects, their content, relationships with other data objects, and how they will be stored and accessed in the repository. Our experienced team will leverage InfoSphere's metadata management tools to import metadata from ACES system components into the repository. In the repository, we will document the ACES data assets involved in each data integration and BI reporting project, including their source, context, meaning, and other contextual information.

Deployment Phase: Publish business glossary, data catalog, and data lineage visualizations. Provide training to DSHS staff.

Our team will establish a SharePoint site to enable business users to browse, search, and query a business glossary and data catalog of ACES data assets. Our team will train DSHS users on its use, enabling them to collaborate and maintain this information. Through BI tools and reporting, we will provide data lineage to facilitate impact analysis and provide users insights into business and technical transformations applied to data. Also, we will work with business users to confirm that compliance and usage of industry-standard definitions and requirements for business data, when applicable.

Lessons Learned/Best Practices/Examples of Previous Projects

The Enterprise Data Management framework is integral to our Enterprise Value Delivery (EVD) methodology. Our team has a proven record of executing EDM for clients with high visibility missions. Leveraging the EDM framework, our team has delivered metadata

		<p>management solutions for HHS organizations in the Commonwealth of Pennsylvania, the State of New York, and the State of Georgia. Our experience and expertise in using data standards and best practices for states (e.g., the State of New York and the State of Georgia) follow the State of Washington's requirements for creating and using metadata to document data assets, including metadata standards based on Dublin Core and ISO.</p>
<p>6.91</p>	<p>Provide data user support after the data/report/tool goes into production</p>	<p>Our Understanding of the Requirement</p> <p>Our team understands that providing end user support in a timely manner is critical after the data/report/tool goes into production and making sure DSHS end users are using the solution we have built/enhanced as productively as possible. Users can access training and support content without leaving the task at hand and our end user support subject matter experts will analyze the DSHS end users request by walking end users through problems, training them to use report/tool/data and working on the defects encountered by users.</p> <p>How We Satisfy the Requirement</p> <p>Our team provides core maintenance and support of the implemented solution after the report/data/tool goes into production. This includes monitoring ETL and dashboard refresh processes; conducting ongoing tuning and optimization as necessary; defect triage, prioritization, and resolution; creating user guides; and supporting ad hoc data requests.</p> <p>Our approach to maintenance and operations focuses not only on system administration and stability, but also on the software release process as defect fixes and enhancements pass through the SDLC.</p> <p>After DSHS testers validate and approve the changes in the UAT environment, our team prepares pre-production release reports and tool for production and pre-production testing in anticipation of production deployment.</p> <p>Each production code migration is coupled with a Release Notes document where the changes and or new</p>

functionality of reports/dashboards/tool are detailed. In addition, we will submit updated deliverables such as design document and user guides affected by the changes introduced in the new release.

We will assist DSHS in performing post-deployment validation in the production environment using key business scenarios to confirm report/tool/data functionality is as expected and existing behaviors are not inadvertently broken.

Our team prepares standard operating procedures (SOP) with exact definitions of the data included in each report and end-user guide/training materials for each report/tool after it goes into the production. The SOP documents provides DSHS end- users with procedures that can refer to when using a report. These procedures include specifics of the data being included in the report/analytic tool, the metadata for the report, definition of each row and column of the report, definition of any formulas or calculations, business meaning of the cells of the report, next steps, and actions that end users need to perform based on the data of the report.

Along with the above documentation, our team provides ongoing end -user and technical walkthroughs on how to use the solution and providing any required materials until end users are proficient after report or tool goes into production. Walkthroughs allow the DSHS business users to understand the report and use in their daily workflows. Postproduction deployment, our team provides super-user support (as usability questions focused on the report).

As a part of maintenance activity, our team maintains an inventory of reports that have been developed and provides statistics that track usage of each report and their runtime. The statistical data may be used by DSHS to identify bottlenecks or to consolidate un-used reports.

In summary, our end user support will enable DSHS to minimize downtime, guide end users through the functionality of the report/tool, increase productivity and enhance end user experience.

Key Activities	Description
Perform Post Deployment validation	<ul style="list-style-type: none"> • Key business scenarios are tested and validated
Maintenance and Operations Post Deployment	<ul style="list-style-type: none"> • Monitor ETL loads and dashboard refresh processes, troubleshoot and resolve issues as necessary • Conduct ongoing tuning and optimization of ETL processes • Defect triage, prioritization, and resolution • Conduct monthly status touchpoints with DSHS

Figure 4.2-56. Key Activities for Post-Production Report Deployment.

Lessons Learned/Best Practices/Examples of Previous Projects

Our team has many years of experience with business intelligence, data analytic, data Warehouse and/or decision support system development and implementation activities for claims/encounter processing systems or with commercial health care decision support projects. We have collaborated with agencies to effectively transform their data into useful information — a transformation of disconnected pieces of raw data to create a unified insight from which decisions can be made.

Over the last 10 years, our team has been awarded multiple contracts in relation to business intelligence, data analytics, data warehouse and decision support system development and implementation activities. We have worked with State departments of education, human services, financial, national commercial health care plans, and providers, as well as Federal agencies.

What it Means to Washington DSHS

- Existing best post deployment practices and data support, valuable lesson learned, and proven accelerators can be leveraged for DSHS EDW/BI/Reporting end users support

		<ul style="list-style-type: none"> • Expertise in Data Analytics maintenance and end user support activities • Expertise in various EDW/BI packaged solutions maintenance and end users training and support activities for packaged solutions
6.92	Find opportunities to streamline reports provided including identifying opportunities to consolidate reports	<p>Our Understanding of the Requirement</p> <p>Our team understands that DSHS may have several hundred standard reports in the current ACES solution. From our experience, we have observed as the system matures and caters to more functionality, more reports tend to get developed to cater to changing needs of the business users. As a result, lot of new reports get created that render similar metrics that other older reports produced either partially or completely. This has potential to cause inconsistencies and impact executive decisions as similar looking metrics show different results. To address such inconsistencies and streamline the reports we must review, understand the need of each report, and consolidate them. This will significantly improve the maintenance and sustainability of these reports and provide for better user experience.</p> <p>How We Satisfy the Requirement</p> <p>Our M&O team will review the existing documentation and collaborate with DSHS during Discovery phase through knowledge transition sessions to review current report inventory, to understand business logic and report usage. This will help us deepen our understanding of existing reporting capabilities of ACES data warehouse and any opportunity to consolidate pre-built reports. Based on our experience and working on similar report consolidation activity across multiple states and projects we recommend following below steps.</p>

Create a report inventory and classify each report based on different parameters such as business function, report generation frequency, usage, etc.

Present the consolidation findings to the DSHS key stakeholders and seek approval.



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Figure 4.2-57. Report Consolidation Process.

Report Classification: First step in the report consolidation process would be to classify the reports based on multiple business and technical parameters as given below.

- **Source System:** Identify the source system that provides data for the report
- **Business functions:** Identify the business area of the report such as program, function, type etc.
- **Usage:** Identify current usage of reports by analyzing the existing documentation and usage statistics from current BI or other monitoring tool. Identify if the report is self-sufficient or requires additional manipulation before use.
- **Access:** Identify different groups and roles accessing the reports and usage frequency
- **Field Analysis:** Analyze the fields used in each report and identify reports with similar fields for potential consolidation.

- **Filters:** Identify reports with similar fields but different views such as statewide report versus County level report and analyze that for potential consolidation.
- **Type of reports:** Categorize the report as canned or on-demand
- **Schedule:** Document the refresh frequency of reports to help determine usage. Identify if the information is current or stale for the business need.

Analysis

Based on report classification completed in step one, a comprehensive analysis will be performed in collaboration with DSHS to identify reports for potential streamlining and consolidation using factors such as

- Bring automation for data refresh, report generation, and publishing
- Minimize manual processes to improve efficiency and usage
- Reports with similar fields and business usage for consolidation
- List of reports for potential deprecation
- Merge similar reports into single report with multiple views/tabs to keep relevant metrics in one place and with same refresh frequency
- Merge reports with different views into single report with added filter capability such as State vs County
- Use of HHSi accelerator tools to perform quick and complete analysis based on above mentioned factors

Consolidation and Approval

Our team will produce a future state for reports with potential streamlining, consolidation, recommendations, and benefits

Some of the benefits of streamlining include

- **Improves Maintainability:** Consolidation of reports helps reduce overall count of reports thereby reducing the maintenance cost.

- **Quick/Intuitive search:** Streamlined reports help users to spend more time analyzing the data rather than resolving discrepancies across reports.
- **Improves operational efficiency and quality:** Single view report that encompasses key data elements catering to multiple stakeholders. This improves quality and efficiency compared to reviewing multiple reports.
- **Collaboration:** Consolidated reports make it easier for cross-team collaboration, with everyone using the same report with the same data set, thereby reducing the risk of error.

We will facilitate review meetings with key stakeholders to get final approval on the recommendations for reports consolidation. We understand end users are used to refer to a particular report for their needs, so we will provide a crosswalk list and user documentation to the stakeholders to help them initially to navigate new reports catering to their needs.

As a part of Maintenance and Operations, our team will continue to maintain an inventory of reports that will be developed and maintain the statistics that track usage of each report and their runtime. These statistics will be used to identify further changes such as performance bottlenecks to be fixed and find opportunities to further streamline reports.

Lessons Learned/Best Practices/Examples of Previous Projects

Report Traceability

It is important to understand the purpose of the report and the stakeholder using the report. Every report should be tracked with this information, this provides a master repository to refer to different reports available in the system.

Consistent Key Performance Indicators (KPIs) and Measures

Each report has its own purpose, the KPI's and Measures within the reports are viewed through different lens by different end users. It is important that reports have single source of truth, KPI's and Measures are defined and agreed upon through the data governance process, which means the values should be consistent across different reports.

Report Refresh Rate

Reports should have report refresh date and time specified in the layout. Report data, KPI and Measure values should be viewed in that context and the report refresh rate should be well documented to meet stakeholders needs.

Report Governance

A governing body should review any new reports request and confirm the need based on current reports inventory and future roadmap. This will help reduce excessive report creation and help rationalize and restructure existing reports.

Continuous Monitoring

It is important to constantly monitor reports inventory and its usage. Use Report Consolidation Accelerator to evaluate opportunities to consolidate reports on ongoing basis.

Report Retirement Process

As part of report consolidation process, if reports are identified to be retired, we define and follow a process to transition end users from old reports to the new reports. We will work closely with the DSHS stakeholders and end users to create a transition plan including maintaining the old report for set amount of timeframe, training materials, update to the online help manual etc.

6.93 Develop and maintain programs and interfaces (ETL) for extracting data from systems of records

Our Understanding of the Requirement

Our team understands the importance of the data acquisition process from system of record (SOR) and its complexity in the overall development of the DSHS data warehouse. Data acquisition is performed using an Extract Transformation and Load (ETL) tool, which facilitates the extraction of data from various source systems and combines the data logically using defined transformation logic in the data warehouse.

How We Satisfy the Requirement

- Existing best practices, valuable lesson learned, and proven accelerators can be leveraged for DSHS EDW/BI/Reporting enhancements
- Expertise in Data Analytics complemented with mature enterprise data management framework
- Experienced in administering ETL servers and related databases
- Visibility into other states' EDW/BI solution case studies

Our team has decades of experience with business intelligence, data analytics, data warehouse and/or decision support system development and implementation activities for Integrated Eligibility & Enrollment System decision support projects. Often, this involves dealing with multiple databases within a single organization that operate under various technologies and operating systems.

Our team will review the existing documentation and collaborate with DSHS during knowledge transfer sessions to review current ETL inventory, to understand different source systems, transformation logic and the database structure. Based on our experience and working on similar EDW projects we will collaborate with DSHS and perform following activities

- **Understanding current ETL landscape:** We will review the available data integration related documentation to understand the current ETL Data sourcing and

staging layer architecture and the database model (source and staging)

- **Review list of source systems:** We will review and create an inventory of source systems including ACES to understand the business functionality of different source systems and importance of that source system in ACES EDW solution
- **Source Table Inventory:** Identify list of tables including audit tables, used across source system used for staging layer and understand the criteria used to extract relevant data through change data capture process
- **Source to target table mapping:** Review source to target table mapping to understand mapping of fields from system of records to the stage area and the transformations such as – datatype validations, formatting, cleansing, reference table values etc.
- **Data load Type & Frequency:** Review and understand the data load type operations performed like- insert, update, delete on different tables. Identify the data load frequency of each target table – daily, weekly, monthly etc.

As we engage with DSHS, we will bring new thought leadership and approaches to designing, developing, and testing data and reports through our suite of data management accelerators. As part of Maintenance and Operations for ETL we will also focus on following areas to maintain the ETL jobs for DSHS

Maintain existing Infrastructure and code

As part of maintaining the ETL infrastructure and code to source the data from system of records, we would perform following activities

- **Monitor ETL Jobs–** Our team will monitor the ETL Jobs executed based on the pre-determined schedule, especially during heavy/peak load time. We will monitor the logs, warning messages, job failures. We will inform appropriate team including the data stewards from the source team, to take corrective

actions where required. We will also monitor the performance of the jobs to validate the jobs are completing in a reasonable amount of time.

- **Monitor ETL Infrastructure** –We will monitor the ETL infrastructure utilization during the ETL execution such as CPU usage, RAM utilization, etc. on ETL servers to validate that the system usage is under the threshold limits. Infrastructure monitoring is covered in more detail under section 6.64. When we identify an issue, we will perform the root cause of the issue and work closely with the DSHS to fine tune the ETL jobs to resolve the issue.
- **Monitor Database**– We will monitor stage and data warehouse schemas for any performance issues caused by deadlocks, query execution, disk capacity during the ETL load process. In case any issues are discovered, we will determine the root cause and work with the DSHS team to take the corrective action to resolve the issue. The corrective action may include fixing the ETL code or making changes to the database to resolve the issue while causing minimum disruption to business.
- **Monitor Bugs:** We will actively monitor the DSHS defect tracking system and triage ETL related defects, identify the solution and work closely with DSHS to deploy the changes with the earliest possible release to resolve the issues.

Minor changes to existing system of records

Our team understands as part of maintenance and operation of the applications, there will be changes to the system of records such as addition of new tables and fields. We will work closely with DSHS and SOR data owners to analyze the impact of the changes on the existing ETL jobs and extract those data elements to the staging layer. We will also work closely with the Reporting M&O team and DSHS to understand the impacts on the existing reporting solution.

Based on this understanding we will make the necessary changes to the staging are and the corresponding ETL. We will perform data profiling on the data to determine

the need for data cleansing, standardization, formatting, and validations to make the data ready for the data warehouse.

Major changes/Modernization of system of records

Our team understands that system of records (SOR) is upgraded or completely modernized as the requirements for the system change over time. When a SOR is upgraded/modernized, we will analyze the current scope of data from the SOR and work closely with the key stakeholders from DSHS and the SOR to understand the key data requirements from the modernized system. We understand that, in most of the cases, DSHS would like to minimize the changes to the data warehouse and the related reports by controlling and transforming the data coming from the modernized SOR as much as possible. On the other hand, DSHS would like to utilize the new business functions and enhanced functionality to be incorporated into the data warehouse and bring in additional functionality to the reporting users. We will work closely with the key stakeholders to understand the requirements and design the staging layer, ETL, and the data warehouse to meet the needs of the stakeholders.

As part of this activity, we will analyze the database structure within the SOR and the most optimal way to extract the data and minimize the impact to existing staging, ETL, data warehouse and reporting.

Lessons Learned/Best Practices/Examples of Previous Projects

- **Change Data Capture** – Work closely with the system of record (SOR) owners/data stewards to identify if change data capture (CDC) is implemented in the source system. Use the CDC to identify the data created/modified daily and design the ETL process to optimize the performance of data retrieval. If CDC is not implemented in the SOR, work closely with the SOR owners to figure out how best to retrieve information from the source system. In some cases, the create date and last modified date audit columns are not consistently managed in projects and can

		<p>cause huge issues if the process is designed based on these audit fields.</p> <ul style="list-style-type: none"> • Retrieve Required Information: Extract only the information from the SOR that is required by the reporting solution. This approach helps the team remain in compliance with the security requirements. Additionally, understand if there is a requirement to mask certain data to be loaded into the lower environments such as development and system testing. • Data Validation/Cleansing – After staging the data, perform data validation on the data to check if the data meets data integrity requirements. Identify any data anomalies and share the data anomaly report with SOR owners to remedy the data. Use additional data sources, where applicable, to enhance the data. E.g., use Google API to validate the addresses and add missing information before transforming data into the data warehouse. • Job Schedule – Design the ETL batch schedule in alignment with the SOR batch schedule. SOR will have daily, weekly, monthly batch schedule that should be completed before retrieving the data from the source system for populating the data warehouse. Follow the guidelines and design the schedule in alignment with the source system batch schedule to retrieve accurate information from the source system.
6.94	Develop and maintain programs and interfaces (ETL) for transforming data in support of business intelligence tooling and services	<p>Our Understanding of the Requirement</p> <p>Our team understands a business intelligence and reporting solution is critical to supporting improved analysis and data driven decision making. The dimensional data model acts as a single repository and provides robust data integration, operational point-in-time reporting and provide ongoing analysis of large volumes of data. The warehouse layer of which ETL processes are integral part, is critical and important to host and combine diverse set of data which will be used to support business intelligence tooling and reporting services.</p>

How We Satisfy the Requirement

Our team will review the existing documentation and collaborate with DSHS during knowledge transfer sessions to review current ETL jobs used to support business intelligence services. Based on our experience and working on similar EDW projects with other health and human services clients, we will collaborate with DSHS and perform following activities

- **Review existing Data warehouse model:** We will review existing DSHS data warehouse model to understand the dimensional model: Facts, dimensions, Slowly Changing Dimension (SCD) implementation, existing data lineage document to link the BI reports and underlying facts and dimensions.
- **Review source to target table mapping:** We will review the source to target mapping document and ETL jobs to understand the transformation logic – including list of values, aggregation logic to calculate different KPI from staging layer to data warehouse layer.
- **SCD requirements:** We will review the slowly changing dimension (SCD) tables in the data warehouse layer and the ETL process to maintain them on an ongoing basis.
- **Data Load frequency/scheduling:** We will review and understand the data load type operations performed like- insert, update, delete on different dimensional tables. Identify the data load frequency of each target table – daily, weekly, monthly etc. based on reporting requirement.
- **Review existing reports:** We will review existing reports wireframes/mockups, documentation to understand the business logic on top of data warehouse layer.

As part of Maintenance and Operations for ETL we will focus on following areas to maintain the ETL jobs for DSHS business intelligence tooling and services:

Monitor Bugs: We will actively monitor the DSHS defect tracking system and triage ETL and BI related defects, identify the solution and work closely with DSHS to deploy the changes with the earliest possible production release cycle to resolve the issues.

Continuous Improvement- BI requirements: We understand the need from business to enhance existing BI reporting solution to deliver newer insights and help with data driven decisions. Our team will collaborate with DSHS team to understand such requirements and follow below steps to enhance the solution.



Figure 4.2-58. Continuous Improvement Steps.

Analyze the requirements -We will analyze the business intelligence requirements and understand the data needed to meet those requirements. If the data needed to meet the requirements is not available in the stage area and data warehouse, we will define the source to target mappings detailing the ETL logic to extract the information from the system of record and load the data into the staging area.

Assess the impact on dimensional data model: Based on the analysis in the previous step, impact on the data warehouse will be evaluated and design changes identified will be documented. We will review the business intelligence requirements and determine if the requirements can be met using the existing data warehouse tables or by making enhancements to it. If the metrics required are not available in the data warehouse, we will design new facts and dimensions.

Implementation: As part of the implementation phase, the design changes will be implemented including the ETL to extract the data from the source system, ETL to transform and load the data warehouse, and reports to

meet the business requirements. The changes will be deployed and tested. We will work closely with the other teams to test the data, transformation logic, and reports to validate that it meets the business intelligence requirements.

Lessons Learned/Best Practices/Examples of Previous Projects

Monitor data load: Regularly monitor the data loads and important metrics such as number of rows processed, change in the number of rows processed, execution time, change in the execution time, number of errors, change in the number of errors, change in the schedule of the ETL job owing to upstream dependencies etc., and take proactive steps to keep/improve the performance of the data loads and meet project timelines.

Dimensional model techniques – Use proper dimensional data model techniques to design the facts and dimensions. Use Slowly Changing Dimensions to track changes on key dimensions so support reporting using the old values and new values. Historical changes to the measures should be tracked by accurately identifying the fields on which history needs to be tracked and designing/populating the effective dates correctly using business dates or system date where applicable.

Transformations: Design and develop the transformation framework and logic to be reusable where applicable so that the transformation is consistent across jobs and functions. As part of the framework, log transformation failures in a central location, regularly review the failures and take corrective actions to remedy the issue.

Aggregate tables: Design and develop aggregate tables to significantly improve performance of reports.

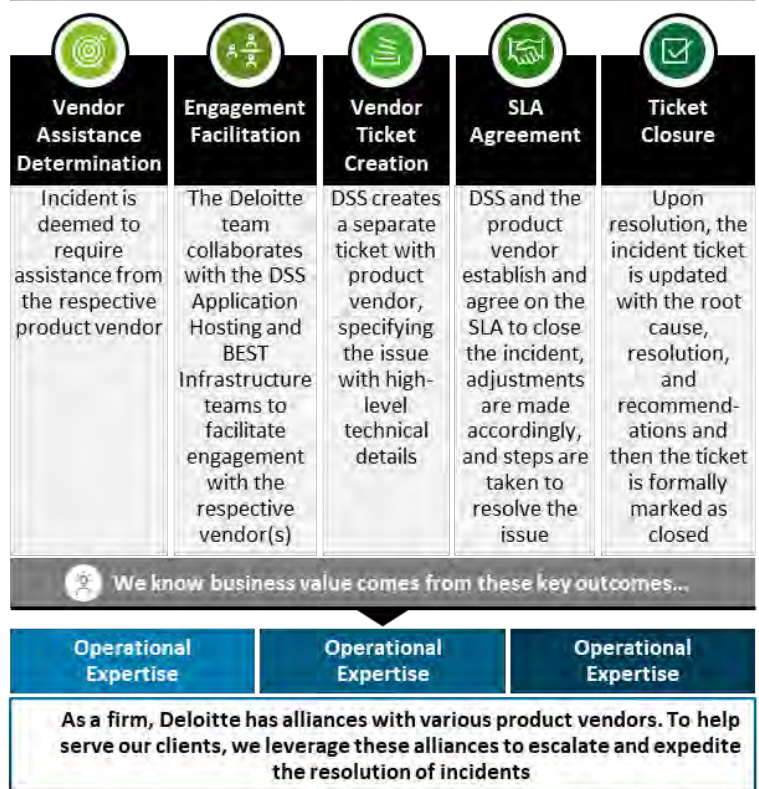
Report Performance: Regularly review the report performance and proactively create indexes and add table partitions to improve query performance. Use different techniques to partition the data. E.g., Store less used data in different partitions than the most used data. Tracking historical changes on many fields can cause

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will work with DSHS and the incumbent vendor to understand the details of how these tools are utilized and implemented for the ACES Applications. Our team will achieve this knowledge transfer with the support and training provided by the incumbent vendor.

Our experienced team will participate in incorporating any lessons learned into the process and updating knowledge base articles to reflect updates to baseline code and infrastructure. The applicable documentation is uploaded to DSHS approved tool to reflect changes and treated as versioned artifacts, whether in the form of Security Technical Implementation Guides (STIG) checklists, standard operating procedures (SOPs), or knowledge base articles.

Engagement with incident management from a Help Desk standpoint involves coordination with DSHS's vendors to help resolve the issue in an expedited manner.



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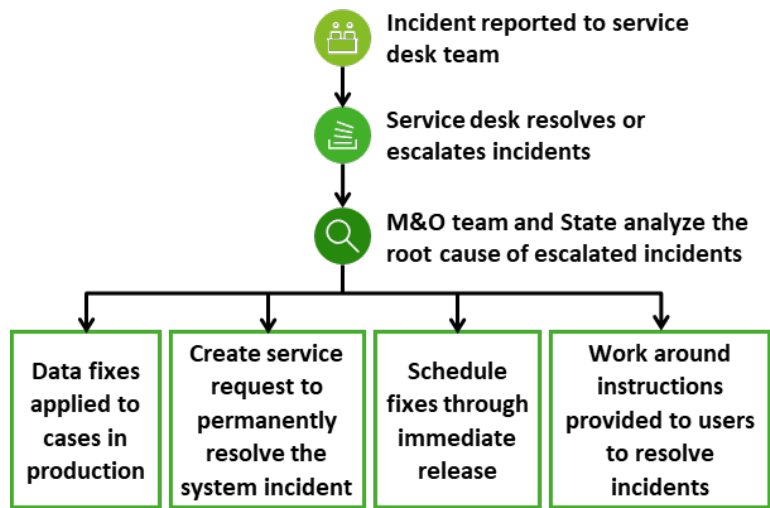
Figure 4.2-59. Help Desk - Product Vendor Support Process.

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members. This streamlines the efforts to resolve the most important incidents first and results in overall better client service.

How We Satisfy the Requirement

Supporting ACES is critical to the State’s mission of serving its residents. An ‘Incident’ is an unplanned interruption of a service or a reduction in the agreed-to quality of an IT Service, and a ‘Problem’ is the unknown cause of one or more Incidents. The Incident Management process strives to restore normal service operation as quickly as possible and minimize the impact on business operations. On the other hand, the Problem management process focuses on reducing incidents, identifying root causes, preventing incidents from reoccurring, and recording information to improve how IT manages problems. We are committed to collaborating with the State to effectively identify, manage, and resolve any potential disruptions in the smooth functioning of the ACES system.



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Figure 4.2-60. Help Desk Level 2/3 Escalation.

Our team brings a collaborative approach to Incident Management, supporting the State through Help Desk Levels 1 through 3 for Incident Management and Resolution. We understand the variety of stakeholders and groups supporting Help Desk Level 1 as first responders, the different call centers functioning as the

		<p>front line for citizens, and the Help Desk groups functioning as the front line for workers across different domains. We work proactively and promptly to prevent incidents, minimizing disruption to clients and workers.</p> <p>Our goal is to provide you with the technical, business, and policy expertise necessary to conduct business operations seamlessly. As part of the M&O process, we strive to:</p> <ul style="list-style-type: none"> • Resolve. The resolution of an incident should be effective while preventing client and worker disruption. • Improve. The incident solution should be simple, repeatable, and not cumbersome. • Refine. The incident management process should be continuously reviewed and refined to confirm that best practices are utilized across the incident lifecycle. • Repeat. We adhere to defined, repeatable processes to maintain consistency and accuracy across the lifecycle. <p>When triaging critical issues and unscheduled maintenance, our team collaborates with stakeholders to troubleshoot and remediate the issue prior to validation and closure:</p> <ul style="list-style-type: none"> • Troubleshoot: During initial identification, our team quickly collects key data on the outage including description, scope, and severity. Based on the collected information, our team triages and identifies the appropriate team to investigate the root cause and a plan to resolve in the short and long-term. • Remediate: Once the root cause has been identified, our team develops a remediation plan that details the root cause analysis, steps to resolve, and proposed mitigation to prevent future similar outages. • Validate: Our team validates the issue has been resolved via testing activities and collects metrics to continuously improve in quality, resulting in fewer system defects.
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6.97	Participate in system incident management reporting, tracking, escalation and resolution activities	<p>Our Understanding of the Requirement</p> <p>During the transition phase, we will adopt your existing processes for system incident management reporting, tracking, escalation, and resolution activities.</p> <p>We will actively participate in the Incident Management process. One of the strengths of our team is our ability to understand the issues, quickly assess and escalate issues, and mitigate risk. Once the incident is reported, we focus on matching the incident with other known problems, resolving the incident as quickly as possible to restore service, prioritizing incidents based on impact, and escalating to other teams where necessary.</p> <p>How We Satisfy the Requirement</p> <p>In order to meet the requirements of the State and conform to ITIL best practices, we will use DSHS's existing ServiceNow implementation as the service desk tool. ServiceNow offers tighter integration with the Application Lifecycle Management (ALM) tool to improve automation and a high degree of overall transparency. Our approach delivers a user-focused experience, allowing people to submit incidents, follow up on status, find answers, get help, and collaborate through an intuitive self-service portal available anywhere, anytime, on any device. JIRA can also be used as the incident management tool. Both, Incident resolution and the State teams have complete access into the incident, problem and change management processes in the incident reporting tool.</p> <p>Incident Management Process:</p> <p>When an incident is reported, the Help Desk team opens a ticket in the reporting tool. The following figure explains the Incident Management flow.</p>
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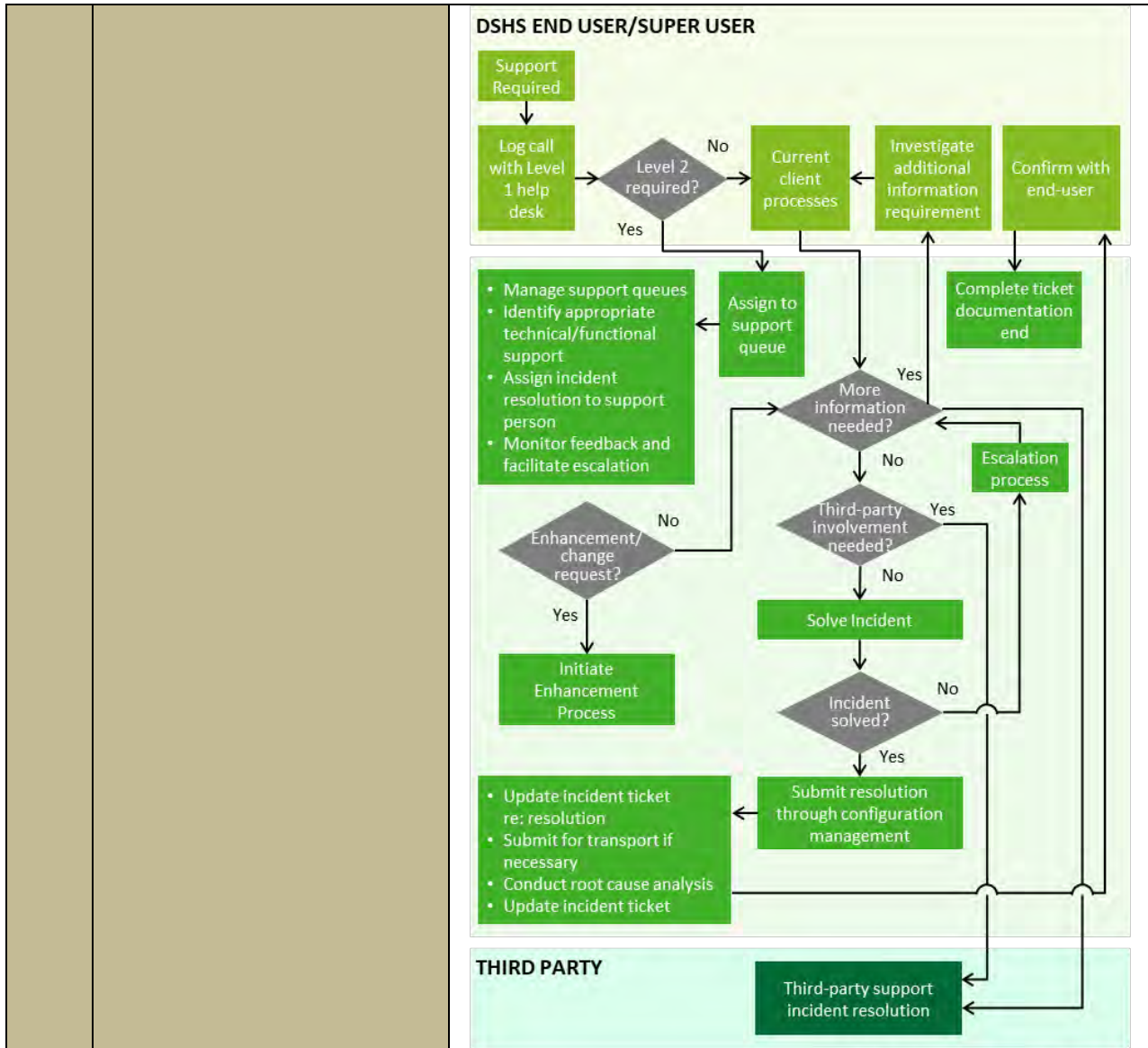


Figure 4.2-61. Incident Management Process.

Our Operations Team responds to logged tickets based on an assigned priority and perform triage on multiple service requests of the same priority. We log updates into the ticket tracking system in a timely manner as it is required.

A service request can be re-prioritized based on mutual agreement between our M&O Team and the DSHS designated contacts. In each instance, the service request must reflect the agreed upon priority. In cases where the

priority is disputed, the issue will be escalated to our team and DSHS Engagement Managers.

Incident Resolution process

The Incident Resolution Process is a sub-process of Incident Management Process. The below figure explains the resolution process.

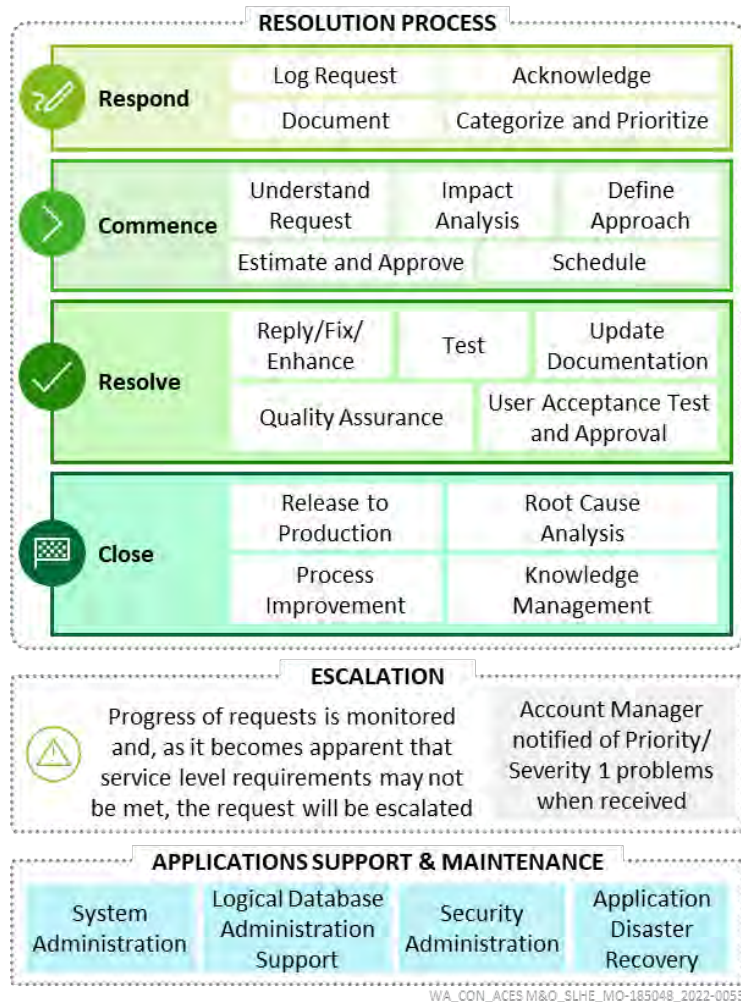


Figure 4.2-62. Incident Resolution Process.

The Incident Resolution process continually monitors requests, follows through with root-cause analysis, captures knowledge, and enables continuous process improvement. Specific details of the process will be tailored with DHS during the transition phase to leverage existing processes and identify areas of improvement. We will work with DSHS to define specific workflow and

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**Support, Maintain and Operate
Enterprise IT Processes**

Capacity Management

6.98	<p>Develop/maintain and administer comprehensive DSHS Capacity Management process, including, but not limited to:</p> <ul style="list-style-type: none"> • Developing capacity forecasts based on forecasted usage (e.g. adding users, adding functionality) • Monitoring IT resources (e.g. applications, OS, servers, database, network, disks) usage to enable proactive identification of capacity and performance issues and recommend changes • Identify areas where capacity levels can be increased while decreasing operating costs by changing the architecture/design • Implement tools that allow for capacity monitoring/trending 	<p>Our Understanding of the Requirement</p> <p>It is critical to have a capacity management process which evolves with ACES functional enhancements, new program initiatives, evolving technology, and changes in caseloads. We understand that ACES stability is only possible with</p> <ul style="list-style-type: none"> • Proper planning for scalability of ACES and its supporting infrastructure • Accurate forecasting of system resource capacity requirements • Ongoing, diligent management of software resources. <p>How We Satisfy the Requirement</p> <p>We are experienced in implementing, enhancing, and maintaining monitoring tools to perform Capacity Management and forecast IT requirements. We also perform regular assessment of technology utilization to understand opportunities to right-size ACES IT resources to maintain stability and provide cost savings. Further, we use our OperateEdge tool to provide a single view into ACES system monitoring metrics and performance.</p> <p>Our capacity management process enables us to project and plan for future capacity needs of applications like ACES for continued service delivery. We follow a robust capacity planning process to evaluate new business initiatives affecting system resource requirements. First, we evaluate the new requirements to assess which system resource thresholds, such as server utilization, storage, and memory, might be approached or exceeded. If any of these threshold metrics is in danger of being exceeded, we explore parallel options for tuning the software application, or removing the capacity constraint through hardware acquisition, augmentation, or reconfiguration. At the same time, we make sure that performance, load, and stress testing plans are updated</p>
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and executed to evaluate the potential resource constraint via formal load/stress test simulations. We will continue to monitor the ACES system utilization metrics and refine/update the capacity thresholds based on measured statistics, lessons learned, patterns of system usage, and ACES system performance. The following subsections address the subtasks associated with capacity management.

Developing capacity forecasts based on forecasted usage (e.g., adding users, adding functionality)

Our capacity management process evolves with functional enhancements, new program initiatives, and increases in case load. Planned growth is only possible with proper planning for scalability of the applications and their supporting infrastructure, accurate forecasting of system resource capacity requirements, and ongoing diligent management of software resources. Capacity planning needs are assessed during various phases of the SDLC.

The ACES system may experience seasonal peaks and needs careful planning to avoid bottlenecks. We account for the different actions performed (case opening, adjudication, management, etc.) and different actions performed by the case workers to baseline and estimate the effect on system resources. When assessing performance of systems in the context of capacity management, we focus on characteristics of the ACES system evaluated at peak processing times. Doing so, we follow a four-step process to assess and plan for system resources needed for processing during peak times:

- **Load Estimation:** Estimate the average and peak transaction rate per user in the production environment
- **Load Simulation:** Use the load estimate to simulate user load on a production-sized server in the performance environment
- **Capacity Impact Measurement:** Capture Performance and utilization metrics from the existing production environment hardware and corresponding metrics for the performance

		<p>environment while under the simulated peak hour or peak day load</p> <ul style="list-style-type: none"> • Production Capacity Analysis: Use the metrics to determine resource capacity requirements per user per server/CPU via a capacity report. <p>Monitoring IT resources (e.g., applications, OS, servers, database, network, disks) usage to enable proactive identification of capacity and performance issues and recommend changes</p> <p>We use our OperateEdge technology platform to monitor IT resources across the application and infrastructure stack. OperateEdge provides an integrated view of system operations, streamlines operational monitoring and controls, and facilitates low-risk IT and business operations. In doing so, OperateEdge integrates with your current suite of tools to bring them together as a 'single-pane-of-glass' platform. It ingests data from various platforms to display on easy to navigate dashboards which includes user activity, computational resources and system performance, database activity and performance, batch performance, network, OS, and hardware performance, and more. Alerts and dashboards can be configured based on ingested logs including CPU, memory, disk space, system throughput, etc. Setting these dashboards with defined thresholds can proactively detect and alert for potential issues before systems are impacted.</p> <p>While OperateEdge is a value-added and available platform, our team will gain insight into the ACES infrastructure ecosystem and existing monitoring tools available through knowledge transfer sessions. With our extensive network of IT professionals, we are versed implementing and maintaining system health monitoring tools, but more importantly, able to create monitoring insights, dashboards, alerting capabilities, to proactively detect and alert resource constraints. We look to take advantage of the existing tools and monitoring resources already available to DSHS but are readily able and equipped to implement other monitoring software from new vendors.</p>
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Identify areas where capacity levels can be increased while decreasing operating costs by changing the architecture/design

As part of the capacity management process, our team monitors the web servers, app servers, databases, and other hardware components for different metrics, and proactively manages and mitigates potential risks. Working with DSHS, we identify a regular cadence to review performance reports with identified stakeholders and technical SMEs. Considering the existing production infrastructure and the new initiatives in the pipeline, we also provide DSHS management with a forecast of additional resource requirements, in addition to over utilized resources that can be rightsized to reduce hosting costs.

We also are constantly looking for opportunities to improve the architecture and design of an application to increase efficiencies and performance. For example, we proposed and implemented for the State of Wisconsin to remove real-time web services from the primary E&E application and host them as a separate Java Virtual Machine (JVM) application. In doing so, services with external partners no longer impact the online application performance should the external partner systems have slow responses or be unavailable. As we learn about the ACES application architecture, we will look for similar architecture enhancements to improve performance and/or reduce operating costs.

Implement tools that allow for capacity monitoring/trending

During knowledge transfer sessions, we will evaluate the existing monitoring tools in place while identifying any gaps or enhancements. We are able to provide ACES multiple monitoring enhancement options ranging from our software like OperateEdge, to implementing industry standard monitoring tools like Splunk and New Relic. Not only is our team experienced implementing these tools, but we know how to get the most out of them. We create dashboards and enable alerts to proactively monitor systems. Working with DSHS, we identify a

		<p>regular cadence to review capacity reports in the context of forecasted usage to anticipate changing infrastructure requirements. From these reports, capacity utilization trends on application infrastructure are analyzed and systems can be rightsized to keep IT resources high performing, yet cost effective.</p>
<p>6.99</p>	<p>Provide capacity projections report for all DSHS infrastructure and applications supported by the vendor and as required by DSHS</p>	<p>Our Understanding of the Requirement</p> <p>We understand that ACES infrastructure and supporting systems will require capacity projection reports generated by our team on a predetermined cadence. These reports should assess both historical trends and performance, while forecasting future requirements based on projected user counts and/or application traffic changes.</p> <p>How We Satisfy the Requirement</p> <p>To project ACES capacity utilization, our team leverages a combination of monitoring tools, anticipated application traffic, and performance testing results to plan and proactively act to changing requirements for DSHS infrastructure and applications. We provide DSHS a detailed estimate of future capacity requirements based on an agreed upon cadence and report format. The report will be reviewed with our SMEs, DSHS staff, and other identified stakeholders so any change is reviewed and approved prior to implementing.</p> <p>The capacity management report may contain utilization metrics for each device within the DSHS network and indicate those that are significantly over or under-utilizing available resources. Based on the scenario, our team provides recommendations on the course of action, whether that be changing allocated infrastructure resources, or enhancing the underlying application architecture to improve system performance.</p> <p>When creating these reports, our team uses the strategies outlined in DSHS requirement 6.98 to determine the resource capacity requirements per user per server/CPU. With this information, we can predict systems impact when surge traffic is expected for the</p>

application and identify if system resources need to be increased. Likewise, we analyze how system enhancements may influence server resources and traffic prior to the production go-live. Findings from performance testing are reviewed so that production tuning can occur in advance. Collaborating with the State Data Center team, we can incorporate infrastructure layers into the monitoring review process that our team members may not have access to. Providing a clear picture of the performance of the entire infrastructure ecosystem is critical as impacts in one layer may cause impacts on another. This clear picture makes it possible to understand and project the impact on system capacity when the amount of traffic changes.

Lessons Learned/Best Practices/Examples of Previous Projects

The following is a sample planning report used during the COVID-19 PHE planning and based on national data predicting a surge of cases for the State of New Mexico. By understanding the potential surge, we helped migrate vBlock and Exadata critical storage risks with monthly operation of unused VM cleanups, reclaiming VNX storage and offloading application audit data from Exadata storage to ZFS to confirm that sufficient capacity for new applications and renewals was present:

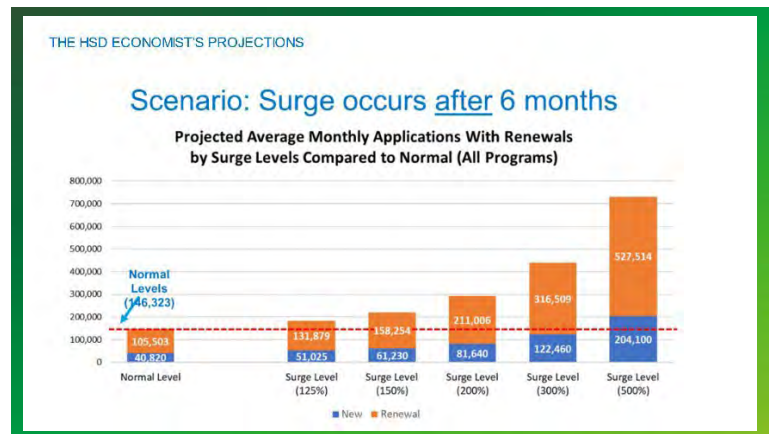


Figure 4.2-64. Projections for Monthly Renewals.

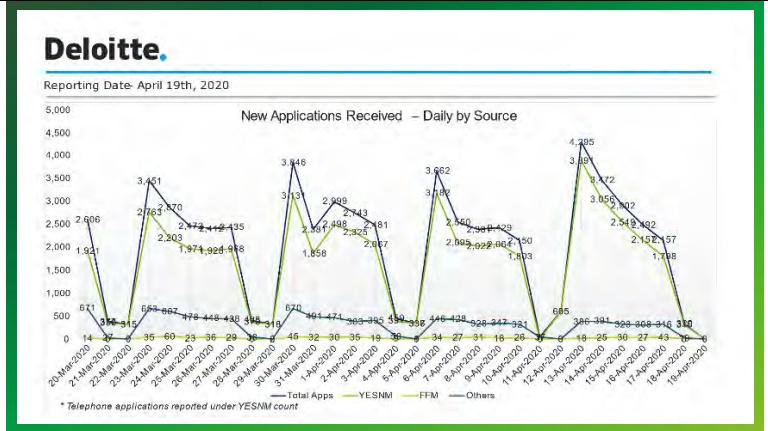


Figure 4.2-65. Projections for New Applications.

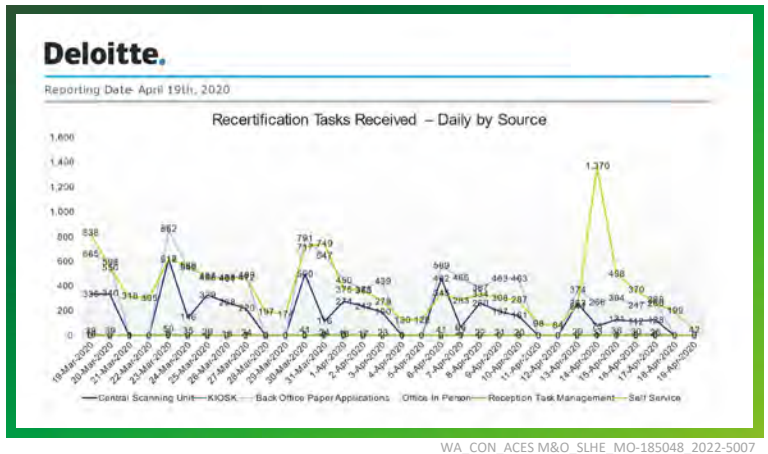


Figure 4.2-66. Projections for Recertifications.

6.100 Provide utilization and capacity reporting

Our Understanding of the Requirement

Regular review of system performance is essential to improving operational efficiencies and optimizing costs. Eligibility systems like ACES are comprised of many servers and integrate with other applications. Keeping systems stable not only improves ACES response times, but also improves the performance of the other applications it integrates with.

		<p>How We Satisfy the Requirement</p> <p>We will work with DSHS to identify a regular cadence to meet and review the capacity management report for DSHD infrastructure which may include:</p> <ul style="list-style-type: none"> • Capacity findings for projects and application enhancement through load testing (including network, server, and database statistics) • System user loads and anticipated changes/surges • Server utilization metrics (CPU, memory, I/O) • Storage utilization metrics • License impacts by projected changes to server cores • Network bandwidth utilization • Other metrics required determined by DSHS as determined in knowledge transfer <p>Using these reports to proactively identify opportunities to increase/decrease system resources, ACES can be optimized for performance and costs proactively managed. A proactive approach is essential to avoid issues such as servers crashing, hung threads, and system unavailability. Supporting many of our clients throughout the pandemic, our experience and knowledge managing and planning for system capacity helped keep systems stable when assistance was needed most.</p>
<p><i>Change and Release Management</i></p>		
<p>6.101</p>	<p>Collaborate with DSHS to maintain and adhere to change and release management processes, procedures and standards to be followed to by all of DSHS’s applications systems supported by the vendor</p>	<p>Our Understanding of the Requirement</p> <p>We will collaborate with DSHS to maintain and adhere to change and release management processes, procedures, and standards, across DSHS’s applications systems that we support.</p> <p>How We Satisfy the Requirement</p> <p>Our change and release management processes center around the following key tenets:</p>

- Consistent communication and collaboration to promote transparency
- Maintaining system predictability while being able to react quickly to changes, per key ITIL tenets
- Conducting process training for new team members and process audits for the existing team to remain in compliance with process adherence

Collaboration with DSHS is central to our change/release management. In accordance with the ITIL tenet of maintaining predictability of a system, we incorporate frequent meetings and thorough documentation into nearly every step of our process.

Lessons Learned/Best Practices/Examples of Previous Projects

Following is an overview of some of the best practices which we can use to efficiently collaborate with you throughout our process.

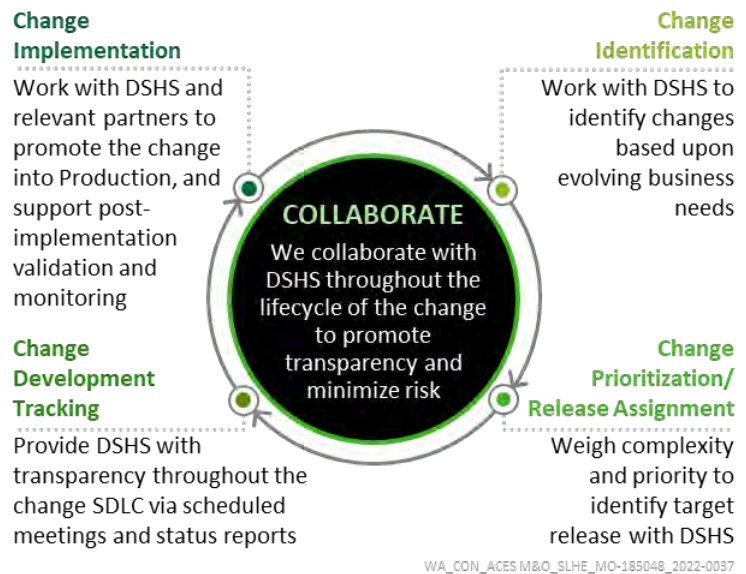


Figure 4.2-67. Collaborative Approach to Change/Release Management.

Change Identification – Identification of a change might be the simplest part of our change/release management strategy, but it is also the most crucial. We work with you



		<p>to identify potential changes as early on as possible, giving us time to analyze and prepare.</p> <p>Change Prioritization/Release Assignment – Next, we collaborate with DSHS to prioritize a change and assign a release. Here, we bring SMEs that will have analyzed the change and determined high-level details, such as overall impact and scope, to enable you to weigh the priority of the change against its complexity. We also take a holistic approach to release planning by analyzing other items within a given release to reduce cost, minimize rework, and reduce risk to you.</p> <p>Change Development Tracking – After a change is prioritized, our team works on bringing it through its lifecycle. While other vendors treat this as a black box, we provide transparency into our process. We conduct frequent status meetings depending upon the size of the change and provide you with weekly status reports on ongoing changes.</p> <p>Change Implementation – The final stage is implementation of the change itself. Here, we leverage our detailed production deployment playbook, created in collaboration with DSHS, to implement the change. This includes pre-deployment preparation activities, through post-implementation steps, such as smoke testing, and change monitoring.</p>
6.102	Collaborate with DSHS to maintain and adhere to standard procedures and methods for each type of change including application services, interfaces, hardware, operating systems, databases, storage, network, batch schedule changes, etc.	<p>Our Understanding of the Requirement</p> <p>We will collaborate with DSHS to maintain and adhere to standard procedures and methods for each type of change identified.</p> <p>How We Satisfy the Requirement</p> <p>We leverage our collaborative approach to maintain and adhere to standard procedures and methods for each type of change. Per your requirements, these include, but are not limited to, application services, interfaces, hardware, operating systems, databases, storage, network, and batch schedule changes.</p>

We begin this process at the onset of transition, and work with you to identify, and adopt your standard procedures. We then discuss and enhance this with lessons learned from our implementations done for systems of similar size and scope to your own.

Lessons Learned/Best Practices/Examples of Previous Projects

We currently work on maintenance, operations, and enhancement projects for 26 state partners, each of whom trust us to guide them through the nuances surrounding effective change and release management. Through this process, we have learned what works, and how to mitigate strategies that don't. Following are some of the key points that we look forward to bringing to the ACES team:

- **Collaboration is key** – What works for one of our clients does not necessarily work for others. Therefore, we collaborate with you from the onset of the project to understand your existing processes, determine why things are done the way they are, then integrate with concepts from our own experience that fit with your needs. This improves process retention, minimizes any unnecessary steps done “just because”, and most importantly, results in a process that that will give you results.
- **Processes need to be tailored to fit business needs** – Adherence to a defined process is fundamental to project success. However, it is important to tailor processes to account for various situations. As you have requested, we collaborate with you to define separate processes for each type of change. This means that the group of stakeholders and steps for an application screen change will be different than those for an EDBC change, potentially requiring input from policy groups.
- **Maintenance and adherence require checks and balances** – While many vendors in the market today talk about implementing a strong process, we understand the importance of taking steps to verify that the whole project team continues to follow this.

		<p>Over the course of the project lifecycle, we conduct process training for new team members and process audits for the existing team to remain in compliance with process adherence</p>
<p>6.103</p>	<p>Collaborate with DSHS to maintain and adhere to a schedule of planned changes and provide to DSHS for review as required</p>	<p>Our Understanding of the Requirement</p> <p>We will collaborate with DSHS to maintain and adhere to a schedule of planned changes. We recognize that DSHS might currently have a schedule with the existing vendor. Therefore, we work with your team to review the existing schedule and then maintain this schedule throughout the lifecycle of the project. This schedule is kept in sync with relevant Jira tickets, providing DSHS staff with the ability to view upcoming releases, as well as to drill down and see detailed information regarding individual release items.</p> <p>How We Satisfy the Requirement</p> <p>We will work with you to determine a schedule of planned changes, based upon any previously existing items, as well as those needed based upon your business needs. Once this is baselined, instead of simply storing this in an archive, we continue to use this schedule as one of many gauges of project health. We track and provide updates on the status of relevant planned releases and individual items on the schedule during weekly and monthly status meetings, providing DSHS with the transparency needed to make informed decisions. The following figure depicts how we maintain and adhere to the change schedule.</p> <div style="margin-bottom: 10px;"> <p> MAINTAIN</p> <hr/> <ul style="list-style-type: none"> • Steering Committee meetings • Jira status tracking and updates • Timely communication of changes </div> <div> <p> ADHERE</p> <hr/> <ul style="list-style-type: none"> • Shared change request log • Jira reports • Monthly and weekly status meetings </div> <p style="text-align: right; font-size: small; margin-top: 10px;">WA_CON_ACES M&O_SLHE_MO-185048_2022-0038_1</p> <p>Figure 4.2-68. Maintenance and Adherence to Plan.</p>

While you have the flexibility to make changes to the release, changes are typically added to upcoming releases via steering committee meetings. We collaborate with the stakeholders in this meeting to assist them with prioritizing any changes and assigning releases as needed. These decisions are then reflected in Jira, providing you with a one-stop shop overview of planned changes. We further simplify your analysis and tracking needs by providing custom reports out of Jira to address any unique requirements you might have. Finally, we provide you with both a change request log, with high-level details surrounding upcoming changes, as well as a more in-depth look into each change during our weekly and monthly status meetings.

Lessons Learned/Best Practices/Examples of Previous Projects

We have performed maintenance, operations, and enhancements for projects **across 26 states**. Following are a few of the many key lessons learned during this work that we have incorporated into our strategy, translating into reduced risk to you:

- **Start with existing backlog** – When transitioning a project, it is key to analyze the existing backlog of planned changes. We work with DSHS to go through this list and determine what should be included in the final schedule. This provides us with an understanding of your existing priorities, informing future guidance around change planning and direction.
- **Balance flexibility and consistency** – A successful project schedule requires both consistency and flexibility. Adhering to the schedule provides stability to the project, while flexibility enables us to quickly react to changes in policy, scope, or evolving business needs. Therefore, we work with DSHS to determine a rigid set of criteria that can necessitate a change to this schedule. Only if these are met and stakeholder approval is received will the schedule be modified.

		<p>This approach provides the balance of flexibility and consistency required to make projects successful.</p> <ul style="list-style-type: none"> • Consistently discuss and communicate change schedule – Once a schedule is created, it can be easy to let it fade to the background in lieu of other, higher urgency items. Letting this happen results in a stagnant schedule that may be infeasible in an ever-changing project environment. To avoid last minute scrambles, we dedicate time during our scheduled meetings to review the schedule with you. Carving out time to do this not only keeps project teams on the same page but helps evaluate the upcoming schedule against the latest updates.
6.104	Manage and maintain the processes and procedures for production deployment (including roll-back planning)	<p>Our Understanding of the Requirement</p> <p>Clear and detailed processes for production deployment (including roll-back planning) are crucial for project success. This is even more true for a highly integrated and multi-technology system like ACES, requiring releases on multiple platforms, including Java/J2EE, ODM, and mainframe. Therefore, we work with you to create, manage, and maintain the processes and procedures for deployment, including roll-back planning.</p> <p>How We Satisfy the Requirement</p> <p>We begin by working with DSHS staff during the transition-in phase to understand the current procedures used to do production deployments. During these discussions, we will work with you to define and finalize a production deployment playbook. This playbook will account for the various types of deployments we do into production from major releases, minor releases, hot fixes, hardware upgrades, and changes to scheduled batch jobs (such as running COLA). This playbook will also define the individuals or teams responsible for each step, those who receive progress updates, and detailed steps to be followed should escalation be required.</p> <p>As part of this playbook, special emphasis will also be given to contingencies and rollback planning. While we do not anticipate having to invoke these contingency</p>

plans, we believe in the importance of having clearly defined plans in place. Additionally, we curate these plans based on functionality for especially complex releases, enabling us to be prepared for the unexpected. Therefore, while every release will have a high-level rollback plan that covers reversion of code, database scripts, and configuration, we will also work with you to define plans to revert other items, as required.

During transition-in, we also identify opportunities to implement DevOps and process automation wherever possible. Our understanding and experience with DevOps and continuous delivery positions us to provide you with many of its benefits, such as: reduced risk of manual error, speedy deployment, and enhanced tracking and reporting. Additionally, many of our processes have roll-back functionality built-in, providing DSHS with additional peace of mind. By integrating these key concepts and tailoring our approach to meet DSHS' unique requirements, we create a robust, cutting-edge process to deliver functionality to Production.

Our release management process provides the underpinnings to successfully manage and maintain the processes and procedures for production deployment (including roll-back planning). Established and observed release management processes reduce the risks of missed artifacts or incorrect configurations during production deployments.

Lessons Learned/Best Practices/Examples of Previous Projects

Over the course of our 45 years of implementing and managing large-scale HHS systems for state clients, we have built up a wealth of knowledge that translates into reduced risk to DSHS. Following is a list of some key components of our playbook that have added value to our state partners during this time:

- **Criteria for green-lighting a release** – We list the criteria required for a release to be “ready” for production. Keeping these clear enables stakeholders to be on the same page about release readiness

		<ul style="list-style-type: none"> • RACI table – Having a RACI table filled in mitigates ambiguity surrounding who is responsible, accountable, consulted, and informed for the various activities and steps that are part of a given release • Pre-release activities – Thinking through the steps associated with a given release, along with the various impacts they can have on the system enables us to break complex releases down into smaller, less error-prone steps. By splitting these down further, we can spread out the activities for a given release over a longer period and spend more time validating each step. These activities will also be paired with an approximate timeline for each step. This will give stakeholders involved at various parts of the release an approximate idea of when they will be needed. • Release steps – This section provides details surrounding migration of the components of your system. Each step is meticulously broken down, and detailed with who will be performing the activity, and who will be available for escalation should any issues occur • Smoke test plan – At the end of any release, no matter how small, we perform a smoke test to validate that the application is up and running. This serves as a sanity test for us to verify that the release was successful. This section is augmented with additional, functionality-specific steps should a release call for it. • Communication plan – As defined in the RACI table, every release has an assigned list of stakeholders. The communication plan will define the list of individuals who will be kept informed, and when they will be informed, over the course of a release. Additionally, for more complex releases, various phone calls and meetings may be required. These will be defined in this plan, as needed. <p>We also treat this as a living document. At the end of certain releases, we work with you to determine what went well, and what could be improved. This feedback</p>
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		loop allows us to continually refine our process to deliver more value to you.
6.105	For each release, ensure the change request has developed a business contingency/back out plan	<p>Our Understanding of the Requirement</p> <p>Given the dynamic business domain ACES operates in, we understand that being ready with a contingency/back-out plan is crucial to project success. Therefore, for every release, we will collaboratively work with DSHS to define business contingency and back-out plan that enables us to take these actions if required.</p> <p>How We Satisfy the Requirement</p> <p>During creation of our production deployment playbook, we work with DSHS to determine the steps required to back out each release. In addition, for complex changes or releases, we provide additional details around special steps that need to be taken and include them as part of the playbook. These can include both pre-emptive steps, such as post-implementation validation and smoke testing, to reactive ones, like having back-up code versions and using property files to turn functionality on and off. In addition, our DevOps approach will be to implement a built-in rollback capabilities/plan in case an entire release needs to be reverted.</p> <p>Our production deployment playbook will have a list of stakeholders specifically tied to performing rollbacks. This begins with the individuals who will determine whether a rollback is required. Should these individuals determine that a rollback is needed, we will follow the playbook steps and initiate the process. This includes separate activities for rolling back code, database scripts, configuration entries, and any other components impacted. At each step, the RACI table can be used to determine the responsible parties, as well as the group to be informed.</p> <p>Once the rollback is completed, a thorough smoke test will be performed, as a sanity test to verify that the activities completed successfully. This minimizes the chance that a missed step will cause impact to your users. If this is successful, the playbook continues with</p>

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		<p>your vendors/partners, further reducing the risk of communication breakdowns. Following are some examples of meetings that we conduct over the lifecycle of a change that are used to track partner compliance with policies and processes:</p> <ul style="list-style-type: none"> • Pre-Joint Application Design (JAD) Planning Sessions – These meetings include stakeholders to discuss and coordinate project dependencies, including testing and development timelines with trading partners. These serve to bring stakeholders onto the same page with respect to over change timelines. • Joint Application Design (JAD) Sessions – We meet with stakeholders, including interface/trading partners, to discuss requirements of the change. These meetings mitigate misunderstandings in the scope of a given change. • Release Readiness Meetings – These meetings are conducted to bring parties on the same page with respect to pre- and post-release activities. This includes technical items, like updating environment configurations, to functional items, like training relevant staff, and informing end-users of potential changes to their business process <p>We pair these meetings with a clearly defined build promotion strategy that we leverage to keep environment code and configuration in sync. This strategy has several built-in mechanisms to validate that environment configurations remain in sync. Some examples of these include:</p> <ul style="list-style-type: none"> • Built-in version control in Jenkins that allows multiple versions of the application to be maintained in each of the various environments • Rigorous review and approval mechanisms that require sign-off prior to promoting new versions of code throughout different environments • Automated environment status reports that display a high-level snapshot of non-production environments • Displaying the release version on the application screen, enabling team members to immediately
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<p>6.107</p>	<p>Modify/update configuration database, asset management items, and service catalog (if applicable) to reflect any implemented changes</p>	<p>Our Understanding of the Requirement</p> <p>We work with DSHS to understand your existing landscape, including your configuration database, asset management items, as well as your service catalog. We then incorporate modifying and updating these into the change and release management process to keep these up to date as and when changes are made to the system.</p> <p>How We Satisfy the Requirement</p> <p>During the initial transition phase of the project, we conduct meetings to gain an understanding of your configuration tools, documents, and methodology. Having a detailed understanding of these allows us to seamlessly integrate with them and provide you with the peace of mind that your system will continue to be tracked and maintained in the way that you are comfortable.</p> <p>Once this analysis is complete, we formalize the implementation of our collaborative process through documentation and share it with you. Not only will this document detail our overall approach to change and release management but will also contain where and how within this process we update and maintain the configuration database, asset management items, and service catalog, when applicable. Then, if a change or release is determined to have an impact on any of these items, we follow this process to keep them updated.</p>
<p>Configuration Management</p>		
<p>6.108</p>	<p>Develop/maintain/enhance configuration management processes, procedures and standards to support multiple vendors</p>	<p>Our Understanding of the Requirement</p> <p>Working with multiple vendors to maintain integrations with other applications as well as source code can be challenging at times. By having a single process for configuration management processes, source code, application, and production release integrity remains high. We will transition, adopt, and adhere to DSHS configuration management processes, procedures, and</p>

standards to support vendors across the pillars. Our EVD for Transition and Operations process supports us to come in with a production-ready configuration management process that can be integrated with your own, allowing us to adhere to your requirements to support multiple vendors

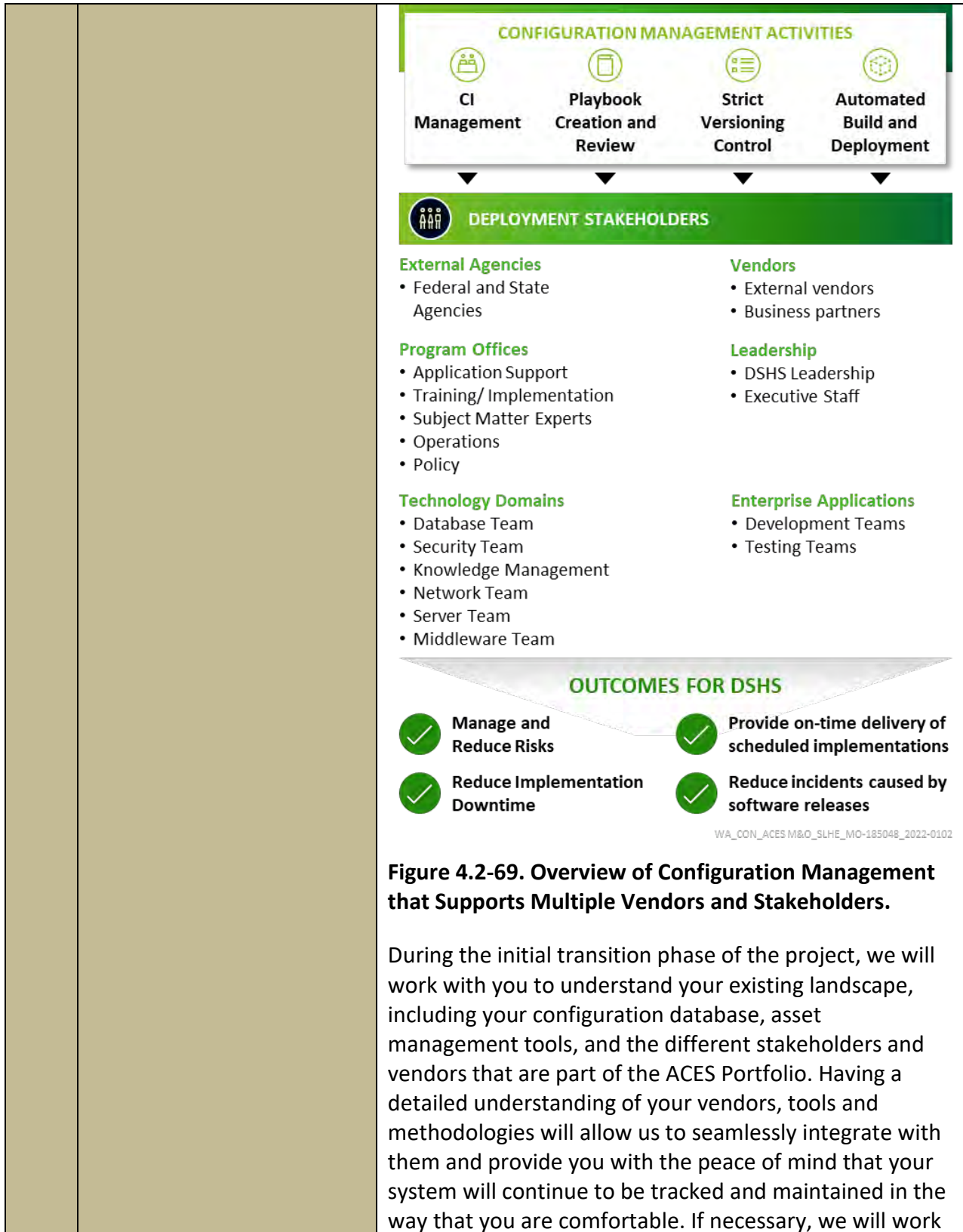
We will work with you to maintain and manage configuration management which builds continuous improvement into the process to promote sustained evolution. Additional processes may be proposed wherever continuous improvement is desired. Our in-depth knowledge of the dependencies and intricacies of E&E solutions enables us to accurately determine system impacts at an early stage and develop plans with mitigation strategies to enable successful deployments and futureproofing your system to meet your evolving needs.

How We Satisfy the Requirement

- Our experienced Configuration Management team understands the Health and Human Services programs that are critical when planning and managing release in a multi-vendor/multi-stakeholder landscape.
- We continue to increase automation and streamline deployments, introducing additional quality checks to drive higher accuracy, predictability, consistency, and transparency.
- Our Software Configuration Management (SCM) Processes are based on ITIL v4 best practices. They are scalable and can be used create automated deployment pipelines to drive zero downtime during application and technology upgrade releases, leveraging DevOps and Cloud based technologies.

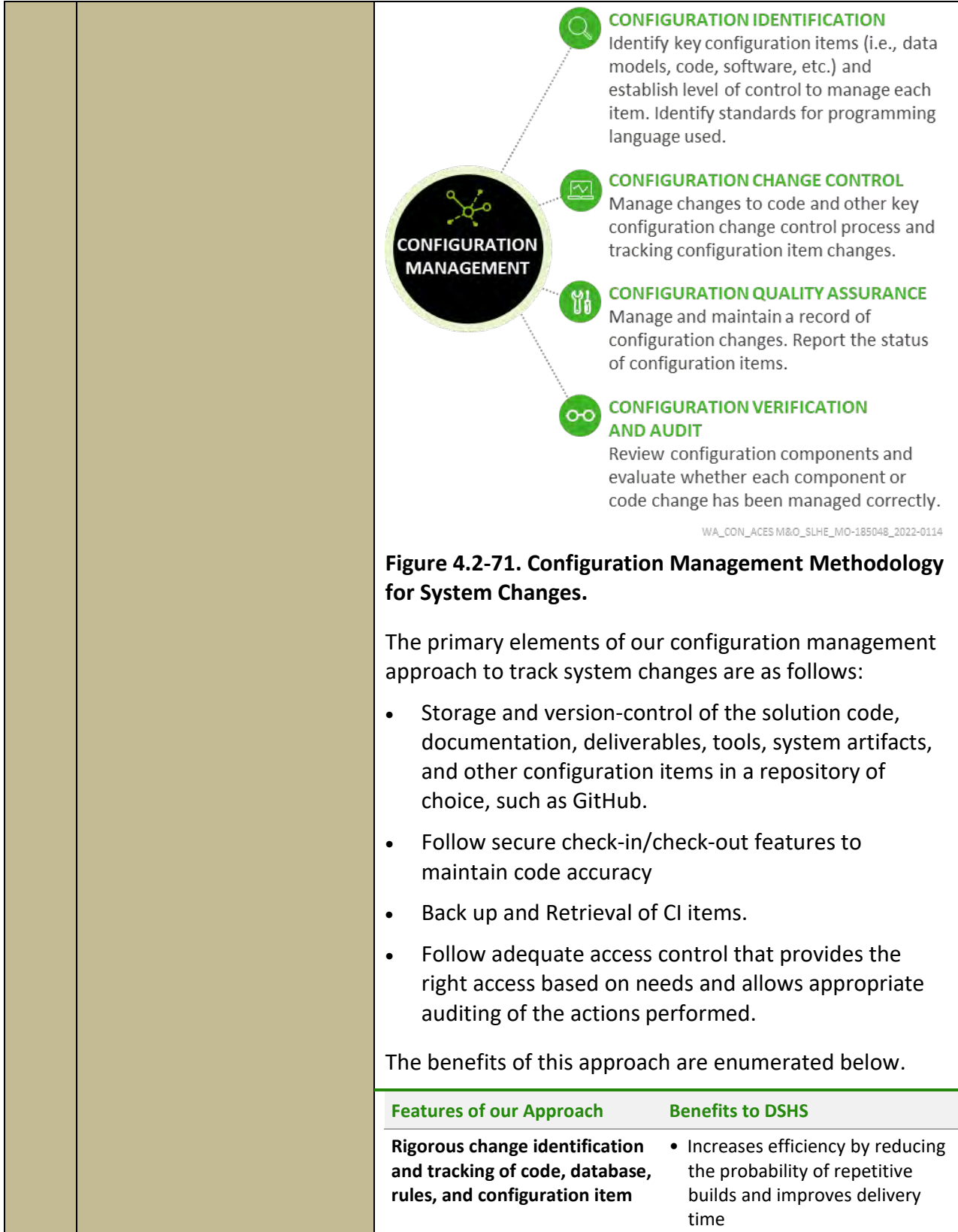
Our team understands that maintaining and operating the ACES portfolio of mission critical applications that span mainframe, client- server and web-based architectures requires a comprehensive Software Configuration Management (SCM) Processes. These processes incorporate industry standards, procedures

		<p>and activities tailored for ACES and enables DSHS to track, maintain and report on various aspects of system configurations and changes in a multi-vendor environment.</p> <p>Our team has over 45 years of experience implementing and managing large-scale HHS systems for state clients with an experienced team that understands SCM processes that are essential part of our EVD for Transition and Operations. Our SCM processes are based on ITIL v4 Service Configuration Management best practices, which include maintaining information on the configuration of services and how they interact, relate, and depend on each other to create value in a multi-vendor/multi-stakeholder environment.</p> <p>The following figure describes our overall approach to Software Configuration Management (SCM) and can be adapted to any industry standard set of tools and products to enable a robust configuration management process for DSHS, tailored to the specific needs of the ACES complex.</p>
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<p>6.109</p>	<p>Develop/maintain configuration management processes, policies and procedures for tracking system change</p>	<p>Our Understanding of the Requirement</p> <p>During transition, we will work with you to understand your configuration management processes, policies and procedures for tracking system changes. We will understand your approach and also suggest streamlined and automated Continuous Integration/Continuous Delivery (CI/CD) processes that provide DSHS the flexibility to deploy system changes based on priorities.</p> <p>Our approach for building and migrating code provides traceability and demonstrate that DSHS can confidently deploy code across regions to meet its program needs. Our strategy is equipped for future challenges in addition to meeting DSHS’s current business needs.</p> <p>How We Satisfy the Requirement</p> <p>Our team understands the need for a well thought-out and executed Software Configuration Management (SCM) strategy that supports the ACES Portfolio of Applications. We realize the need for periodic releases consisting of a variety of system changes, such as maintenance requests, break-fix items, change requests, policy compliance functionality updates, program office initiatives, technology upgrades, and performance improvements.</p> <p>DSHS requires a professional team capable of delivering reliable and trackable system changes to ACES in the form of scheduled and immediate releases. A strong understanding of the State’s Enterprise architecture and Application Life Cycle Management (ALM) tools, as well as the coordination of various stakeholders, is vital to performing periodic deployments in production.</p> <p>Our SCM processes provides the capability to track and report on system changes through a structured approach. The following figure provides a high-level overview of our configuration management methodology, and we describe these in detail below:</p>
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		<ul style="list-style-type: none"> • Use of tools enhances build management and reduces the risk of a missed file, thus saving time during deployment
		<p>Automated email communication of build schedules and status</p> <ul style="list-style-type: none"> • Improves coordination and communication across build cycles, making us more efficient and able to deliver software releases quickly • Enhances quality and awareness for development staff in planning for the next build
		<p>Traceability from requirements to design artifacts is enforced</p> <ul style="list-style-type: none"> • Provides traceability by using RTM tools to reduce the chance of requirements or design specifics getting lost • Reduces adoption time and supports a more seamless transition
		<p>Change control included</p> <ul style="list-style-type: none"> • Improves the overall tracking of who made a change and when it was approved
<p>Figure 4.2-72. Benefits of Configuration Management Approach.</p> <p>During the initial transition phase of the project, we will work with DSHS to understand your existing landscape and processes used to track system changes. This will allow us to seamlessly integrate with them and provide you with the peace of mind that your system will continue to be tracked and maintained in the way that you are comfortable. If necessary, we will work with DSHS to refine these processes over time to meet DSHS’s needs.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team has experience in using a wide array of tools that are closely aligned with the tools used by DSHS. We understand the challenges that you may be facing and will work with you to streamline processes. For example, at the State of Wisconsin, the team uses ANT build scripts to build and configure applications supporting more than 12 builds per day to more than six environments. The</p>		

		flexibility and agility required is achieved through the reuse of the products and tools proposed by our team presents a unique opportunity for the Department to enhance consistency and reduce total cost of ownership of SCM.
6.110	Maintain configuration management tools to track and inventory the configuration of the appropriate environments	<p>Our Understanding of the Requirement</p> <p>We understand the importance of maintaining configuration management tools to track the configuration of appropriate environments. Hence, during transition we will work with you to understand and maintain the existing configuration management tools. Where applicable we will use our expertise to tune, harden, and streamline configuration support. This will benefit DSHS across various parameters like control, flexibility, timeliness, reliability, and performance.</p> <p>How We Satisfy the Requirement</p> <p>Our team uses ITIL methodology to perform Configuration Management tasks. Activities within configuration tasks are aligned with the following Service Management practices of ITIL:</p> <ul style="list-style-type: none"> • Monitoring & Event Management • IT Asset Management • Service Continuity Management • Performance Management <p>We understand a robust Software Configuration Management (SCM) process that is required to effectively manage system inventory. For this, several tools may be used based on the type and definition of the Configuration Items (CI). Our SCM process provides the underpinnings to successfully build, release, and manage changes in the numerous applications that are part of ACES portfolio. We understand that DSHS business and technology needs does not remain static. Our team brings to DSHS leading IT practices including advanced technologies, HHS best practices, and next</p>

generation of ITIL guidance and lessons learned being used by other state HHS organizations.

In the figure below, we describe a typical set of tools used in configuration management workflows and processes to track the configuration changes deployed to different environments.

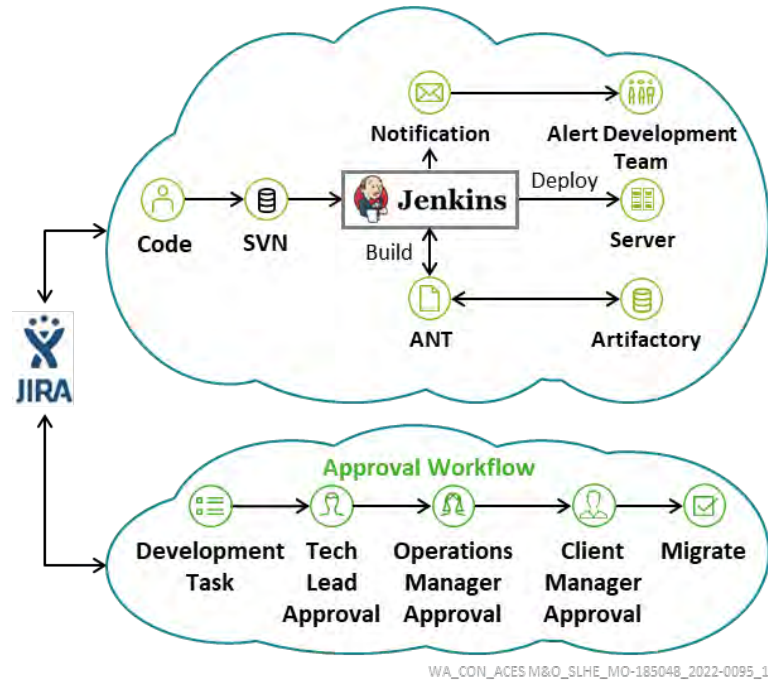


Figure 4.2-73. Tools Used in Configuration Management.

Our experience working with these toolsets, and any similar tools allows us to quickly adapt to DSHS’s needs. We will leverage DSHS tools and processes to deliver streamlined and transparent configuration management.

During the initial transition phase of the project, we will work with you to understand your existing landscape, processes and tools used to track the CIs. This allows us to seamlessly leverage existing tools without disruptions to ongoing services and provide you with the peace of mind that your system will continue to be tracked and maintained in the way that you are comfortable. If necessary, we will work with you to refine these processes and tools usage over time to meet DSHS’s future needs.

		<p>In the figure below, we list some of the tools typically used in the configuration management topology and describe our approach and experience with those tools.</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Tools</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Project Management</td> <td>JIRA</td> <td> <ul style="list-style-type: none"> JIRA is part of Atlassian ALM tool suite and is the central component of the project management workflow used by our team. We will build upon ACES JIRA workflows to streamline the project management process in collaboration with State. Our JIRA workflows include staged multi-step approval processes for code and configuration migration requests </td> </tr> <tr> <td>Version Management</td> <td>GitHub</td> <td> <ul style="list-style-type: none"> Tool used on multiple IE projects to maintain current and historical versions of files such as IE Solution code, documentation, deliverables, tools, system artifacts and other configuration items in the Apache Subversion repository. </td> </tr> <tr> <td>Continuous Integration (CI) and Build Management</td> <td>Jenkins</td> <td> <ul style="list-style-type: none"> We utilize Jenkins for automating builds, deployments, and release management activities. Our team works using a continuous Integration model to integrate code into the shared repository on a daily basis. </td> </tr> <tr> <td>Build Scripting</td> <td>Apache Another Neat Tool (ANT)</td> <td> <ul style="list-style-type: none"> ANT is an open-source Java library and command-line compilation tool used by our IE developers for code compilation. We integrate ANT with Jenkins to provide a streamlined CI build process. </td> </tr> <tr> <td>Document Management</td> <td>SharePoint</td> <td> <ul style="list-style-type: none"> The solution will leverage SharePoint for the document management system for users to upload, tag, and search IE-BM documentation based on keywords and tags. </td> </tr> </tbody> </table>	Type	Tools	Description	Project Management	JIRA	<ul style="list-style-type: none"> JIRA is part of Atlassian ALM tool suite and is the central component of the project management workflow used by our team. We will build upon ACES JIRA workflows to streamline the project management process in collaboration with State. Our JIRA workflows include staged multi-step approval processes for code and configuration migration requests 	Version Management	GitHub	<ul style="list-style-type: none"> Tool used on multiple IE projects to maintain current and historical versions of files such as IE Solution code, documentation, deliverables, tools, system artifacts and other configuration items in the Apache Subversion repository. 	Continuous Integration (CI) and Build Management	Jenkins	<ul style="list-style-type: none"> We utilize Jenkins for automating builds, deployments, and release management activities. Our team works using a continuous Integration model to integrate code into the shared repository on a daily basis. 	Build Scripting	Apache Another Neat Tool (ANT)	<ul style="list-style-type: none"> ANT is an open-source Java library and command-line compilation tool used by our IE developers for code compilation. We integrate ANT with Jenkins to provide a streamlined CI build process. 	Document Management	SharePoint	<ul style="list-style-type: none"> The solution will leverage SharePoint for the document management system for users to upload, tag, and search IE-BM documentation based on keywords and tags.
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		<p>Batch Scheduler AutoSys</p> <ul style="list-style-type: none"> • AutoSys is the tool we utilize for automated job control system for job scheduling, monitoring, and reporting. • Additionally, we automate many other important M&O tasks, such as monitoring application start and stop, and performance tests using AutoSys.
<p>Figure 4.2-74. Tools used for Configuration Management.</p>		
<p>6.111</p>	<p>Ensure all ESA ITS vendors and partners are using configuration management tools and comply with policies and procedures and environment configurations remain synchronized. For this requirement, the Bidder will only be responsible for identifying and escalating where necessary, for any lack of alignment with policies and procedures.</p>	<p>Our Understanding of the Requirement</p> <p>We collaborate, identify and escalate where necessary, for any lack of alignment with policies and procedures by any of the ESA ITS vendors and partners. We will aid to collaborate and confirm that ITS vendors are using the appropriate configuration management tools, comply with policies and procedures and DSHS’s environment configurations remain synchronized</p> <p>How We Satisfy the Requirement</p> <p>Our team has a history of successfully collaborating with external vendors and organizations that impact our client’s services and systems. For 45 years, we have successfully worked with numerous State HHS agencies, their state agency partners, and contractors around various aspects of project delivery (such as Configuration Management, Interfaces, Data Exchanges, etc.) which helps our clients achieve their goals and visions seamlessly.</p> <p>Our team uses industry based ITIL methodology to perform Vendor management tasks. This process encompasses designing and implementing an effective ITIL Vendor Management Process to minimize risks, maximize the benefits and establish transparency. Hence, we focus on establishing vendor relationships. With this process in place, we can confirm that each vendor is complying with DSHS policies and procedures.</p> <p>We understand that it is critical to maintain transparency when identifying issues and reporting the progress to the</p>

		<p>necessary stakeholders. Failure to promptly identify and address any lack of alignment with policies and procedures can impact cost, impede productivity, increase rework, and jeopardize the quality and timeliness of the solution. Our team will work with DSHS and external vendors to create a team culture that encourages transparency and communication as soon as there is a misalignment with policy or procedure is identified.</p>
<p>6.112</p>	<p>Establish process for verifying the accuracy of configuration items, adherence to configuration management process and identifying process deficiencies</p>	<p>Our Understanding of the Requirement</p> <p>We understand the complexity systems like ACES and what it takes to maintain its configurations by utilizing the configuration management policies and procedures. This includes allowing the members to adhere to these policies and report any deviation for appropriate action.</p> <p>During the initial transition phase of the project, we will work with DSHS to understand your current processes in place to perform the verification of configuration items. We will work with you to establish ongoing process to verify the configuration items and perform these verifications at an agreed upon frequency as laid out in the configuration management plan.</p> <p>How We Satisfy the Requirement</p> <p>We understand the customer population that you serve and recognize the daily impact ACES have on them. To deliver these services effectively, rapid development and implementation cycles are necessary to deliver the needed bug-fixes, changes, and adjustment to every changing policy guidance. However, rapid development and implementation can only be effective and achieve the Department’s goal with secure, reliable, and structured deployment and configuration management procedures.</p> <p>Our team’s experience with rigorous configuration management processes including identification, tracking and verification of code, database, rules, and other configuration variables increases efficiency by reducing the probability of repetitive builds and improves delivery</p>

quality. These abilities coupled with our knowledgeable and dedicated team, provide a solid foundation for constant and simultaneous improvements to these Systems and peace of mind that any deficiencies will be promptly identified and addressed.

Key elements of our configuration management (CM) approach are:

- Store and version-control the ACES code, documentation, deliverables, tools, system
- Implement secure check-in/check-out features for maintaining accuracy of code
- Design a source code tree structure that facilitates iterative development across multiple releases

We depict the Deployment Package Review and Approval Process in the image below.

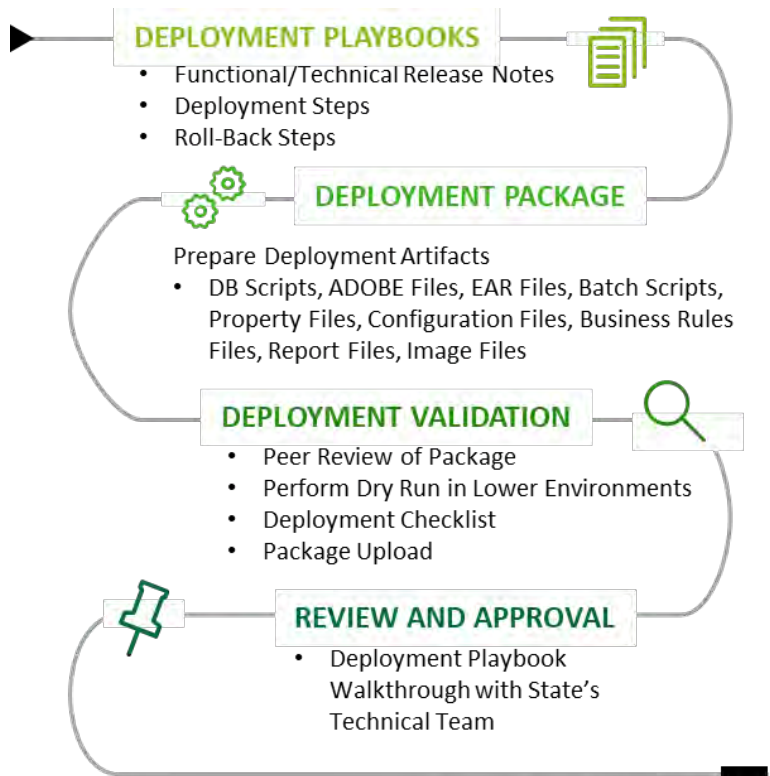


Figure 4.2-75. Configuration Management Process.

Another example that helps enforce the efficacy of the configuration management processes is the built-in

		<p>standards promotion and enforcement of documentation headers, footers, style, and template format for code check-ins. Code checks include automated code standard validations to support compliance across the team.</p> <p>The benefits of our Configuration Management approach are:</p> <ul style="list-style-type: none"> • Increases efficiency by reducing the probability of repetitive builds and improves delivery time into the environment • Use of tools such as GitHub, Apache ANT, Shell script and Perl Scripts to enhances build management and reduce the risk of a missed file, saving time during the deployment process • Automated email communication of build schedules and status • Improves coordination and communication across build cycles, making us more efficient and able to deliver software releases quickly • Enhances quality and awareness by development staff to plan for the next build <p>We will understand the established ongoing process to verify the configuration items and perform these verifications at an agreed upon frequency as laid out in the configuration management plan. As part of these verifications, we work with DSHS to conduct walk-through reviews of the configuration change/modification/development. The goal of a walk-through review is to confirm that components have been identified correctly and that component/code changes have been managed properly. The major activities of a configuration review include:</p> <ul style="list-style-type: none"> • Identifying the information to be reviewed and performing the review • Documenting and analyzing the results of the review
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PROPRIETARY

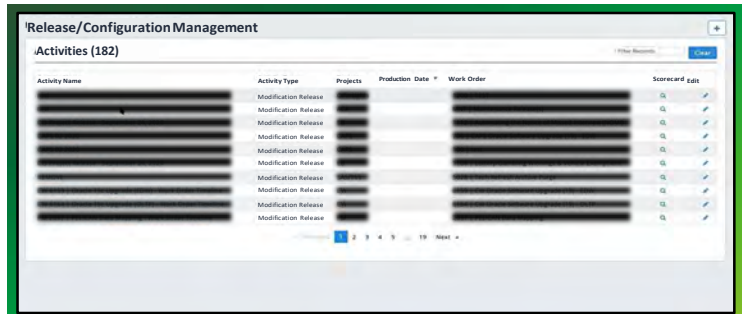
Configuration Management Activity	Frequency
Configuration Change Management	Weekly
Playbook Review Meetings	Per Release schedule
Production Deployments	As needed
Application Monitoring	Daily
System Tuning	As needed
System Upgrades	As needed

Figure 4.2-76. Sample Change Management Reporting and Governance Cadence.

These governance activities enable us to timely identify, report and create an adequate resolution plan to resolve any items that need remediation.

We will work with you to establish ongoing reporting at an agreed upon frequency as laid out in the configuration management plan. Report will be created as required or can be automated to share with DSHS as per schedule.

To enable real time tracking of configuration items, our team provides an accelerator, OperateEdge, that includes an interactive web-based tool which provides timely insights into release schedules, statistics, and status. It summarizes scheduled release, upgrade, and maintenance activities in a calendar view, documenting release data such as scope, impacted applications, impacted servers, release artifacts, and point-of-contact details. This provides DSHS with enhanced release tracking capabilities which both generates runways and produces scorecards evaluating release execution. The screenshot below displays the OperateEdge Release and Configuration Management dashboard.



WA_CON_ACES M&O_SLHE_MO-185048_2022-5004_1

Figure 4.2-77. OperateEdge Configuration Management Dashboard.

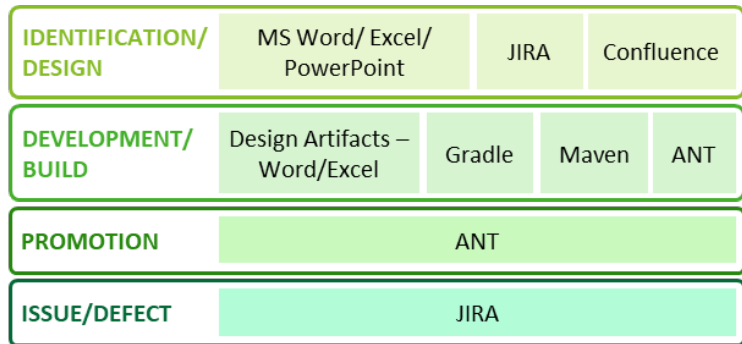
<p>6.114</p>	<p>Ensure up-to-date and accurate system changes are captured in the configuration management tools; that changes were made as prescribed and that the documentation of items and systems reflects their true configurations, and that any errors are reported to DSHS immediately</p>	<p>Our Understanding of the Requirement</p> <p>We know accurate and up-to-date system changes are an important part of successful project delivery and will work with the DSHS to establish, document, verify and implement them for ACES system. We will compare system configuration changes using tools and to report any discrepancies.</p> <p>We are committed to providing a seamless continuation of ACES operations with minimal disruption and work with DSHS on updating the system based on priority.</p> <p>How We Satisfy the Requirement</p> <p>Change is an inevitable part of software development to meet the evolving needs of the system. Our Change Management approach streamlines the workflow for the addition, movement, change, and/or deletion of managed infrastructure components and software. Changes subject to this process include upgrades, patches, service patches and other mandatory or requested changes to the system or infrastructure supporting the ACES application as well as the core configuration and customization.</p> <p>Based on ITIL standards, our change management approach is a proven approach for transition, maintenance, and operations. As part of transition, our team will review and integrate our best practices with existing DSHS processes for integrating the Change Management process with configuration management tools.</p> <p>The first step to system change is the identification phase. The drivers for change are evaluated in cooperation with DSHS and other stakeholders. Each request undergoes a rigorous review supported by the review board and underlying processes. Once a change is accepted for execution, that change is monitored and controlled using JIRA, the configuration management tooling described under Tool Usage, and through project management reporting. This extends to the release planning through which changes are bundled into</p>
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packages for migration using jointly agreed upon deployment and post-implementation review plans.

Our change and release management process has been fine-tuned to support both multi-vendor and multi-program complexities. At the onset of a change, we identify potentially impacted entities, estimated effort per entity, and duration constraints.

Our experienced team assesses the business needs, determines potential approaches, and identifies strategies to avoid unintended impacts to DSHS’s business processes. We provide detailed impact assessments, which yield greater success in implementing high quality changes on time and within budget. These inputs are used to develop a comprehensive plan including roles, tasks, schedule, and validation activities. Our planning benefits from our business and technology experience gained supporting similar HHS projects across the nation.

The following diagram represents processes and tools to be used to support DSHS software configuration management needs.



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Figure 4.2-78. Processes and Tools to Support Software Configuration.

The tools listed above are currently used for ACES. The reuse of the products and tools listed above minimize risk by providing consistency across the tools and processes that support Software Configuration Management.

We understand the client population that you serve and recognize the daily impact ACES has on them. With Our configuration management process of rapid development along with the SIT testing, we can augment these

		<p>Applications to reflect new and updated policies. However, rapid development and implementation can only be effective and achieve DSHS’s goal with secure, reliable, and structured deployment and configuration management procedures. The ability to consistently provide backups, feedback and other essential services enables us to quickly provide robust updates to ACES. These abilities coupled with our knowledgeable and dedicated team, provide a solid foundation for constant and simultaneous improvements to the System.</p>
<p>6.115</p>	<p>Maintain an inventory of all configuration items in the DSHS environment for which the vendor will be providing M&O services (including all attributes captured on the application inventory provided in the procurement library)</p>	<p>Our Understanding of the Requirement</p> <p>During transition we will obtain DSHS’s current process for maintaining the inventory of the configuration items for which we will be providing Maintenance and Operations Services. Our EVD for Transition and Operations process supports us to maintain an inventory of the resources and configuration items within ACES environments.</p> <p>How We Satisfy the Requirement</p> <p>A stable and controlled environment is imperative to the quality and success of the system. Unauthorized or unknown changes have ripple effects across the system and organization. By managing change and configuration, our team tracks and only implements authorized software changes. To do this, we identify a project's configuration items, the selection and set-up of systems and repositories to maintain configuration items, systematically controlling changes to configuration items, and auditing the controls used to confirm the integrity of configuration items throughout the life of a project.</p> <p>Configuration Management is the process of identifying and defining the configuration items in a system, controlling the release and change of these items throughout the system lifecycle, recording and reporting the status of configuration items and change requests, and verifying the completeness and correctness of configuration items. Our team uses ITIL methodology to perform configuration management tasks. Activities within maintenance tasks are aligned with the following</p>

		<p>Service/General/Technical Management practices of ITIL: Infrastructure & Platform Management, Service Continuity Management, Architecture Management, Capacity & Performance Management. These processes encompass the day-to-day activities, processes, and tools responsible for Infrastructure Support, Architecture Management, Patches/Upgrades Management, Performance Management.</p> <p>Assets or (configurations) are used in the delivery and maintenance of a project, and include documentation, databases, code, software, hardware, configurations, and technical infrastructure. Successful delivery of a project requires that the integrity of configuration items be maintained. Configuration items must be appropriately identified and controlled, because in dynamic project environments, team members rely accurate, reliable, and accepted work products for successful task accomplishment.</p> <p>At the highest level, there are four classes of configuration items maintained.</p> <table border="1"> <thead> <tr> <th style="color: green;">Configuration</th> <th style="color: green;">Uses to DSHS</th> </tr> </thead> <tbody> <tr> <td>Documentation</td> <td> <ul style="list-style-type: none"> Documentation configurations are critical to highlight the document project requirements and designs, commitments, and project status. </td> </tr> <tr> <td>Software/Code</td> <td> <ul style="list-style-type: none"> Software configuration items are typically customizations to the OpenText product. Software code and its related property files are critical to the project's success and serve as the implemented solution. It is stored in a code repository tool, which features a check-in/check-out process and audit trail. </td> </tr> <tr> <td>Infrastructure</td> <td> <ul style="list-style-type: none"> Infrastructure configuration items include the software and hardware that comprise the project's physical infrastructure and environments (for example, application, test environments, servers and operating systems). Our team will work closely with the State's hosting provider to provide support in evaluating changes to the requirements throughout the project life cycle, should changes be needed. </td> </tr> </tbody> </table>	Configuration	Uses to DSHS	Documentation	<ul style="list-style-type: none"> Documentation configurations are critical to highlight the document project requirements and designs, commitments, and project status. 	Software/Code	<ul style="list-style-type: none"> Software configuration items are typically customizations to the OpenText product. Software code and its related property files are critical to the project's success and serve as the implemented solution. It is stored in a code repository tool, which features a check-in/check-out process and audit trail. 	Infrastructure	<ul style="list-style-type: none"> Infrastructure configuration items include the software and hardware that comprise the project's physical infrastructure and environments (for example, application, test environments, servers and operating systems). Our team will work closely with the State's hosting provider to provide support in evaluating changes to the requirements throughout the project life cycle, should changes be needed.
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		<p>Tools</p> <ul style="list-style-type: none"> • Our team assists the hosting provider with configuration, versioning details, and deployment instructions that follow industry practices throughout set up of these tools. • The tools solidify the configuration management process by providing resources to put theory and process into action.
<p>Figure 4.2-79. Classification of Configuration Inventory.</p>		
<p>Incident Management</p>		
<p>6.116</p>	<p>Ensure rapid incident detection, ownership, recording, monitoring, tracking, reporting and communications. Log system incidents into the current ticket tracking system and outage log in a timely manner in alignment with the DSHS' processes, policies and procedures</p>	<p>Our Understanding of the Requirement</p> <p>Our team understands the importance of following a standard incident management process, owning incidents that are logged, and tracking updates to reported tickets and incidents in the ticket tracking system. We will follow these processes and log incidents and outage into the tracking system in a timely manner, per DSHS processes.</p> <p>How We Satisfy the Requirement</p> <p>Similar to application maintenance, IT operations require a robust, standard, and proven incident management in order to maintain successful operations, proactively identify issues, and resolve issues that are found efficiently and correctly. Our team, with experience in managing incidents in other states, knows the Incident Management lifecycle in IT operations, and we are prepared to fully support the end-to-end IT Operations Support process in coordination with DSHS.</p> <p>Our team will perform the following duties outlined in the requirement</p>

Incident Management Our Commitment Concept	
Incident Detection	Our IT operations support team will work closely with DSHS and the application team to pro-actively monitor the system and integration applications to detect issues as they occur. This incident detection includes notification to key stakeholders, via real-time notification via text message/emails, when a critical incident is identified by monitoring tools.
Ownership	We will work with your team to define the ownership (via a standard RACI matrix) of each task involved in IT Operations Support activity. As an issue occurs the responsible teams will be accountable for analysis of the issue, communicating the impact, and ultimately outlining and implementing a resolution.
Recording	Our team will record details of reported issues in the appropriate ticket tracking and other systems, assigning the respective tickets to owners, in accordance with DSHS.
Monitoring	Our team will monitor the status of open issues and incidents, and report on them as required to DSHS. This monitoring includes monitoring interim resolutions and the impact of issues that have occurred.
Tracking	Our team will track outstanding issues from creation to resolution, and log ticket updates in 'ServiceNow' as the ticket is triaged and processed through the incident workflow.
Reporting	Our team will create reports to provide details on the issues in the format that explains the issue description, date of occurrence, root cause, resolution, resolution date and impact.
Communications	Our team will promote transparency by communicating consistently and clearly to the appropriate DSHS groups throughout this process, and validate that the proper DSHS stakeholders are made aware of outstanding IT issues and the associated impacts

Figure 4.2-80. Key Incident Management Components.

		<p>In addition to the work of identifying, analyzing, reporting on, and monitoring incidents as required, our team will also follow DSHS processes to log IT and software issues.</p> <p>These will be recorded in the ticket tracking system for visibility, transparency, and to allow for easier communication of information on the issue. This includes issues regarding system outages or downtime, issues with software or integration with third-parties, or other related IT or infrastructure issues that impact the application and/or end-uses. Our team will follow the standard DSHS processes in this ticket logging practice.</p>
<p>6.117</p>	<p>Continually review the status of open incidents and related problems, and the progress being made in addressing problems related to the Applications</p>	<p>Our Understanding of the Requirement</p> <p>Our IT operations team will report issues to the proper DSHS stakeholders when they occur, and we are committed to continually reviewing open incident and issues to confirm that we are on the correct path to resolution, and to assess any potential impacts from the issue before a permanent resolution is found.</p> <p>How We Satisfy the Requirement</p> <p>When open incidents exist, it is critical that DSHS stakeholders are aware, and that they have the appropriate information and insights on the issues to make informed decisions – these decisions impact the prioritization of work and the ultimate resolution of the issues, and our team will perform the continuous review of the outstanding issues to provide as much input to DSHS as possible as these decisions are made.</p> <p>For issues that are outstanding and continue to remain outstanding as the issue analysis process is performed, our team will track the progress to resolution and keep the DSHS team informed on this progress. We will establish a cadence for a consistent report and communication to DSHS stakeholder with the issues and the proposed next steps for resolution. This report will also specifically flag ageing incidents and prioritize them based on impact, as defined by DSHS.</p>

		<p>As our team reviews these open incidents, there are several pieces of information that we will provide, which would act as in input for DSHS to make decisions to facilitate next steps in the resolution process</p> <ul style="list-style-type: none"> • Impact Analysis – For outstanding issues, our team will provide the current impact, and potential future impact – or the impact moving forward. For issues that are not resolved, there may be impacts that must be tracked up to resolution. • Implementation & Resolution Timeline – Our team will communicate the expected resolution date for outstanding issues, and the implementation timeline. If coordination with a trading partner is required, our team will work with the provider to get the necessary information to inform DSHS of the expected timeline for implementation. <p>Level of Effort Determination – Our team will assess the level of effort (LOE) in addition to impact to business to implement resolutions for outstanding issues. If there are several outstanding issues that must be prioritized, this LOE assessment can help inform DSHS leadership as to which issues can be resolved quickly, and which will require more time to resolve. Based on the criticality of the issue, DSHS can appropriately decide how to prioritize the outstanding issues and subsequent work.</p>
6.118	Lead incident management investigation and analysis, and provide status and incident impact categorization	<p>Our Understanding of the Requirement</p> <p>Our team is prepared and able to lead IT operational support related incident management investigations in compliance with DSHS policies and procedures, and we will provide the status and appropriate impact categorization of such issues as they are analyzed.</p> <p>How We Satisfy the Requirement</p> <p>When new issues are reported, our team will take the required steps to assess the issue root cause and impact and provide this information in a standard cadence to DSHS. Similar to application incidents, IT incidents and problems will be communicated to DSHS consistently,</p>

		<p>and the detail regarding the root cause and impact will be shared and logged appropriately in the ticketing system for full transparency and dissemination of the updates to triage staff and DSHS support teams.</p> <p>Along with this analysis, our team will categorize the reports IT operational issues – both in terms of the type of issue, the severity of the issue, and the impacted areas.</p> <p>Issue Categorization:</p> <ul style="list-style-type: none"> • Issue Type – Our team will identify the type of issue that is reported and categorize it appropriately. For example, if the issue is related to outage, it will be classified as such. On the other hand, if the issue is related to other problems like user access, performance, licensing issues, database issues, or third-party software integration, it will be categorized as such for appropriate tracking. • Issue Severity – The issue severity will be assessed based on DSHS defined guidelines, and then categorized appropriately. If the issue is an outage or prevents usage of the application or key application software features, it will be deemed higher severity issue than where the performance of some minor system functionality is lagging, or access to one application feature is unavailable for a limited number of users. • Impacted Area – The software or area that is impacted is also important to correct issue categorization. Primarily, this categorization will inform DSHS and other groups as to which IT application or software is impacted.
6.119	Lead process for diagnosis and resolution of critical incidents	<p>Our Understanding of the Requirement</p> <p>Our IT operations and support team is prepared and has the necessary experience to lead the processes for diagnosis and resolution of critical incidents, and is ready to recommend proven, tested solution to the DSHS team.</p>

		<p>How We Satisfy the Requirement</p> <p>Finding the diagnosis, or root cause, of identified IT incidents is the most critical step in resolving the underlying issue. As an experienced eligibility system integration vendor, our support team is well equipped to lead end-to-end issue diagnosis and resolution process. This includes identifying the issue, determining the root cause, and then resolving those issues in a timely and effective way.</p> <p>The IT operations support team works closely with the application support team, other project teams, and third-party providers to properly diagnose the root cause of reported issues. With the knowledge of the application, the E&E business, and the full infrastructure and project landscape across the business, our IT operations team is able to accurately assess incidents with the “big picture” view. From this view, they can narrow down the issue based on the details reported and in working collaboratively with other application teams. This allows our team to assess the impact of a reported issue more accurately, avoid repeat failures, and propose a correct resolution and priority of the issue.</p> <p>When a proposed resolution is found, it will be shared with DSHS stakeholders – DSHS will hold the ultimate decision on whether a proposed solution should be implemented, and how it should be prioritized amongst the other issues and problems that the IT operations team is monitoring or waiting to resolve. Our team will provide our insight as to the priority of the issue so that an information decision can be made.</p>
<p><i>Problem Management Services and Root Cause Analysis</i></p>		
<p>6.120</p>	<p>Support the Problem Management role and associated responsibilities including, but not limited to:</p> <ul style="list-style-type: none"> • Receive and log incidents and 	<p>Our Understanding of the Requirement</p> <p>Our team is prepared to support problem management across the application and provide direct support for IT operations in the identified areas, per DSHS guidance and policy.</p>

	<p>problems from Level 1/2 help desks</p> <ul style="list-style-type: none"> • Categorize and log problems • Apply formal methods for problem assessment, troubleshooting, and diagnosis • Identify problem characteristics and root cause • Notify DSHS Staff and third party Service Provider(s) as required • Monitor problems until permanent resolution • Provide ongoing communication and reporting on the status of problem resolution • Communicate resolution status and provide closure notification • Provide analysis and trends of problems and report findings on a monthly basis 	<h3 style="color: green;">How We Satisfy the Requirement</h3> <p>The IT operations and support team will fulfill the following responsibilities in coordination with DSHS, and in alignment with DSHS policies. We understand the importance of these activities and how our action helps support DSHS’s organizational goals.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="color: green;">Responsibility</th> <th style="color: green;">Our Approach</th> </tr> </thead> <tbody> <tr> <td>Receive and log incidents and problems from Level 1/2 help desks</td> <td>When issues are reported that indicate IT issues or problems with the application, our team will review the reported issue to assess the potential impacts and root cause and logs them for further functional, technical and trends analysis.</td> </tr> <tr> <td>Categorize and log problems</td> <td>Once an issue is reported, our team will review the details reported, and categorize the issue appropriately – whether it is an application issue, a potential issue with system performance or related applications, or even with hardware.</td> </tr> <tr> <td>Apply EVD for Transition and Operations for problem assessment, troubleshooting, and diagnosis</td> <td>Once the issue has been categorized, our team will assess the issue and determine the appropriate steps for troubleshooting and issue review based on experience with the system, similar reported issues, and a tested method for root cause/problem analysis.</td> </tr> <tr> <td>Identify problem characteristics and root cause</td> <td>Our team is prepared to find the root causes for IT and software-related issues by identifying the primary sources of the issue, the related downstream impacts, and then reviewing the underlying processes and technology. We will work closely with trading partners, the application support team, and key DSHS technology stakeholders to identify the root causes to system problems.</td> </tr> <tr> <td>Notify DSHS Staff and third-party Service Provider(s) as required</td> <td>Our team will work closely with DSHS and necessary third-party service providers to validate system functionality is working correctly, or to resolve reported issues – our team will contact third-party providers proactively and log tickets with providers to resolve issues that impact DSHS user’s ability to perform their work and the integrity of the ACES application.</td> </tr> </tbody> </table>	Responsibility	Our Approach	Receive and log incidents and problems from Level 1/2 help desks	When issues are reported that indicate IT issues or problems with the application, our team will review the reported issue to assess the potential impacts and root cause and logs them for further functional, technical and trends analysis.	Categorize and log problems	Once an issue is reported, our team will review the details reported, and categorize the issue appropriately – whether it is an application issue, a potential issue with system performance or related applications, or even with hardware.	Apply EVD for Transition and Operations for problem assessment, troubleshooting, and diagnosis	Once the issue has been categorized, our team will assess the issue and determine the appropriate steps for troubleshooting and issue review based on experience with the system, similar reported issues, and a tested method for root cause/problem analysis.	Identify problem characteristics and root cause	Our team is prepared to find the root causes for IT and software-related issues by identifying the primary sources of the issue, the related downstream impacts, and then reviewing the underlying processes and technology. We will work closely with trading partners, the application support team, and key DSHS technology stakeholders to identify the root causes to system problems.	Notify DSHS Staff and third-party Service Provider(s) as required	Our team will work closely with DSHS and necessary third-party service providers to validate system functionality is working correctly, or to resolve reported issues – our team will contact third-party providers proactively and log tickets with providers to resolve issues that impact DSHS user’s ability to perform their work and the integrity of the ACES application.
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		<p>Monitor problems until permanent resolution</p> <p>Once a problem has been reported, and even after an interim solution has been implemented, our team will continue to monitor – via existing monitoring queries and processes, or ad-hoc monitoring processes – the underlying problem to validate that the proposed workaround is functioning properly until the long-term resolution is in place.</p> <hr/> <p>Provide ongoing communication and reporting</p> <p>Our team will provide consistent, clear, and standardized communication on IT and software issues that impact the ACES application and end-users, with full transparency as to the impact of the issue, and the expected resolution timeframe. Our team will also provide the tier 1 and tier 2 DSHS support teams with a troubleshooting guide for common IT issues, to help facilitate quick resolution of such issues for users.</p> <hr/> <p>Provide analysis and trends of the problems and report findings on a monthly basis</p> <p>Based on the analysis of problems, our team consolidates the issues into ‘Trends’. These ‘Trends’ act as guidelines for prioritization based on the impact on business. The ‘Trends’ are reported to the DSHS team on a monthly basis to continue monitoring and for assessment of the health of the system.</p> <hr/> <p>Figure 4.2-81. Our Problem Management Responsibilities.</p>
<p>6.121</p>	<p>Track and report recurring incidents or failures and provide associated consequences of repeating incidents</p>	<p>Our Understanding of the Requirement</p> <p>Our team commits to working closely with DSHS to track and communicate on recurring IT incidents and software failures. Further, we will provide the associated consequences and impacts of the repeating incidents as they are identified and assessed.</p> <p>How We Satisfy the Requirement</p> <p>Tracking and reporting on recurring failures is critical to monitoring the health of applications, and our team is prepared to track such incidents following an established process. While an incident tracks each occurrence of the said issue, the issue tracks the overall root cause. Such issues may include system downtime, slowness or</p>

		<p>reduced system performance, issues with error handling or consistent exceptions, issues with access to applications, or other incidents that occur as part of normal business operations.</p> <p>Tracking such incidents, and reporting on them consistently, is important to a successful IT operations strategy. Recurring issues can signal more serious underlying problems or may significantly impact the ability for DSHS end-users to perform their daily responsibilities. Additionally, if the issue involves a third-party provider, coordinating with the provider on a solution and working between multiple groups can prolong the time to an interim or permanent resolution.</p> <p>Our team understands that there is a possibility that issues can recur, and performs the following activities to identify such incidents more quickly, and allow for easier tracking and reporting:</p> <ul style="list-style-type: none"> • Monitoring Performance and Underlying IT Infrastructure – Standard and comprehensive system performance and IT monitoring processes are critical to identifying the tracking recurring issues. Some issues may not directly present themselves to users but must be tracked closely to avoid larger system issues in the future. • Consistent Communication with Third-Party Providers – Our team works closely with software providers, and if there is an issue, we document the issue and the steps to resolve the issue with the provider. If the issue occurs down the line, our team has the exact steps we need to take to communicate the issue clearly and reach a resolution • IT Impact Analysis – As part of the tracking process, our team builds out impact assessments for application failures or other IT issues that can occur. This helps our team and DSHS to be ready to take corrective actions, if needed, to resolve issues and recover from such application failures – especially if they are recurring.
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6.122	Track and analyze all potential modifications (e.g. problem/defects, enhancements, projects across infrastructure) for all Application DDI vendors and report to DSHS for prioritization and approval to commence	<p>Our Understanding of the Requirement</p> <p>Our team understands the importance of assessing system changes to assess impacts to current system applications and technology. We will track and analyze potential changes or modifications and determine the impact to the applications and vendors and provide the resulting impact analysis to DSHS.</p> <p>How We Satisfy the Requirement</p> <p>The decades of experience our team brings to the state of Washington and the DSHS team is highlighted by our ability to successfully implement, operate, and integrate applications across the health and human services space. Our team is prepared to track, analyze, and assess the impact of system or software modifications across application support teams and projects for applicable DDI vendors. As part of this assessment, our team will work closely with DSHS stakeholders to gain approval and prioritization for such activities before moving forward and provide impact analysis as required by the business.</p> <p>As systems grown and evolve, and as more projects are implemented and begin their respective maintenance phases, tracking modifications across the projects and systems becomes more complicated – however, our team’s vast experience in managing these large, complex system implementations and maintenance projects allows our seasoned IT operations teams to deftly handle this process. As part of tracking and analysis, our team identifies and assess the impact of many different types of activities that can impact IT operations</p> <ul style="list-style-type: none"> • System Enhancements – Enhancements to the application, even those with no directly identified impact to the system software, should be monitored to validate the enhancement is implemented without issue. Enhancements can impact system performance, may not be compatible with some key system functionality, or may impact integration with other projects or applications.
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		<ul style="list-style-type: none"> • Software Upgrades – Upgrading software is a standard, but very important, part of the overall M&O process which keeps the system running smoothly. Upgrades will be performed in a timely manner – the impact to the application and projects will be assessed and shared with DSHS stakeholders to determine the priority and criticality of the software upgrade, and our team will work closely with third-party software providers to validate the successful implementation of upgrades, and the availability of software application support from those third parties. • Server and Database Patching – Server patching and other Database Management activities are important to the successfully functioning of a production environment for the ACES application. Our infrastructure team is prepared to lead such server and database management activities, in coordination with the DSHS team, to perform necessary patching on a consistent, predictable schedule which minimizes impact to the application and end-users. <p>Overall, our team will coordinate closely with the DSHS team, other projects, and required third-party providers to appropriately consolidate system modifications, create a schedule of such modifications, and then gain approval from DSHS to implement the modifications to minimize impact to the respective systems, and prioritize the more important modifications based on business needs.</p>
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Security Administration

<p>6.123</p>	<p>Establish a mechanism to ensure comprehensive and up-to-date policies and procedures to help governance activities related to access and identity management as well as information privacy and protection:</p> <ul style="list-style-type: none"> • Privacy Impact Assessment 	<p>Our Understanding of the Requirement</p> <p>We understand that DSHS, with ACES as an established system with many years of operation, wants to verify that relevant Security and Privacy policies and procedures are up to date.</p> <p>The following Security Artifacts are subject to review, update, and approval in accordance with DSHS requirements:</p> <ul style="list-style-type: none"> • Privacy Impact Assessment
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<ul style="list-style-type: none"> • System Security Plan and workbook • Information Security Risk Assessment • Information protection governance • Change management • Incident Response • NIST 8---53 R4 Compliance Matrix • NIST 800 Controls Mapping 	<ul style="list-style-type: none"> • System Security Plan and workbook • Information Security Risk Assessment • Information protection governance • Change management • Incident Response • NIST 8---53 R4 Compliance Matrix • NIST 800 Controls Mapping <p>How We Satisfy the Requirement</p> <p>Our team has a long and effective working relationship with the regulatory organizations that influence the State of Washington security requirements (e.g., CMS, IRS, and SSA). Our approach to security includes not only DSHS' baseline security requirements, but also security requirements from relevant regulations and governing bodies, such as CMS Minimum Acceptable Risk Standards for Exchanges (MARS-E) 2.2, Internal Revenue Services (IRS) Publication 1075, and NIST 800-53. Our team has assisted in drafting and establishing NIST 800-53 requirements and actively advises CMS and IRS in revising MARS-E and Publication 1075. We understand how to streamline these regulations and incorporate them into baseline security requirements to create a robust security protocol.</p> <p>Our team has successfully assisted the State of Washington with compliance with federal and state requirements in the recent past with our work on the Healthplanfinder with Washington Health Benefit Exchange (HBE). Over the past several years, we have been a trusted advisor to HBE, delivering multiple systems and assisting in federal compliance.</p> <p>We will collaborate with DSHS to incorporate requirements from the Statement of Work (SOW), review the consolidated security requirements with DSHS, and adjust as required by DSHS to have an approved set of requirements for the solution.</p> <p>Security and Privacy: Our team will work with stakeholders from State, relevant third-party vendors,</p>
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		<p>and various project teams to select the most appropriate security tools and solutions that align with State’s business, security, and compliance requirements. Our security and compliance team performs a “crosswalk” between various applicable standards and security controls to identify control gaps. The identified gaps are based on the result of mapping between existing infrastructure and application security controls provided by the DSHS ACES team, and the harmonized set of security controls identified as part of the “crosswalk” performed on mandated regulatory requirements.</p> <p>System Security Plan (SSP): Our team will work with DSHS on the SSP to provide the implementation details of the management, technical, and operational controls required for ACES to meet federal and State requirements for information security. Driven by security and privacy requirements stemming from applicable Federal and State standards, the SSP documents the current level of security implemented within the system and the agency's procedural controls. Our team will collaborate with key stakeholders from DSHS, project application development, and technology teams to review security control implementation details necessary to document appropriate control status. Considering ACES is in the Maintenance and Operations phase (M&O), our team will review and update the SSP annually to confirm system controls and review enhancements made to the systems. The SSP will capture security requirements and how the ACES solution meets the necessary federal and state requirements for information security. The SSP shall contain the following:</p> <table border="1"> <thead> <tr> <th style="color: green;">Control Classification</th> <th style="color: green;">Description</th> </tr> </thead> <tbody> <tr> <td>Management Controls</td> <td>Management controls are specific to the management and maintenance of risk related to Washington DSHS security policies. These controls include security policies as well as relevant procedures from NIST SP 800-53 Rev5, IRS Pub 1075, SSA, and HIPAA.</td> </tr> </tbody> </table>	Control Classification	Description	Management Controls	Management controls are specific to the management and maintenance of risk related to Washington DSHS security policies. These controls include security policies as well as relevant procedures from NIST SP 800-53 Rev5, IRS Pub 1075, SSA, and HIPAA.
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		<p>Technical Controls Technical controls include controls for ACES, such as authentication, authorization, roles, and profiles. These controls are dependent upon the proper functioning of the system for their effectiveness.</p> <hr/> <p>Operational Controls Operational controls are implemented and executed by the staff of ACES (as opposed to systems). These include incident response and security awareness and training. These controls are put in place to improve the security of a system (or group of systems).</p> <hr/> <p>Figure 4.2-82. Security Controls for SSP.</p> <p>Change Management</p> <p>To address the DSHS change management requirements for security tools, our team proposes an approach tightly integrated with DSHS’s change management processes and technologies in place. Across the broad range of security tools, our team will comply with change management processes and policies when changes and releases are executed and will diligently document changes by providing consumable information to the change approval board. An integral component to successfully managing technical change is the implementation of a formal process for evaluating and subsequently controlling the scope and schedule of new changes. Our team understands that a production environment needs to evolve continually to address the needs of the business, and a mechanism should be in place to effectively manage these demands. Our solution will configure the change management workflow to verify that the necessary groups are involved in reviewing and approving changes.</p> <p>Best Practices</p> <p>Our team leverages an extensive, mature set of standard operating procedures (SOP) and processes to provide services to our clients. The SOPs cover implementation, steady-state security monitoring and incident response, and SIEM content development. Our professionals draw on an extensive library of SOP/process documentation, encompassing:</p>
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		<p>Change Management Processes. These SOPs will incorporate practical methods for stakeholders to use while implementing changes in any in-scope system. These will be aligned with the existing change management process, and we will recommend improvements where necessary.</p> <p>Threat Analysis and Incident Response Reports: These will be the templates to report and present a final analysis on any detected or reported security incident.</p> <p>Root Cause Analysis Report: This will be a guiding template to perform and capture the root cause analysis of a security incident once the threat has been mitigated and normalcy is restored.</p> <p>Risk Log Tracker: This template will be used to track any ongoing and emerging issues or risks that may directly or indirectly impact security operations. The tracker will contain, at a minimum, risk and issue descriptions, mitigation plan, action item owner, and due date. At a minimum, the risks and issues will be related to security monitoring, security engineering, and system health monitoring.</p> <p>Security Operations RACI Matrix: This template will detail the people and teams responsible for every issue and action related to overall security monitoring and incident response operations.</p> <p>Security Incident Response Plan: This template will be the master guide followed if a security incident is encountered. It will outline SOPs around engaging relevant stakeholders promptly to mitigate the security risk. This will be an evolving document, incorporating lessons learned at every step of the way of overall security operations.</p>
6.124	<p>Enhance and maintain security documentation (Security Plan, Security Architecture and Access Policies and procedures, information protection governance, incident response, risk assessment, PIA, SSP and</p>	<p>Our Understanding of the Requirement</p> <p>We understand DSHS plans to enhance its security documentation. Lack of updated security documentation can negatively affect compliance with federal and state regulations and can increase the risk of security threats and data loss. Our team will work with DSHS to enhance and maintain security documentation, which can support</p>

	<p>Workbook and other related security documents) to support an enterprise approach to include multiple vendors and multiple divisions</p>	<p>an enterprise approach to include multiple vendors and divisions.</p> <p>How We Satisfy the Requirement</p> <p>We have assisted more than 40 states with a variety of information system security- and cybersecurity-related projects, ranging from building information security programs to information security risk assessments, and is currently engaged with more than 15 states in their NIST 800-53 and MARS-E 2.0/2.2 compliance efforts. Our technical approach to controls implementation is based on our deep understanding of the regulatory requirements, including but not limited to NIST 800-53, IRS Publication 1075, and HIPAA.</p> <p>Our team will collaborate with DSHS Security, Application, and IT Operations Teams, including required Vendor personnel, to:</p> <ol style="list-style-type: none"> 1. Review and update policy/procedural documentation. 2. Assess control implementation details to maintain continuous compliance. 3. Evaluate potential impacts and capture necessary updates to security artifacts (i.e., SSP, PIA, POA&M) based on changes to DSHS Enterprise policies, technology upgrades or modifications, and/or amendments/additions to applicable regulatory requirements.
<p>6.125</p>	<p>Develop and maintain all documentation required for security audits and internal control and control testing</p>	<p>Our Understanding of the Requirement</p> <p>We acknowledge the criticality of maintaining the documentation required for security audits, and control testing. Proper documentation is a core requirement for performing audits and control testing. Our team will assist in gathering information on the level of existing documentation, determine system documentation needs (missing documentation or artifacts) and coordinate efforts with DSHS and vendors to improve system and operational documentation.</p>

How We Satisfy the Requirement

We will assist the State to develop and maintain documentation for ACES related security audits. We will leverage our expertise in supporting security audits by rationalizing data and removing we have a standard framework that clearly defines the following:

- Type of support to be provided for audit responses
- Secure process followed by our team for audits
- Roles and responsibilities of our team and State teams
- Criteria for determining audit response timeframes and priorities
- Process to escalate roadblocks encountered during audit response analysis
- Automated processes, including data queries, to deliver consistent and expedited audit responses
- Template for audit responses to create consistency that considers the formal audit response format prescribed by the State

Our team has vast experience in implementing security controls and has developed a standard framework that includes a NIST-800-based approach to implement internal controls to meet the State's security, privacy, and data handling requirements and, over the life of the engagement, objectively assess the system through the lens of industry standards, realizing that security breaches and denial of service have become commonplace.

Through documentation, our team creates a Service Organization Controls (SOC) report necessary to determine that ACES, in its entirety has the required internal controls over data security, availability, processing integrity, confidentiality, and privacy.

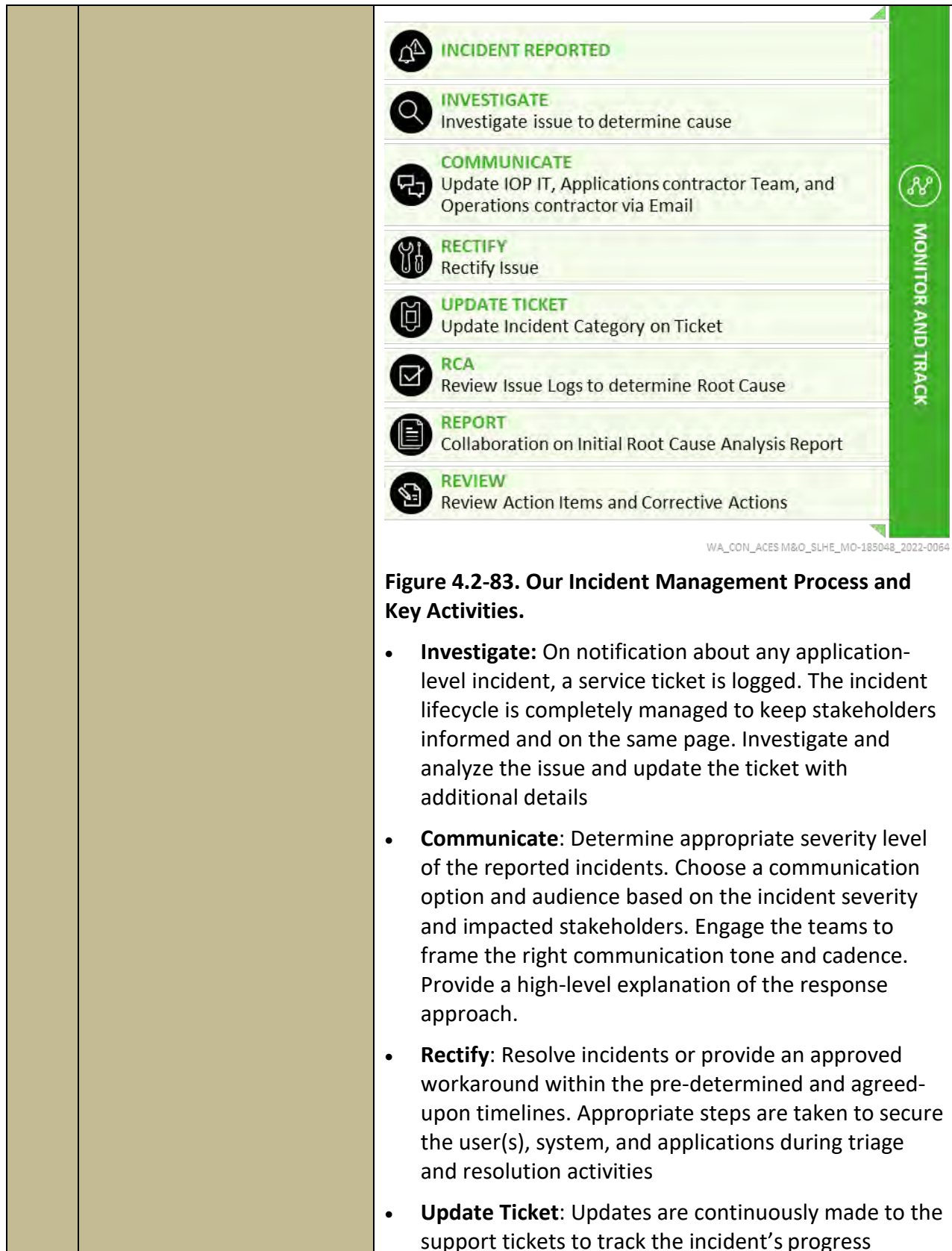
We also understand that having ready access to up-to-date documentation, standards, process controls, review and approval policies as well as details as to the technical elements of ACES that provide the systems controls

		<p>required to help assure the auditor that sufficient controls are identified in place and in effect; are strictly followed; documented and contemporary with the system's configuration and operating profile.</p>
6.126	<p>Provide a documented set of controls that is used to ensure the separation of data and security information among customer applications</p>	<p>Our Understanding of the Requirement</p> <p>Our team understands the need for having a documented set of controls to mitigate risk associated with data loss or security breach, prevent compliance issues, and appropriately separate user data and security information based on the nature of customer applications. We will work with DSHS to understand types of data stored, transmitted, and processed by the ACES application components and assess how the varying application functionalities may require data separation. In addition, our team will assist DSHS in maintaining and managing a controls catalog that will help to verify data separation wherever necessary, considering where applications are internally-facing (i.e., Acesonline (AOL)) versus where applications are externally-facing (i.e., Washington Connection (WACONN)), or support internal business processes (i.e., Automated Case Management (ACM), Eligibility Service Engine/Eligibility Subsystem).</p> <p>How We Satisfy the Requirement</p> <p>Data security management determines how data is stored, maintained, and protected. Our data security methods, based on a MARS-E 2.0 framework, federal policies, and industry standards, address specific considerations on data categories such as Personally Identifiable Information (PII), Protected Health Information (PHI), and Internal Revenue Service (IRS) Federal Tax Information (FTI). In collaboration with State stakeholders, we apply regulations and best practices such as data de-identification and cleansing before production data is made available in lower environments. Based on the sensitivity of the data, we categorize data into various groups, like restricted, sensitive, and public. Each of these classifications will have its own restrictions on accessibility. Database scripts and procedures combined with business logic are used to</p>

		scrub and mask production data and cleanse it of any PII and PHI data. When possible, we use data isolation techniques , such as FTI data, whereby data is securely managed in its own schema separate from other data elements in ACES.
6.127	Provide documented procedures to perform background checks on personnel with administrative or other privileged access to servers, applications or customer data	<p>Our Understanding of the Requirement</p> <p>We acknowledge and support the State’s need for documented procedures to perform background checks. Lack of or improper background checks might lead to unauthorized personnel gaining privileged access servers, applications or customer data. Our team will assist DSHS in developing documented procedures to perform background checks to prevent such scenarios.</p> <p>How We Satisfy the Requirement</p> <p>Background Checks. Our team requires that background investigations (including security checks) be conducted for employees, partners, and principals at the time that they join the Deloitte U.S. Firms. Potential issues that are identified in the background investigations are reviewed to determine if they are job related or pose a risk to the Deloitte U.S. Firms or to their respective employees, partners, principals, or clients. The type of background investigation performed depends on whether the individual joining one of the Deloitte U.S. Firms is a partner, principal or employee, and the level of the employee.</p> <p>We will require of its employees, agents, and subcontractors performing information security services to comply with the applicable state and federal laws and regulations, including State of Washington policies governing the use and disclosure of data (including Client Records) and Access to Information Assets, including as those laws, regulations, and policies may be updated from time to time.</p>

6.128	Provide documented procedures and establish procedures for vulnerability management, intrusion prevention, incident response, and incident escalation and investigation	<p>Our Understanding of the Requirement</p> <p>We acknowledge and support the State’s need for documented procedures for vulnerability management, intrusion prevention, incident response, and incident escalation and investigation. Outdated procedures might lead to vulnerabilities not being detected, and slow incident response time. Our team will assist DSHS in developing documented procedures to avoid such situations.</p> <p>How We Satisfy the Requirement</p> <p>We have vast experience in providing Cyber Risk Services across more than 40 states and working directly with the State to support adhering to federal and state secure system requirements. With a large practice of over 1,400 Certified Information Systems Security Specialists (CISSPs) in the US, our team has the experience to understand and meet the requirements laid out by State of Washington DSHS.</p> <p>Vulnerability management is critical to confirming a secure system implementation, and we remediate findings found through Infrastructure Scanning. To enable ongoing scanning, we will perform weekly vulnerability scanning and will work with DSHS to validate the vulnerability scanning results and notify the appropriate stakeholders. Upon vulnerability findings, we will analyze the scan output to align prioritization with risk reduction goals and disseminate results to appropriate remediation teams.</p> <p>We implement proactive system operation monitoring, reporting and controls like “Client-Side Monitoring,” intrusion attack prevention process, and an automated downtime notification tool to position us to deliver value for ACES stakeholders. Our team brings an outcome-oriented approach to delivering on this contract and provides measurable results</p> <p>Our SIEM design approach for the DSHS begins by determining an optimal platform and associated deployment architecture tailored to your operating</p>
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		<p>environment. We have significant experience in Splunk, with work that includes systems integration, content development, content optimization, and performance improvements and stabilization. We will assist DSHS to configure Splunk alerts to inspect and escalate trends in incidents due to possible network connectivity, system outages or document upload process failures</p> <p>Our team will work with the ACES networking team to implement the Web Application Firewall for the State's applications to enhance security and avoid intrusion possibilities.</p> <p>We will perform continuous improvements and enhancements across infrastructure security solution areas such as firewalls, intrusion detection/prevention systems, malware sandboxed etc.</p> <p>Intrusion Prevention</p> <p>We understand the importance of identifying and preventing threats from potentially exploiting a vulnerability, breaching the network, or causing data loss that could significantly harm the agency. We will collaborate with DSHS Security, Application, and IT Operations Teams to define intrusion prevention procedures leveraging existing DSHS enterprise capabilities and tools that will serve to identify, alert, and prevent potential security incidents/breaches.</p> <p>Incident Management</p> <p>We efficiently address incidents when they occur to secure ACES and return the system to operations in a reliable manner. As part of the initial response, we define immediate corrective actions, the cadence of milestones, touchpoint calls, and the next steps. Our approach emphasizes securing the system and application while maintaining data integrity and preventing future incidents. We address incidents holistically by analyzing the incident's root causes, impacted users and systems, determining short-term and long-term resolutions, and maintaining traceability.</p>
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		<p>towards resolution The team also updates the support ticket with the appropriate information, including but not limited to root cause, resolution, short term work around, and long-term fix</p> <ul style="list-style-type: none"> • Root Cause Analysis (RCA): On resolving a ticket, a root cause analysis is automatically triggered to help document the details of the incident The team analyses various system logs, including application and access logs to troubleshoot the incident. On determining the root cause, the team documents the root cause in support tickets while keep the relevant stakeholders informed per the agreed upon communication timelines • Report: The support team stays engaged with the team, the impacted application team(s), as well as the infrastructure hosting team during the incident management process. After a Root Cause Analysis (RCA) is complete, a detailed report is produced, with collaboration and input from relevant stakeholder teams, documenting information about the incident • Review: After the RCA and resolution, a meeting is held with key stakeholders to review any action items that are identified to support the successful resolution of the incident before closing the incident. <p>Best Practices</p> <p>Assigning proper criticality in accordance with DSHS standards, considering the existing security measures that could reduce or increase exposure, and incorporating feedback and additional information from various teams is vital for promptly addressing security and privacy incidents. Our alliance with the leading SIEM vendors (e.g., Splunk for Splunk ES) means we bring experience and leading knowledge gained from multiple engagements where we have deployed, developed, and/or operated these various SIEMs for our clients.</p>
6.129	Provide documented identity management and help desk procedures for authenticating callers and resetting access	<p>Our Understanding of the Requirement</p> <p>We acknowledge and support the State’s need for documented procedures for identity management and</p>

	<p>controls, as well as for establishing and deleting accounts</p>	<p>help desk procedures. Inadequate procedures might lead to difficulties in authenticating callers and establishing accurate access controls. Our team will assist DSHS in developing documented procedures to avoid such situations.</p> <p>How We Satisfy the Requirement</p> <p>Our team brings a set of documented procedures to identify and authenticate citizens. These procedures are based on core identity credentials, such as name and date of birth, and out-of-wallet questions, such as past education history or financial history, to provide the level of assurance of the citizen’s identity required for modifying accounts and access controls.</p> <p>Our team recommends that account creation for external users incorporate identity proofing to validate and verify the user account’s claim of identity. For Eligibility & Enrollment systems, our team uses remote identity proofing services provided by Experian through CMS to reduce fraud and maintain system integrity. Our team will work with DSHS to review documented identity management procedures as in accordance with DSHS policy and amend/modify procedures as necessary based on organizational and regulatory changes.</p>
<p>6.130</p>	<p>Ensure all security controls required to meet DSHS' security policies are in place and followed</p>	<p>Our Understanding of the Requirement</p> <p>Our team understands the need for DSHS to confirm that security controls are established and followed. There might be an increase in the risk of security incidents and data loss in case Security controls that have not been implemented or are out of compliance with DSHS security policies, may elevate the risk of security incidents, data loss, and/or reputational loss associated.</p> <p>How We Satisfy the Requirement</p> <p>Our team will review the existing IT security control catalog and continuously monitor DSHS’s security controls to assess their operating effectiveness, identify potential gaps in compliance, analyze risks, suggest recommendations around best practices, and collaborate</p>



		<p>with the State to identify remediation efforts, as necessary. We will perform a security controls assessment on DSHS’s information security compliance portfolio to identify gaps, analyze risks, and provides recommendations.</p> <p>For areas identified to be lacking in the documentation of the security controls, we will document the security controls working with key stakeholders from State, project application development, and technology teams encompassing management, technical, and operational security controls aimed at protecting the data of ACES. Our team incorporates the details of each of the security controls, implementation plan, and steps of verification in the security plan document to provide traceability to security requirements. These security controls protect the confidentiality, integrity, and availability of information.</p> <p>Throughout the documentation process, our team works with DSHS to identify and implement cost-effective security controls. Our team has experience working with Washington and will continue to work develop the SSP in Washington’s format and the required security documentation for regulators such as CMS and IRS.</p>
6.131	Provide security and proactive monitoring on the dedicated and shared environment at the infrastructure level	<p>Our Understanding of the Requirement</p> <p>Our team recognizes the importance of having security and proactive monitoring for the dedicated and shared environment. Ineffective monitoring can cause potential security breaches to go undetected. We will work with DSHS to confirm effect monitoring is in place to prevent such situations.</p> <p>How We Satisfy the Requirement</p> <p>Our team will leverage the existing SIEM infrastructure and tools for ACES to perform security monitoring and threat detection services. Our team will provide a Security Monitoring Plan that includes the process and procedures for continuous security monitoring, alerting, reporting, and mitigation mechanisms. We will help develop risk reporting, monitoring and metrics by using</p>

		<p>data visualization tools and graphic representations of scope, findings, and risk.</p> <p>Application teams may identify a defect through production monitoring or application testing. We run automated application health checks to proactively detect anomalies and collect feedback from end users and program offices to identify, track, and resolve potential issues. We proactively monitor application logs to review anomalies in the production environment and communicate it to ODHS and OHA. This approach helps us graduate our Defect management process from a corrective to a preventive maintenance lens.</p>								
		<table border="1"> <thead> <tr> <th style="color: green;">Monitoring Area</th> <th style="color: green;">Scope</th> </tr> </thead> <tbody> <tr> <td>Batch Monitoring</td> <td>Batch Monitoring Report includes metrics, such as successful batch completions, as well as delayed, failed, or canceled batch executions. The Batch reports are compiled on a daily, weekly, monthly, and quarterly basis and shared with the project management, stakeholders.</td> </tr> <tr> <td>Interface Monitoring</td> <td>We monitor our application for any system usage anomalies with our interfacing partners and stakeholders through real-time and batch interface monitoring reports. These reports help track request and response transactions processed, along with errors and exceptions logged during the day. Our team proactively studies the exception logs to identify the common patterns to spot any discrepancy and log defects if any failed transaction is identified due to a valid business, technical or network issue, we collaborate with the stakeholders to reprocess the transaction.</td> </tr> <tr> <td>Error Log reviews</td> <td>These reports help in identifying the root cause of performance issues by analyzing the core dumps, heap dumps, memory leaks and resource leaks. We use our extensive DevOps experience to enhance monitoring tools further and integrate with DevOps process to analyze the logs in real-time and alert the appropriate team if any anomalies found. We have implemented centralized log solution, which helps analyze and review the application logs, error logs, garbage collector logs and verbose logs with ease.</td> </tr> </tbody> </table>	Monitoring Area	Scope	Batch Monitoring	Batch Monitoring Report includes metrics, such as successful batch completions, as well as delayed, failed, or canceled batch executions. The Batch reports are compiled on a daily, weekly, monthly, and quarterly basis and shared with the project management, stakeholders.	Interface Monitoring	We monitor our application for any system usage anomalies with our interfacing partners and stakeholders through real-time and batch interface monitoring reports. These reports help track request and response transactions processed, along with errors and exceptions logged during the day. Our team proactively studies the exception logs to identify the common patterns to spot any discrepancy and log defects if any failed transaction is identified due to a valid business, technical or network issue, we collaborate with the stakeholders to reprocess the transaction.	Error Log reviews	These reports help in identifying the root cause of performance issues by analyzing the core dumps, heap dumps, memory leaks and resource leaks. We use our extensive DevOps experience to enhance monitoring tools further and integrate with DevOps process to analyze the logs in real-time and alert the appropriate team if any anomalies found. We have implemented centralized log solution, which helps analyze and review the application logs, error logs, garbage collector logs and verbose logs with ease.
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		<p>Figure 4.2-84. Monitoring Approach for ACES.</p>								

6.132	Monitor security to ensure compliance to Federal security regulations and approved Application plans, processes and procedures	<p>Our Understanding of the Requirement</p> <p>Our team understands the criticality of being compliant with Federal security regulations and other approved plans. Non-compliance can lead to an increased risk of security and privacy incidents. We will work with DSHS to confirm that compliance is maintained within the required security requirements</p> <p>How We Satisfy the Requirement</p> <p>Our approach leverages advanced auditing and logging capabilities to protect and safeguard the data. It enables us to create, protect, and retain information system audit records and enable the monitoring, analysis, investigation, and reporting of unlawful, unauthorized, or inappropriate information system activity.</p> <p>To maintain data confidentiality, integrity, and availability, our team will identify logging and auditing requirements per IRS Publication 1075, CMS, and MARS-E guidance.</p> <p>Our team will implement audit mechanisms to generate findings and reports across different layers of the ACES implementation. We will work with the DSHS teams (e.g., Security, Privacy, and System Integrity teams) to develop an Auditing, Logging, and Monitoring plan to review security reports, alerts, and dashboards to detect potential security incidents and take required action based on the nature of the event.</p> <p>Best Practices</p> <p>Adherence to and compliance with Federal and State security standards is a top priority for our team. Our approach to address Federal and State standards for security and privacy is to leverage our Security Risk Framework to address the relevant requirements from applicable standards. Our implementation follows the NIST 800-53 Rev4 framework, and we incorporate into the design the required federal guidelines, including IRS 1075, and HIPAA requirements.</p>
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6.133	Develop/maintain/follow a documented process for evaluating security alerts from OS and applications vendors, shielding systems from attack until patched, and installing security patches and service packs	<p>Our Understanding of the Requirement</p> <p>We understand the importance of vulnerability management in an enterprise environment, including monitoring security findings and alerts, performing security workarounds, and security patch upgrades.</p> <p>How We Satisfy the Requirement</p> <p>Our professionals have integrated and managed a wide range of security tools, applications, and technologies, including vulnerability scans and SIEM. In addition, our team has an extensive network of partner relationships with many major security vendors and can advise DSHS on innovative approaches to monitoring using the full range of tools in its security stacks.</p> <p>More than just looking at raw events, the idea behind threat monitoring is to leverage the correlation capabilities of SIEM and other monitoring systems to review and escalate critical events. The value of this service is to go beyond just passing alerts to DSHS' security team. By injecting human analysis and judgment into the process, our team will provide actionable and relevant results to DSHS.</p> <p>Our team will leverage the existing Splunk tool for Security Information and Event Management (SIEM) technology to monitor for events that matter and efficiently take action on those alerts to remediate vulnerabilities and decrease adversary dwell time within the environment.</p> <p>Our team will update, upgrade, and refresh ACES computing environment to confirm that the State is operating on a contemporary, operationally documented platform as new functions are added to the ACES service offering. Our team brings proven processes developed for the State of WA, as well as for other public sector and commercial customers. We provide operational support for critical client systems and consistently meet or exceed established Service-Level Agreements.</p> <p>Patch management is a foundational element of information technology security. Every software has</p>
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		<p>vulnerabilities and deficiencies that can be exploited to compromise any entity within the State’s network. We will deploy software updates and patches on a timely basis to reduce the risk that vulnerable software will be compromised.</p> <p>The following figure provides an overview of the operational support activities and our approach to Patching and Upgrades.</p> <table border="1"> <thead> <tr> <th style="color: green;">No.</th> <th style="color: green;">Activities</th> <th style="color: green;">Overview</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Patch and Software Current State Inventory</td> <td>Our team will co-ordinate with DSHS to understand & document the current state of patch and versions of the applications and components supporting ACES solution</td> </tr> <tr> <td>B</td> <td>Gap/ Dependency Analysis</td> <td>Identify any gaps or critical dependencies and/or end-of-life support licensing issues within the current landscape.</td> </tr> <tr> <td>C</td> <td>Product Roadmap/ Patching Calendar</td> <td>Identify the current version and the next supported version, considering whichever next major or minor upgrade version is least risky and least disruptive to ACES Will identify each application stack, underlying infrastructure, and other add-on components Patching Calendar or Plan will include the frequency, version info, and rollout of application fix pack/service pack schedule, which will be published after mutual agreement between the State and Our team</td> </tr> <tr> <td>D</td> <td>Testing in Lower environments</td> <td>Verify patches are thoroughly tested in lower environments and accommodate enough time for testing and discovery of unintended effects before applying them to a PROD environment</td> </tr> <tr> <td>E</td> <td>Rollback with no disruption to service</td> <td>Determine a quick and effective roll-back plan. A roll-back plan will allow us to quickly restore the environment to the pre-patched state if there is a significant problem with the deployment</td> </tr> </tbody> </table>	No.	Activities	Overview	A	Patch and Software Current State Inventory	Our team will co-ordinate with DSHS to understand & document the current state of patch and versions of the applications and components supporting ACES solution	B	Gap/ Dependency Analysis	Identify any gaps or critical dependencies and/or end-of-life support licensing issues within the current landscape.	C	Product Roadmap/ Patching Calendar	Identify the current version and the next supported version, considering whichever next major or minor upgrade version is least risky and least disruptive to ACES Will identify each application stack, underlying infrastructure, and other add-on components Patching Calendar or Plan will include the frequency, version info, and rollout of application fix pack/service pack schedule, which will be published after mutual agreement between the State and Our team	D	Testing in Lower environments	Verify patches are thoroughly tested in lower environments and accommodate enough time for testing and discovery of unintended effects before applying them to a PROD environment	E	Rollback with no disruption to service	Determine a quick and effective roll-back plan. A roll-back plan will allow us to quickly restore the environment to the pre-patched state if there is a significant problem with the deployment
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		<p>F Leverage Automation Our team will modernize, automate, and enable the ACES Platform to allow Change Management tasks (code migrations, patching/upgrades, production changes) to be performed with minimum outages/impacts to end users. We will leverage automated tools whenever possible</p> <p>As an exception, for those infrastructure elements that require a scheduled maintenance/downtime window, our team will follow the State’s prescribed approach of advanced planning and communication</p> <hr/> <p>G Emergency Security Patch Any emergency/security patch will be applied at the earliest. We will follow the State’s guidelines of communication to stakeholders in the organization (follow the RACI) and will highlight the importance and urgency to the State</p>
<p>Figure 4.2-85. Patch Management for ACES.</p>		
<p>Lessons Learned/Best Practices/Examples of Previous Projects</p>		
<p>Our Value Proposition</p>		
<p> Our team has been maintaining and operating computational environments for various state clients by focusing on keeping the applications software current with third-party vendor-supplied patches (i.e., application patches, operating system, and database patches); working on software bugs with the application vendor; building release packages; and managing the release process, configuration management, log management, and other activities that relate to keeping the application software products healthy and current.</p>		
<p> Our team will coordinate activities between the software vendor, DSHS ACES Platform Stakeholders, and our support team to facilitate the timely resolution of any outstanding issues generated as a result of software upgrades. Confirming application availability throughout the term is an ultimate priority for our team.</p> <p>Our experienced staff will deliver services around upgrades and patching that are governed by principles of backup and recovery procedures, upgrade/patching playbook reviews, threat monitoring, and maintenance of plans and procedures.</p>		
<p>Figure 4.2-86. Deloitte’s Value Proposition for Patch Management.</p>		

<p>6.134</p>	<p>Demonstrate that the security staff average more than four (4) years' experience in information security</p>	<p>Our Understanding of the Requirement</p> <p>We understand that DSHS expects that experienced security professionals provide the services in securing and maintaining ACES' compliance standing.</p> <p>How We Satisfy the Requirement</p> <p>As the world's largest security consulting firm, we bring 20+ years of driving innovation and experience in implementing and managing large-scale security programs. Both Gartner and ALM Intelligence recognize Deloitte as a global leader in cybersecurity consulting.</p> <p>With our engagement experience in Eligibility and Enrollment systems across the nation, we bring a talented and experienced security team to DSHS to maintain and operate ACES.</p> <ul style="list-style-type: none"> • Eric Bowman is our Lead Cybersecurity Partner for the State of Washington, bringing over 20 years of industry experience • Delvin Huffman is our Cybersecurity Lead for the State of Washington, bringing over 16 years of industry experience <p>Security staff additional to these key leaders will be at Consultant, Senior Consultant, and Manager staff levels, who will bring two to ten years of experience each to DSHS.</p>
<p>6.135</p>	<p>Demonstrate that more than 75% of the Bidder's security staff has current security industry certification, such as from the Certified Information Systems Security Professional certification program (www.isc2.org), Global Information Assurance Certification or equivalent. Proof of certification must be</p>	<p>Our Understanding of the Requirement</p> <p>We understand that DSHS expects the security professionals who provide the services in securing and maintaining ACES' compliance standing are certified with industry standards.</p> <p>How We Satisfy the Requirement</p> <p>We have a breadth of knowledge and experience available to DSHS. We have over 31,000 U.S. Consulting</p>

	<p>made available to DSHS upon request.</p>	<p>Professionals, 3,000 PMP-Certified Professionals, and 1,400+ Certified Information Systems Security Professionals (CISSP). With this large pool of certified information security resources, complimented by state sector leaders, we are positioned to provide high-quality professionals tasked with producing actionable results. Our proposed team have the credentials and capabilities to serve as an experienced vendor for ACES.</p> <ul style="list-style-type: none"> • Eric Bowman is our Lead Cybersecurity Partner for the State of Washington, bringing a certification in Certified Information Systems Auditor (CISA) from ISACA • Delvin Huffman is our Cybersecurity Lead for the State of Washington, bringing certifications in CISSP from (ISC)² and Okta Certified Professional
<p>6.136</p>	<p>The Bidder will be responsible for providing access and authorization to systems. Examples Include:</p> <ul style="list-style-type: none"> • Application specific access • Removing old IDs • Shutting off system authorizations 	<p>Our Understanding of the Requirement</p> <p>Our team understands the importance of maintaining application access. Our team will confirm that access to applications contained on IT systems is granted on a need-to-know basis and must be approved by the assigned data owner.</p> <p>How We Satisfy the Requirement</p> <p>Our team understands the importance of maintaining application access. Access to applications contained on IT systems is granted on a need-to-know basis and must be approved by the assigned data owner. Access will be maintained for the application running on RACF. Process documentation will be created for each RACF application for addition, modification and deletion of internal access. Specific application RACF groups can be created. RACF Application internal access removal process can be implemented for terminated user ids and role modified users.</p> <p>Our solution integrates with the State’s existing enterprise-wide Access Management solution for coarse-grained authorization. The fine-grained authorization</p>

		<p>using role-based access control (RBAC is handled within the application) for application specific access.</p> <p>We will also continuously monitor the access privileges of users accessing ACES applications and confirm that segregation of duties is maintained by enforcing principle of least privilege and disabling inactive/old/redundant IDs</p> <p>Our team understands that unauthorized access to the ACES applications needs to be blocked. Access is configured to lock out the account if it captures repeated unauthorized attempts. Once the account is locked, the account cannot be used or unlocked without the intervention of the administrative team. This prevents unauthorized access to the ATLAS Replacement application.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Provisioning least privilege access minimizes exposure to and mitigates potential vulnerabilities and bad actors, strengthening the security boundaries of infrastructure and data</p>
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User Account Management

6.137	Coordinate administration of security access to the DSHS ACES Complex of Applications and dedicated functionality	<p>Our Understanding of the Requirement</p> <p>We recognize the importance of providing secure access control to ACES and its related applications. We understand that ACES utilizes Resource Access Control Facility (RACF) as its security system to secure ACES. We will coordinate with DSHS and administer security access to ACES for users and systems with appropriate role-based access controls, keeping the application complexities and functionalities in mind.</p> <p>How We Satisfy the Requirement</p> <p>We understand the complex environment of ACES applications and how the applications interact with external applications such as Health Care Authority (HCA) ProviderOne and Health Benefits Exchange (HBE)</p>
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		<p>Healthplanfinder. We begin with confirming the required access to products and systems required to perform State staff’s roles. Then comes the training on access policy and login to products and environments. We will configure access profiles and rules to confirm accurate authentication and authorization of ACES applications access.</p> <p>During the vendor onboarding and transition, our team will review the RACF profiles, access control lists, and access levels to understand the current functionality and identify areas that can be strengthened for security purposes. In addition, our team will work with DSHS and the Platform vendor to understand how roles may be added, changed, or retired during the IE&E Modernization to continue to provide secure access while permitting functionality during this transition period.</p> <p>We will also identify application or infrastructure related issues and failures as part of health checks and provide issue resolution support including configuration of server administration, database, and user access profiles.</p>
6.138	Adhere to DSHS policies for adding, changing, enabling/disabling and deleting log-on access of DSHS employees, agents and subcontractors	<p>Our Understanding of the Requirement</p> <p>Our team understands the need to adhere to documented user lifecycle management procedures, especially with the ever-present potential of insider threats from former users or privilege escalation attacks.</p> <p>How We Satisfy the Requirement</p> <p>Our team will adhere to DSHS’ security controls including, but not limited to, role-based access control and least privilege for system access, to comply with federal and state access control requirements.</p> <ol style="list-style-type: none"> 1. Provide role-based security authorization service for security access management using RACF to users, interfaces, data elements/field level, and menu items using DSHS-owned systems with user login credentials 2. On request by DSHS, provide a system-generated

		<p>reports for the mainframe id's having access to the components and data with privileges granted to each</p> <ol style="list-style-type: none"> 3. Create regular jobs to perform certifications for the RACF user accounts to maintain DSHS security controls. Role change, disablement, and termination of user accounts will be performed appropriately within the time frame 4. Create an automated approval workflow for the access requests for DSHS federated identity and access management activity that will perform user authentication and authorization for log-on module components 5. Identify mainframe accounts with inactive or terminated status and perform clean-up based on DSHS-approved policies, guidelines, and timeframes following the change management process
<p>6.139</p>	<p>Perform log-on/security-level access changes at the OS and system software levels as detailed in profiles and policies</p>	<p>Our Understanding of the Requirement</p> <p>We understand that DSHS desires that security operations at the system level for ACES, including SUSE Linux Enterprise Server as the operating system, to be performed according to the security definitions in the configured profiles and policies.</p> <p>How We Satisfy the Requirement</p> <p>We will manage the security level access changes as defined by ACES' policies and procedure, to support the business requirements and be more efficient in leveraging technology, managing change, and implementing automations. Our team will leverage ACES' existing RACF to perform external security management of user identities and control access to the system resources. To support secure access at the OS-level, we will maintain integration with SUSE Linux Enterprise Server with ACES' RACF to protect the data and resources available through the OS.</p>

<p>6.140</p>	<p>Develop, document, manage and maintain user account maintenance procedures including, but not limited to:</p> <ul style="list-style-type: none"> ☐ Configuration of new users, roles and responsibilities, credentials, etc. ☐ Users Refresh/Change/Updates ☐ Deletion of Users 	<p>Our Understanding of the Requirement</p> <p>We understand the importance of developing and maintaining user account maintenance procedures. Through our coordination with ACES and our strategy as described below, we will proactively develop, document and manage the account maintenance procedures while covering the aspects related to user life cycle (creation, update/refresh, and deletion).</p> <p>How We Satisfy the Requirement</p> <p>We will support DSHS as required with establishment and management of policies, processes, procedures and accountabilities for core identity and access management services across the identity lifecycle of application user accounts: (a) creating a digital identity, (b) proofing to establish the identity is real and valid (c) provisioning access, (d) changing, maintaining, and controlling access, and (e) terminating access or removing relationship to an asset.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>In addition to the mentioned user account procedures, our team recommends a periodic assessment of user and system accounts, access rights and privileges, privileged access usage to mitigate impact of excessive access privileges and account misuse.</p>
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Application System Operations Support

<p>6.141</p>	<p>Develop, document and manage the processes and procedures for Interfaces and Batch Operations Architecture</p>	<p>Our Understanding of the Requirement</p> <p>Clear and transparent processes and procedures for batch processes are critical for ongoing system operations, both for DSHS and trading partners. Disruption in these processes or down time can negatively impact business users and benefit recipients. Our team will develop, document, and manage the processes and procedures for interface and batch operations.</p>
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How We Satisfy the Requirement

Highlights of our Batch Operations

- Planned Documentation and On-Time Execution
- Continuous Monitoring
- Well Informed Communication

As part of our analysis, we review the current state of ACES batch framework, existing documentation, and leverage ACES subject matter experts to better understand existing processes and procedures. We also communicate with federal and state partners that are part of our procedures for interfacing with systems like HIX. We bring years of experience working with agencies like CMS and have a robust network we can leverage to DSHS' advantage.

- **Identify Areas of Improvements:** Once analyzed, we then collaborate with DSHS to define efficiencies and improvements for batch related processes and procedures for interface and batch operations specifically to batch architecture and framework. These procedures are formally documented and submitted to DSHS for review before being put to use. Once approved, we operationalize these procedures with a focus on continuous improvement.
- **Document and Develop Batch Processes:** Our batch team leverages proven operational and management procedures to document and develop changes required and perform batch operations, configuration management, database management and other batch related activities. This is critical to maintaining the availability, performance, and functional delivery necessary to meet the State's business operations, goals, and objectives.
- **Manage Batch Operations:** While managing batch operations, our teams look to reuse technical objects, tools, and other components (like logging, messaging, and entity layer) used by the online system. We understand that batch application components have different characteristics than online. They have a

		<p>different set of constraints, load, and transaction processing behavior. But at the same time both the modes need to be seamlessly integrated in the application architecture. Our approach makes the overall batch management process a seamless activity.</p>
<p>6.142</p>	<p>Define job scheduling requirements, application software interdependencies, and rerun requirements for all production jobs</p>	<p>Our Understanding of the Requirement</p> <p>We understand that the efficient and reliable job scheduling is critical to the ACES Application as well as the citizens who depend on it. Our team, with experience in batch operations, will define job scheduling requirements, application software interdependencies, and rerun requirements for the production jobs.</p> <p>How We Satisfy the Requirement</p> <p>DSHS benefits from our national experience of creating batch schedules for numerous IE Systems across the country. Our team through experience in batch operations in 31 E&E systems knows the importance of the critical path analysis of batch cycle(s).</p> <p>We use critical path analysis to determine batch jobs that impact the batch window the most. Critical path jobs are defined as a set of interdependent jobs that need to complete the required updates to the system before it can be made available case workers to process cases. These jobs if run in parallel to the online application(s) can affect the end user experience and can also cause contention or database locks in the system. A sample critical path job diagram is shown in the diagram below.</p>

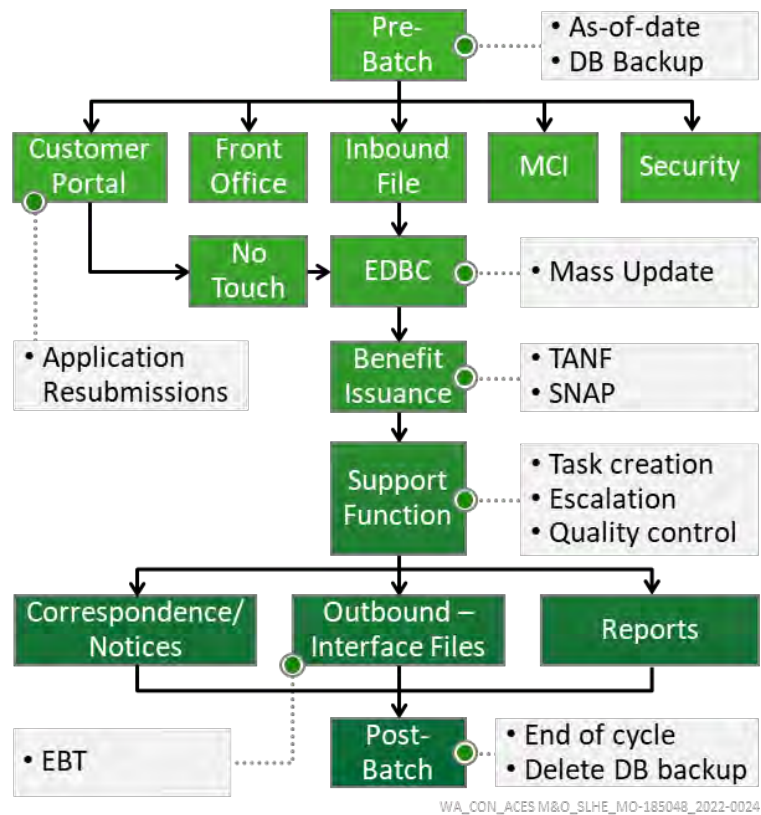


Figure 4.2-87. Sample Critical Path Analysis.

We then identify components within the batch job that take longer to execute, optimizing the underlying logic and queries to streamline its execution. This enables greater throughput, lowers batch runtime during the nightly batch window, and minimizes impact to State business operations and online system performance.

The batch plan documentation will include the following components and be maintained throughout the engagement to account for ongoing changes:

- Job Scheduling Requirements
- Interface Interdependencies
- Re-run Requirements

In order to successfully manage the batch plan, consideration will be given to where each new job is placed in relation to other jobs in that schedule. Factors such as frequency, inbounds/outbound, estimated record count, and, run time will be analyzed and documented.

		<p>Several rollback processes are put in place to enable restoration of services in case of job failures. The standard information collected for jobs will provide this data and help in identification of dependencies. It will also help us identify the jobs that can potentially run in parallel to others and those that must be run in sequence. Dependencies typically accounted in a batch scheduled are highlighted below:</p> <ul style="list-style-type: none"> • File Dependency: A job waiting for one or more files to be received from an interfacing system. Files are sent or received by leveraging the SFTP or FTPS protocols and stored in a staging directory • Job Dependency: A job waiting for one or more jobs to finish. This triggers the initiation of another job • Time Dependency: A job must be completed by a specific point in time to meet business/partner needs
6.143	Utilize and manage scheduling tools for automating job execution (e.g., job workflow processes interdependencies, rerun requirements, file exchange functions, and print management)	<p>Our Understanding of the Requirement</p> <p>Proper management of batch scheduling and associated tooling is imperative to keep ACES batch processes running smoothly. These processes are also play a critical role in key system activities such as benefit distribution and eligibility determinations.</p> <p>Managing tools used for scheduling jobs is a continuous effort that requires meticulous maintenance. We understand that DSHS is seeking a partner that brings experience in managing these complicated scheduling tools.</p> <p>How We Satisfy the Requirement</p> <p>Our team has extensive experience managing and fully utilizing batch scheduling tools to take advantage of features and automations for job workflow processes interdependencies, rerun requirements, file exchange functions, and print management.</p> <p>Fully leveraging these features reduces manual effort and increases overall batch process success. To get to this point, we first confirm stability of existing batch processes to avoid immediate operational impacts. As</p>

		<p>existing jobs and configurations are stabilized, we also analyze and document how existing scheduling tools are being leveraged today in ACES. Once analyzed, we use task and performance dashboards to find opportunity areas for improvements. We then collaborate with DSHS Stakeholders to confirm improvement plans that can be prioritized as enhancements. Below is a list of typical improvement areas we look for.</p> <ul style="list-style-type: none"> • Potential modification to scheduling and dependencies • Identify jobs with no impact to ongoing daytime operations that can be scheduled during business hours • Performance improvements • Batch reporting <p>Any proposed improvements are reviewed with DSHS for approval and prioritized based on the release schedule.</p>
6.144	Maintain master job schedule and execute all batch jobs	<p>Our Understanding of the Requirement</p> <p>There is no denying the fact how important batch jobs are to an E&E system. Batch jobs form the backbone of the daily operations of the system, how it issues benefits, and how it interacts with external trading partners. While batch cycles are automated and controlled at a macro level, the scheduling, maintaining and operating of daily batches still remains very much a manual activity that requires an experienced vendor with not only an understanding of the system but the overall business objectives that the system seeks to achieve.</p> <p>How We Satisfy the Requirement</p> <p>An effective master job schedule contains the latest and most accurate information, paints a comprehensive picture of required jobs (daily/weekly/monthly/one time/etc.), and should be easy to consume across various stakeholders. This master schedule will keep project teams and stakeholders informed and lets DSHS forecast future job schedules.</p>

		<p>To maintain the master job schedule, we analyze existing ACES schedules and associated documentation. Where adequate documentation is not available, we will work with DSHS to formulate a master job schedule leveraging their existing knowledge. The master job schedule is a controlled baseline that can only be updated via approved processes and change control to maintain its integrity and to protect the system. Our batch team will maintain this critical document and workflows associated with making updates to this document.</p> <p>Our batch team leverages proven operational and management procedures to define, document and perform batch operations, batch scheduling, configuration management, database management and other batch related activities. This is critical to maintaining the availability, performance, and functional delivery necessary to meet the State's business operations, goals, and objectives. Batch management is more than just the jobs themselves; it is the operational controls and regular maintenance activities that when orchestrated seamlessly improve system reliability. We have extensive experience across the full spectrum of E&E batch operations and are able to draw from our best practices and lessons learned from having done this in other systems nationally.</p> <p>On a nightly basis, our team will be responsible for executing batch jobs in the ACES complex.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our team brings in knowledge and deep expertise of the overall batch management processes, execution, and reporting of batch cycles for States similar in size and scale. Our resources are experienced in supporting batch operations and have knowledge of batch job scheduling, assessing batch reports, optimizing batch cycles to increase operating efficiencies, monitoring nightly batch runs, and resolving emergency issues within the batch cycle.</p>
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6.145 Perform job monitoring and manage resolution of any failed jobs

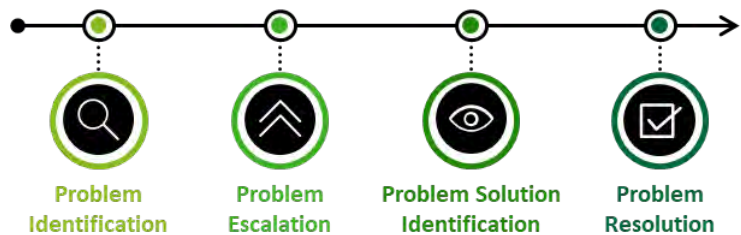
Our Understanding of the Requirement

DSHS requires a reliable partner to monitor and manage the resolution of failed jobs across ACES. While daily batch cycles are automated for the most part, it is imperative that our batch team continues to monitor the execution of the batch cycles and take necessary actions when there is an issue or conflict. These jobs have a major impact on critical processes like benefit determination and benefit issuance that have a direct effect on benefit recipients.

How We Satisfy the Requirement

Our Batch management approach uses an array of tools, including dashboards, for monitoring of batch jobs to identify bottlenecks during the scheduled batch cycles. Batch jobs are typically scheduled to run outside the core business hours to reduce the impact on online performance.

Our batch team will monitor jobs run during this cycle and in the event of a problem we follow the documented procedures for problem identification, escalation, and resolution to minimize the potential impact on business operations the following day. Our Batch issue management approach consists of clearly defined steps shown below.



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Figure 4.2-88. Failure Resolution Process.

Problem Identification

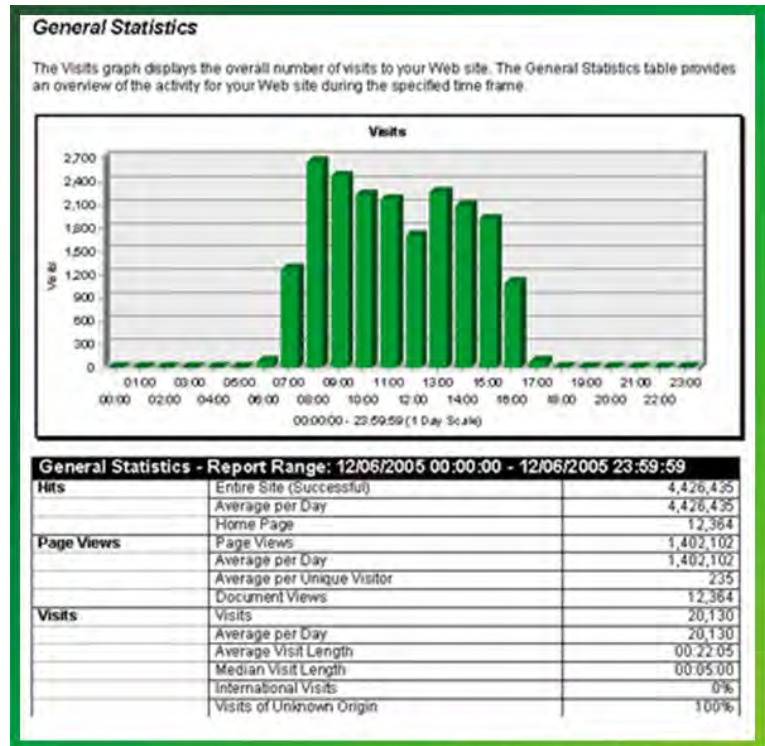
The batch team responds to any required nightly batch emergency, we triage issues and assign them to appropriate team for resolution in the event we cannot resolve it. The goal of the batch team is to resolve

		<p>conflicts and resume batch execution to allow for ACES to come online for regular business operations.</p> <p>As part of the batch management process, every batch job submitted to be included in the master schedule should contain:</p> <ul style="list-style-type: none">• A primary technical contact• A functional manager (a.k.a. business owner) for escalation• Troubleshooting notes for common issues anticipated• Dependencies and critical path• Contingency plans in the event a job needs to be skipped for a particular day. <p>The problems that could result in a job failure could range from resource constraints or program contentions to something that is more complex and requires additional analysis. In the event that the problem is more serious and cannot be resolved based on the release notes provided to the batch team and has implications on the remaining nightly batch operations as a whole, the batch team gathers relevant information and initiates the problem escalation process.</p>
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		<p>Problem Escalation</p> <p>Upon initial problem identification</p> <p>Batch support team identified a problem. If cannot resolve, then escalates to contact Functional Manager.</p> <p>Functional Manager reviews the issue and evaluates the impact. Management is contacted if there is an impact on the business. Identifies a temporary fix to continue with batch. Contacts functional Analyst to identify root cause of issue.</p> <p>Functional Analyst identifies issue and reports to Functional Manager.</p> <p>Upon problem identification</p> <p>Functional Manager decides if a temporary resolution can be implemented, or a code change is necessary.</p> <p>Functional Manager discusses with Management if required and instructs Batch support team on next steps.</p> <p>Batch Support team implements resolution and continues batch.</p> <p><small>WA_CON_ACES M&O_SLHE_MO-185048_2022-0026</small></p>
<p>6.146</p>	<p>Monitor all Applications as agreed to in the documented monitoring policies, procedures and standards. Identify and report Application problems. This includes but is not limited to:</p> <ul style="list-style-type: none"> Monitoring of buffers, database buffers, table space fragmentation, database space, unusual growth and propose solution in case of alert 	<p>Our Understanding of the Requirement</p> <p>Through our years of working with Eligibility, Enrollment, and Case Management systems we fully recognize the need to maintain application quality and deliver critical services and benefits to the population of Washington.</p> <p>As many of WA’s residents are impacted by DSHS’s ACES system, it is imperative to have a proven vendor to maintain a high quality, reliable ACES production system to support caseworkers and its citizens. We have reviewed the application monitoring requirement 6.146 and agree to measure and meet the monitoring requirements outlined.</p>

	<ul style="list-style-type: none"> • Creation and monitoring of System logs, update error, database corruption, jobs, and propose solution in case of alert • Creation and monitoring of transaction and trace logs, network event logs and traces, garbage collector, memory and CPU utilization, indexes, etc., and propose a solution in case of an alert or resource issues • Monitoring of middleware (e.g., workflows, in- and out-bound queues) and system services, and report to DSHS according to agreed procedure • Monitoring of end-to-end transaction response time to allow measurements against SLAs • Monitoring of interfaces, and batch and job scheduling 	<p>We look forward to meeting with DSHS during the transition phase to confirm that our understanding of the application monitoring requirements aligns with your expected outcomes. These discussions enable us to clarify the understanding of definition, monitoring, tracking, and reporting of the application.</p> <p>How We Satisfy the Requirement</p> <p>Our team brings extensive experience in Application Monitoring capabilities built on a foundation of industry-leading tools that are flexible and adaptable to diverse needs. We leverage our extensive experience from similar HHS systems and will work with DSHS to develop, maintain and enhance Application Monitoring procedures and standards for the ACES system.</p> <p>The system behavior will be monitored in alignment with the defined standards for the ACES Applications including monitoring and configuring of the following:</p> <ul style="list-style-type: none"> • DB Monitoring including database buffers, table space fragmentation, unusual growth of the data • Monitoring System logs, transaction and trace logs, network event logs and traces, GC, memory and CPU utilization • Middleware • E2E transaction response time of ISS Applications • Interfaces and batches <p>Our EVD for Transition and Operation provides a proactive approach for system monitoring and tuning. Through these proactive efforts, impacts to the system caused by external forces are minimized if not fully absorbed. The first step toward providing a well-performing application is through proactive monitoring. We will work with DSHS, and other stakeholders, as necessary, to coordinate system monitoring activities.</p> <p>The following tasks are used to proactively address potential issues:</p> <ul style="list-style-type: none"> • Application Usage Monitoring: This includes providing a profile of how the application is accessed.
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A graphical report, shown in the figure below, includes items such as the number of Web site hits per day, types of browsers that access your application, average duration of site visit, and usage trends (peak business hour of the day, day of the week). This provides information on how the application is being used by the user community, thereby enabling the State to make better informed design decisions. This helps determine what Key indicators are required in making better decisions for improved system health.



WA_CON_ACES M&O_SLHE_MO-185048_2022-5010

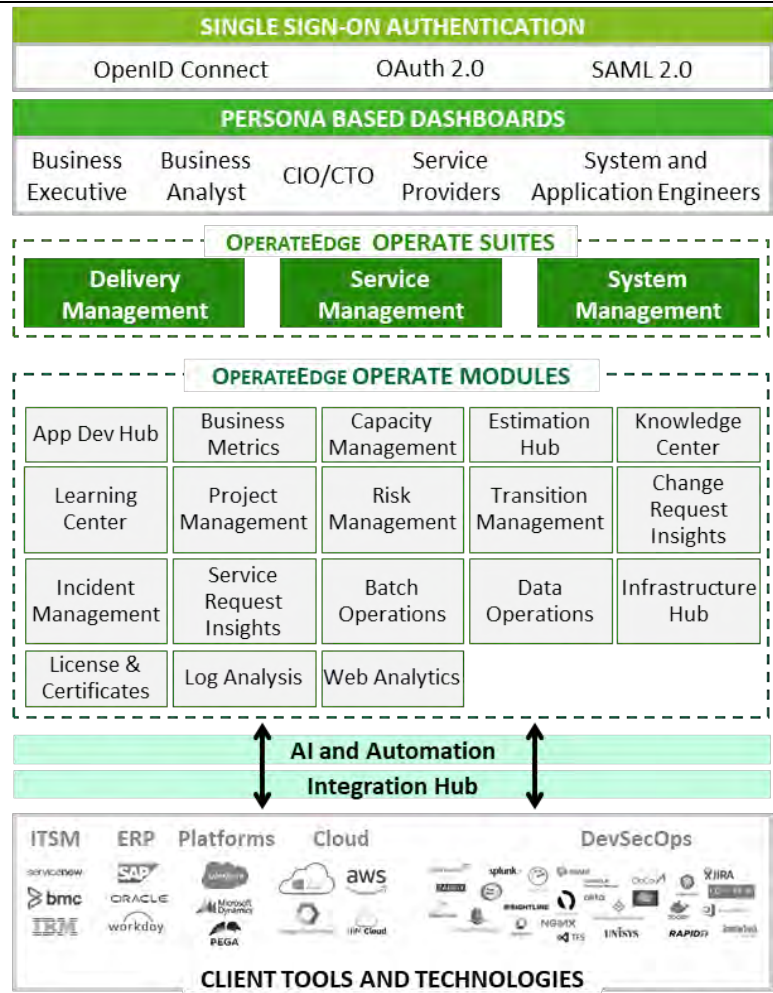
Figure 4.2-90. Application Usage Report.

Graphic Report

Graphical reports show monitoring activities against an “application”: showing page views, hits, visits.

- **Database “Top 10” List:** A list of the “Top 10” queries that consume the most database and open system resources including, for example, “buffer gets,” high hard parsing ratios, high CPU cycle consumption, high I/O rates, extended execution time. Based on this

		<p>information, necessary recommendations are made to the application team so that the tuned queries are prioritized and tracked until production deployment.</p> <ul style="list-style-type: none"> • Infrastructure/Application Alerting: This could include server CPU or memory utilization, number of active processes. This information allows for timely action that may avoid performance issues or system outages. Similarly, Guardium for DB2 provides information on database memory, processor and disk utilization, as well as query processing time and efficiency. <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>We recommend OperateEdge - Our AI based automation platform for the Application Monitoring. The following figure illustrates how OperateEdge leverages your current stack of toolsets to deliver system monitoring and alerting capabilities through AI engines and advanced dashboarding.</p>
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Figure 4.2-91. OperateEdge Technical Overview.

OperateEdge provides the following modules as well as features and benefits to DSHS.

Module	How Our Predictable M&O Approach Benefits ITS
Batch Operations Hub	Comprehensive batch management module to track jobs, configure alerts, analyze trends and troubleshoot batch performance.
Data Operations Hub	Comprehensive view of data operations. Includes the ability to validate data accuracy, track data changes, monitor data script, and view application database performance.
Infrastructure Hub	Monitor infrastructure and business applications and obtain insights into infrastructure trends, risks, issues, and impacts.
License and Certificates Center	Software licenses and certificate management, includes the ability to track version numbers, upgrades, expiration dates, and other related software, license, and certificate information for client application and infrastructure components.
Log Analysis Hub	Scans and monitors log files generated by servers, applications, and networks, and alerts users to patterns/issues.
Web Analytics Insights	Track web activities and related metrics, including user sessions, page views, bounce rates, and response times.

Figure 4.2-92. OperateEdge System Management Modules.

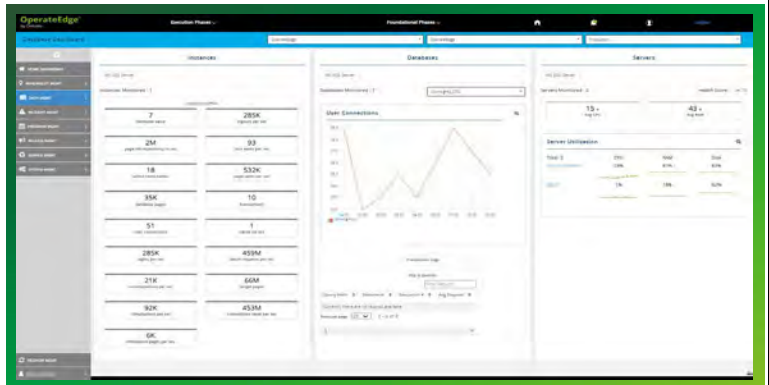
Integrity Monitoring



WA_CON_ACES M&O_SLHE_MO-185048_2022-5011

Figure 4.2-93. OperateEdge Application Health Insights.

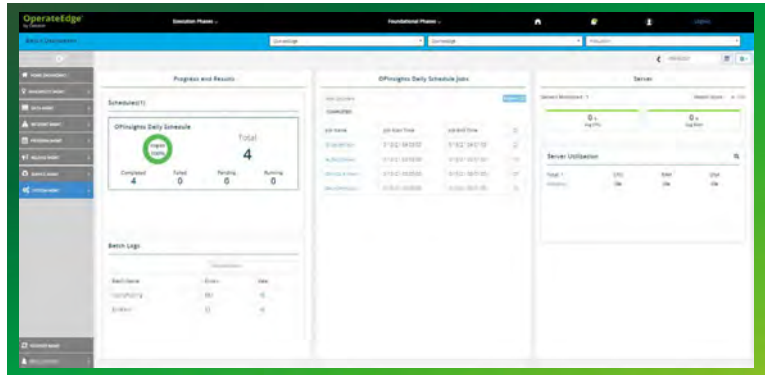
Database Performance Metrics



WA_CON_ACES M&O_SLHE_MO-185048_2022-5012

Figure 4.2-94. OperateEdge Database Dashboard.

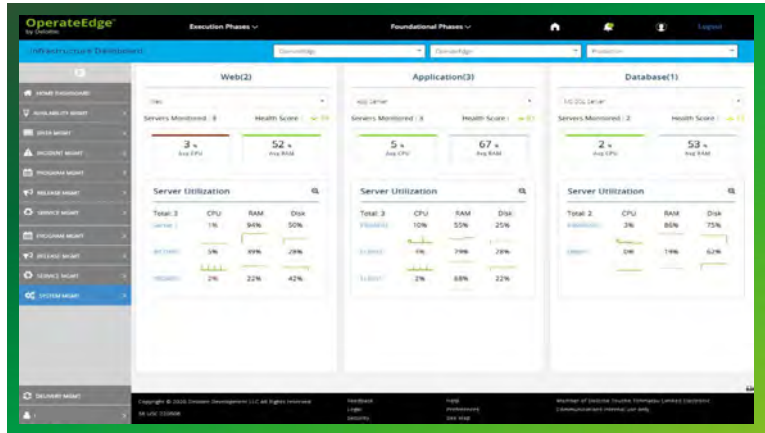
Batch Performance Metrics



WA_CON_ACES M&O_SLHE_MO-185048_2022-5013

Figure 4.2-95. OperateEdge Batch Insights Dashboard.

Networks, OS, and Hardware Performance Metrics



WA_CON_ACES M&O_SLHE_MO-185048_2022-5014

Figure 4.2-96. OperateEdge Infra Insights Dashboard.

The following figure is an example of System Management success story State of NY using the OperateEdge tool.

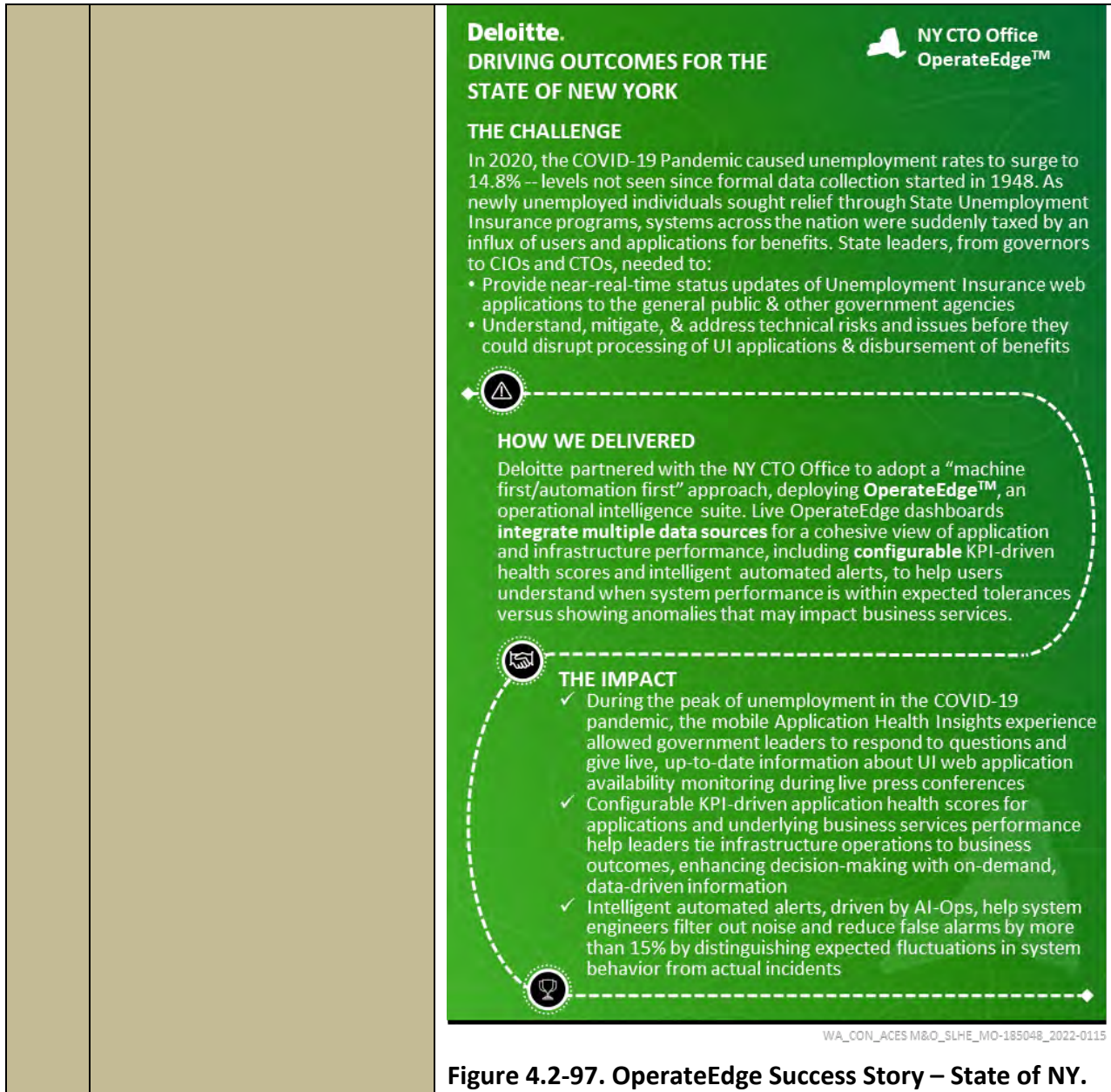


Figure 4.2-97. OperateEdge Success Story – State of NY.

Account Management and Quality Assurance Requirements

6.147	Propose Account Management structure, planning and procedures	<p>Our Understanding of the Requirement</p> <p>We bring an Account Management approach to Washington that is predicated and fine-tuned based on years of experiences, lessons learned and best practices from our National Integrated Eligibility portfolio. At the heart of our approach is a people and quality centric</p>
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approach that is actionable, accountable, results oriented and focuses on developing solid relationships developed in with stakeholders in Washington. Similar to our other large project we propose a multi-layer account management team for ACES.

How We Satisfy the Requirement

We have staffed an experienced project team from top to bottom with a mix of staff who bring familiarity and experience with implementing and operating Integrated Eligibility systems including systems such as ACES, as well as technologies currently supporting the ACES complex. Additionally, we bring leadership support to strengthen our team both from an advisory as well as quality perspective, to help the team be successful on a day-to-day basis.

Flat Organizational Structure

We propose a leadership structure, which enables agility and quick decision making throughout the engagement empowering project managers, executives and leads to make decisions impacting the progress of the project. We recognize that the incumbent today has introduced several layers in their org chart which adds several cycles to the decision-making process and slows down forward momentum, which is a philosophy that we strongly disagree with. It is this thinking that we believe separates us from our competitors and has made us a market leader in this space.

While our team on the ground in Washington continues to deliver for you, our National HHS practice remains plugged in via an advisory board that specifically ties in lessons learned and best practices that they are seeing from across the nation as well as provides advisory services from an HHS, Cloud Migration, Innovation, Quality and Compliance perspective. We have a Quality Reviewer dedicated to the project, whose primary focus is conducting routine quality reviews of the ongoing engagement and measure performance against our Framework which is used to gauge how the project is performing. It is this type of thinking and commitment

		<p>that differentiates us from the many other firms vying to do business with you.</p> <p>Our multi-team approach benefits DSHS by providing specific teams responsible for each area of the ACES Project. A designated Manager and Lead oversees each sub team and provides DSHS and project leadership with a single point of contact to help mobilize whenever questions or issues arise, regardless of which part of the ACES Project is affected. These sub teams as well as Advisory and Leadership team responsibilities are highlighted in the figure below:</p>						
		<table border="1"> <thead> <tr> <th style="background-color: #d9ead3;">Team</th> <th style="background-color: #d9ead3;">Roles and Responsibilities</th> </tr> </thead> <tbody> <tr> <td style="background-color: #d9ead3;">Advisory Board</td> <td> <ul style="list-style-type: none"> • Advises engagement and DSHS leadership on technical advancements and visioning to on topics related to HHS policy, technology innovation, service delivery innovation • Provides perspective on upcoming legislation and regulatory measures to help guide DSHS leadership in navigation upcoming policy changes • Provides expertise on cyber security issues, trends, and security frameworks </td> </tr> <tr> <td style="background-color: #d9ead3;">Engagement Leadership Team</td> <td> <ul style="list-style-type: none"> • Establishes and maintains a positive client relationship. • Serves as the primary point of contact with DSHS leadership, governance bodies and other State Executive Sponsors for activities related to contract administration, overall engagement management and scheduling, correspondence between DSHS and our team, dispute resolution, and status reporting to DSHS for the duration of the contract • Provides timely and informed responses to operational and administrative inquiries that arise • Provides ongoing reporting of operation against SLAs • Works closely with our team and the DSHS leadership team to develop and implement risk mitigation strategies • Provides regular assessments and reviews of submitted deliverables to verify quality standards are being met </td> </tr> </tbody> </table>	Team	Roles and Responsibilities	Advisory Board	<ul style="list-style-type: none"> • Advises engagement and DSHS leadership on technical advancements and visioning to on topics related to HHS policy, technology innovation, service delivery innovation • Provides perspective on upcoming legislation and regulatory measures to help guide DSHS leadership in navigation upcoming policy changes • Provides expertise on cyber security issues, trends, and security frameworks 	Engagement Leadership Team	<ul style="list-style-type: none"> • Establishes and maintains a positive client relationship. • Serves as the primary point of contact with DSHS leadership, governance bodies and other State Executive Sponsors for activities related to contract administration, overall engagement management and scheduling, correspondence between DSHS and our team, dispute resolution, and status reporting to DSHS for the duration of the contract • Provides timely and informed responses to operational and administrative inquiries that arise • Provides ongoing reporting of operation against SLAs • Works closely with our team and the DSHS leadership team to develop and implement risk mitigation strategies • Provides regular assessments and reviews of submitted deliverables to verify quality standards are being met
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		<p>Maintenance and Operations Team (M&O)</p> <ul style="list-style-type: none"> • Responsible for keeping the ACES systems and applications up and running on a day-to-day basis, performing ongoing defect fixes, application development, supports DSHS in application health monitoring and tuning, and making required modifications to the technical components of the systems. • Provides detailed applications knowledge in support of complex application issues/incidents • Reviews potential System changes (e.g., configuration, warranty fixes, enhancements) from a technical perspective and provides technical design/assessments <hr/> <p>Enhancement Team</p> <ul style="list-style-type: none"> • Responsible for implementing functional enhancements to the existing application portfolio or develop new functionality • Collaborate with DSHS during this time to confirm the application strategy (e.g., enhancing existing applications rather than building a new application with similar functionality) and architecture are in alignment with DSHS standards and architecture guidelines. <hr/> <p>Operation and Infrastructure Team</p> <ul style="list-style-type: none"> • Responsible for Help Desk Level 2 and 3, maintaining escalation procedures, providing domain expertise in pursuit of incident resolution, and coordinating with DSHS Help Desk staff to provide closure to incidents. • Monitor data quality reports to identify trends between these and incident reports to propose improvement opportunities for DSHS • Perform problem management and root cause analysis. As trends are identified, processes will be drafted, socialized, approved by DSHS, then implemented. <hr/> <p>Security Team</p> <ul style="list-style-type: none"> • Determines the solution meets applicable security regulations. • Work to verify that changes and enhancements made to the application meet the strict security demands of DSHS. • Perform regular security audits and reviews • Work with other members of the ACES Project team to identify, assess, and mitigate security concerns. <hr/> <p>Figure 4.2-98. ACES Project Team Roles and Responsibilities.</p>
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		<p>Our Shoulder-to-Shoulder Approach</p> <p>Our proposed staffing model aligns our staff with DSHS stakeholders and staffing at several levels to create a highly collaborative working relationship. The intent is to have our staff aligned, working directly, and “shoulder-to-shoulder” with DSHS staff. This two-in-a-box approach is presented in the Figure below. Based on our experience across 26 states performing M&O for HHS Eligibility and Enrollment systems, we will work with DSHS to align our key staff and leads to optimize working relationships and carry out project responsibilities.</p> <hr/> <table border="0"> <tr> <td>Engagement Manager</td> <td>• ACES Project Director</td> </tr> <tr> <td>Security Expert</td> <td>• Information Technology Security Director</td> </tr> <tr> <td>Operations Lead</td> <td>• Governance and Operations Manager</td> </tr> <tr> <td>Technical Lead</td> <td>• Technical Manager</td> </tr> <tr> <td>Business Lead</td> <td>• Program Division Functional Manager</td> </tr> </table> <p>Figure 4.2-99. Our Key Staff Alignment with DSHS Staff Positions.</p> <p>Our “one-team” approach, which we have successfully used on multiple projects, is designed to foster a strong sense of collaboration, inclusion, open communication, and trust.</p>	Engagement Manager	• ACES Project Director	Security Expert	• Information Technology Security Director	Operations Lead	• Governance and Operations Manager	Technical Lead	• Technical Manager	Business Lead	• Program Division Functional Manager
Engagement Manager	• ACES Project Director											
Security Expert	• Information Technology Security Director											
Operations Lead	• Governance and Operations Manager											
Technical Lead	• Technical Manager											
Business Lead	• Program Division Functional Manager											
6.148	Provide team that meets all qualifications outlined in the contract for the duration of the engagement unless explicit approval is received by DSHS in writing	<p>Our Understanding of the Requirement</p> <p>The strategy for building the team that we bring to Washington was predicted on an approach which took Washington’s staffing requirements (including qualifications) into consideration and was also based on an approach which draws down from other engagements of similar size and complexity that we have delivered or continue to deliver in the HHS practice. In short, the team we are bringing to Washington meets the qualifications outlined in the contract and brings extensive experience working in HHS engagements of similar scope and complexity. What this means is that this team would comprise of members who understand your business,</p>										

		<p>understand your technology, have worked with you in the past, and brings a solid delivery track record to hit the ground running on Day One.</p> <p>How We Satisfy the Requirement</p> <p>We currently perform maintenance and operations of similar HHS Eligibility and Enrollment systems in 26 states across the country. What this means is that, when it comes to building a delivery team for Washington, we are able to draw from this vast network to bring in a team that meets and exceeds Washington’s needs. It also means that we also have a broader group of advisors to reach out to whenever we require consultation, discuss design concepts, draw down experiences of other states, or create a point-of-view for Washington’s consumption. These connections mean that Washington has access to experienced account management professionals that understand how to tailor and deliver the best approach for the State’s long-term evolution of system, emphasizing consistent improvement and proactive planning throughout the delivery.</p> <p>We are committed to maintaining continuity of the proposed team through the duration of this project and actively managing turnover. Should the need arise that we need to replace a resource on the team due to circumstances beyond our control, we will follow a rigorous process across our HHS portfolio to identify a replacement of equal or more experience, as an alternative, and seek DSHS approval in writing. Once a replacement has been confirmed, we will follow an extensive onboarding process to bring that resource up-to-speed with the project and Washington specific subject matter to minimize disruption to the project.</p>
6.149	Maintain and implement Account Management structure, planning and procedures accordingly.	<p>Our Understanding of the Requirement</p> <p>A large-scale engagement like ACES needs a strong Account Management component, with a structure which takes in consideration the legacy system, the enhancements made to it, and the approach to modernization. Our approach incorporates strategies to establish and sustain shoulder-to-shoulder organization</p>

relationships, foster synergy, and establish common goals. The result is one productive team aimed at achieving DSHS's objectives.

How We Satisfy the Requirement

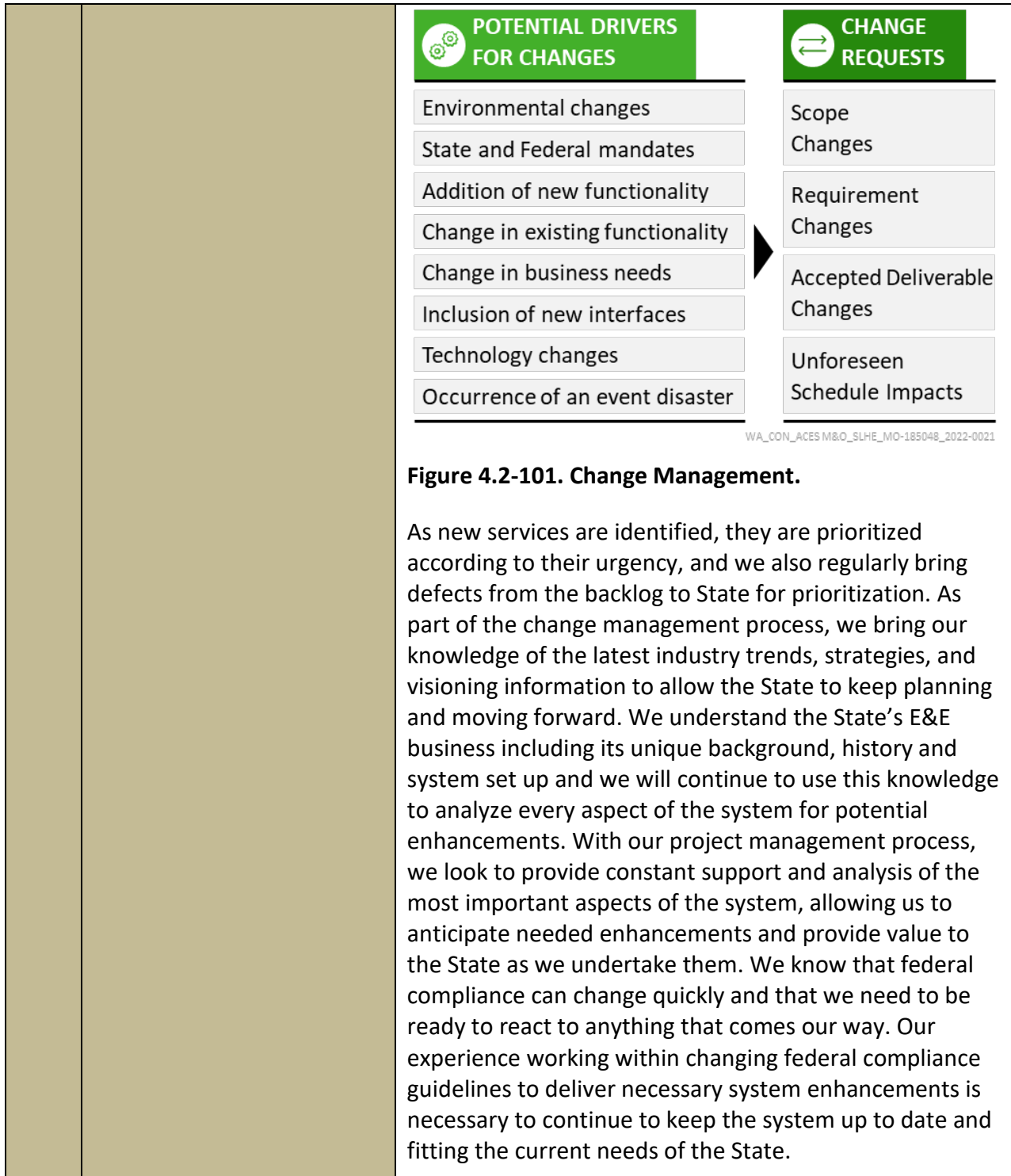
Strong Account Management starts right at the top with a highly qualified Engagement Manager who brings the right mix of technical, functional and project management expertise and fundamentals to lead our team from the front. Our proposed Engagement Manager – Jay Waller – has accumulated a wealth of expertise over 20 years playing technical roles such as software developer, database administrator, system administrator to functional manager to Project Manager to Engagement Manager. Jay also brings a wealth of experience leading projects where we transitioned large systems from a different incumbent vendor over time as well. We have paired Jay with a strong middle management layer who brings a wealth of expertise in their own right to run their respective workstreams and its staff. At an overarching level, our pairing of the project team with experienced advisors who focus on HHS expertise, innovation, security, quality and compliance only helps to strengthen the way that our team would operate this engagement.

We firmly believe in transparency and understand the importance of providing frequent updates on status, schedule, risks, and issues. We promote a collaborative approach to Account Management by facilitating meetings with relevant stakeholders to review status and successfully resolve escalated issues related to policy, process, and systems. While meeting cadence serve as an official channel to drive communication with project stakeholders, we do not consider them to be the only opportunity we have to escalate or work through critical issues. We also maintain regular contact with the State to work through issues as they arise without waiting for the next scheduled meeting for timely escalation and resolution. We remain in close contact to communicate transparently, anticipate, and mitigate issues, and collaborate on solutions. Our years of experience working together, knowledge of your priorities and preferred

		<p>working style, and strong relationships lead to efficient use of everyone’s time, effective results, and easy resolution of issues.</p> <p>To facilitate a strong cohesive, collaborative, transparent management structure with fostering a collective relationship with DSHS, we employ the following:</p> <table border="1"> <thead> <tr> <th style="background-color: #d9e1f2;">Meeting Name</th> <th style="background-color: #d9e1f2;">Description</th> </tr> </thead> <tbody> <tr> <td>Project Steering Committee Meeting</td> <td> <p>Review project status, and the cross-project impact of scope changes to schedule and budget</p> <p>Provide decisions and direction on key policy, process, and system topics</p> </td> </tr> <tr> <td>Change Control Board (CCB) Meeting</td> <td> <p>Includes the context/justification, proposed change, and potential impacts (e.g., project schedule, resources, cost) of the change request; the number of hours scheduled in each release and enhancements yet to be scheduled and tag it to a release; and revisit any enhancement that needs to be reprioritized based on business needs. We are open to reducing the frequency of this meeting and will respond accordingly based on the State’s preference and direction.</p> </td> </tr> <tr> <td>Project Status Meeting</td> <td> <p>Meeting to update State leadership on overall project status, in addition to reviewing the progress of the Status Reports (i.e., Production Release Status, M&O Status, and Security Status Reports), submitted to the State that outlines:</p> <ul style="list-style-type: none"> • Updated risk logs • Risk mitigation strategies • Issue logs • Latest approved Project Schedule • Status Updates <p>Due to other communication forums, a formal meeting may not be needed and can be handled as a weekly or monthly written communication based on the State’s direction and preference.</p> </td> </tr> </tbody> </table> <p>Figure 4.2-100. Ongoing Project Status Meetings.</p>	Meeting Name	Description	Project Steering Committee Meeting	<p>Review project status, and the cross-project impact of scope changes to schedule and budget</p> <p>Provide decisions and direction on key policy, process, and system topics</p>	Change Control Board (CCB) Meeting	<p>Includes the context/justification, proposed change, and potential impacts (e.g., project schedule, resources, cost) of the change request; the number of hours scheduled in each release and enhancements yet to be scheduled and tag it to a release; and revisit any enhancement that needs to be reprioritized based on business needs. We are open to reducing the frequency of this meeting and will respond accordingly based on the State’s preference and direction.</p>	Project Status Meeting	<p>Meeting to update State leadership on overall project status, in addition to reviewing the progress of the Status Reports (i.e., Production Release Status, M&O Status, and Security Status Reports), submitted to the State that outlines:</p> <ul style="list-style-type: none"> • Updated risk logs • Risk mitigation strategies • Issue logs • Latest approved Project Schedule • Status Updates <p>Due to other communication forums, a formal meeting may not be needed and can be handled as a weekly or monthly written communication based on the State’s direction and preference.</p>
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		<p>While the meetings above are based on best practices, it is quite possible that additional meetings may be required based on circumstances and we look forward to working with you to identify any additional meetings required and optimize accordingly.</p>
<p>6.150</p>	<p>Develop a service process that clearly defines how to order, change or delete services</p>	<p>Our Understanding of the Requirement</p> <p>Change is an inevitable part of software development to meet the evolving needs of the system. Effective change control is critical to accommodating changes in response to evolving business process needs and managing impacts to change in project scope. In collaboration with DSHS, we will use appropriate change control processes to manage changes associated with the system and maintenance activities that positively impact ACES while effectively mitigating resulting risks.</p> <p>How We Satisfy the Requirement</p> <p>Our change control procedure is a successfully established process, proven to be very efficient, and effective for both the State and our team. Identifying and qualifying changes in a timely manner is critical to the project, and both State and our staff apply appropriate effort and follow a robust process of analysis to support timely services. Our experience with this process has proven successful across other engagements in our HHS portfolio and will continue to do so as we start working with you in Washington. As our team establishes themselves in Washington and work with the incumbent vendor during the transition phase, our team will start the process of identifying potential opportunities for improvements to the system based on what we learn during transition, our conversations with State staff, as well as various recommendations which we have shared with you in this submission as well. We expect that these changes could be either an addition of new services/functionality or in some instances the removal of services/functionality thereby improving the ensuing functionality of the ACES system. Our team will then facilitate discussions with the State to categorize these</p>

		<p>changes based on their impact, urgency, and priority, as part of Change Control Board discussions.</p> <p>The Change Control Board (CCB) meeting process adheres to the following the approach:</p> <ul style="list-style-type: none"> • We perform analysis on potential inherited issues and/or enhancements and based on the due diligence will keep stats on the impact of this enhancements/fixes on the system ready to discuss in the CCB meeting that needs to be prioritized during the connect. • The State makes decisions on what services will be prioritized, considering input from Product Owners. If any change is requested at a later phase of the project, the State will analyze the requests from each of the sprint teams and prioritize accordingly for the upcoming sprints. • The State considers the impact and severity of the changes when making decisions on these prioritizations. • In the CCB meeting, the State presents the context/justification, proposed change, and potential impact to project schedule, resources, and cost (when applicable). • In the CCB meeting, the PMO documents the service requested, the date the service is approved, and comments associated with the CCB meeting (e.g., date, attendees, decision). • Within one day of the CCB meeting, the State-identified approver provides an approval for the services. <p>The Steering Committee meets to discuss different aspects of the services, including the Change Impact Analysis, to review each potential services to determine its priority—and decide which ones they will approve, defer, or cancel. Our methodology allows us to prioritize changes in an ongoing fashion, while refining our product backlog on a consistent basis.</p>
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6.151	<p>Provide monthly status reports capturing all elements outlined in the contract, including but not limited to:</p> <ul style="list-style-type: none"> • Performance against SLAs • Activities performed during reporting period • Activities planned in the next reporting period • Risks and Issues • Status of any active enhancement projects against agreed upon scope, schedule and budget • Status of any active Additional Services Work Efforts 	<p>Our Understanding of the Requirement</p> <p>We recognize the importance of meaningful status reporting which helps measure work performance, promote continuous improvement, and provides the state with insight into the quality, efficiency, and timeliness of the overall service. In collaboration with DSHS, we define and establish the means to report on key project performance levels. Using the proper tools, techniques, and processes, DSHS team members and stakeholders are informed of the project status to avoid surprises and confusion.</p> <p>How We Satisfy the Requirement</p> <p>Our reporting standards in the past have helped us to identify potentially at-risk items in a timely fashion to keep our deadlines on track. Sending our status reports on a regular basis helps the State to identify and follow up on key backlog items. This allows us to take quick action and close any tasks that might have been left open for too long. We provide an accurate and timely representation of the activities for ACES, through the Monthly Status Report. This Monthly Status Report is a high-level overview of the project status, including the current project schedule and project deliverables. It specifically identifies any schedule variance of the project, reasons for the variance, and realignment strategies. In addition, our status report provides a brief view of activities planned for the upcoming time period, as well as tasks in progress, and reasons for outstanding tasks.</p> <p>The Monthly Status Report will include:</p> <ul style="list-style-type: none"> • A schedule variance from the plan and any significant departure from the plan • A list of causes for any task that is due and delayed • Issues and risks identified during this period and the recommended plan of action • Performance against SLAs
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- Risks and issues register
- Critical decisions made
- Status of problems reported, including resolution and root causes
- A list of any other topics that require attention from the ACES Project Director or higher levels of DSHS with action recommendations
- Information in additional weekly meetings with the team and stakeholders

We will work with the State to review the existing Monthly Status Report and confirm that it covers the Production release, maintenance activities, system metrics, and upcoming release details, as necessary. If applicable, we welcome the opportunity to share sample status reports that we have used in other engagements and have worked well, as an alternative point-of-view as we collaborate to define a final monthly status report structure. A sample Monthly M&O Status Report is illustrated in the following figure.

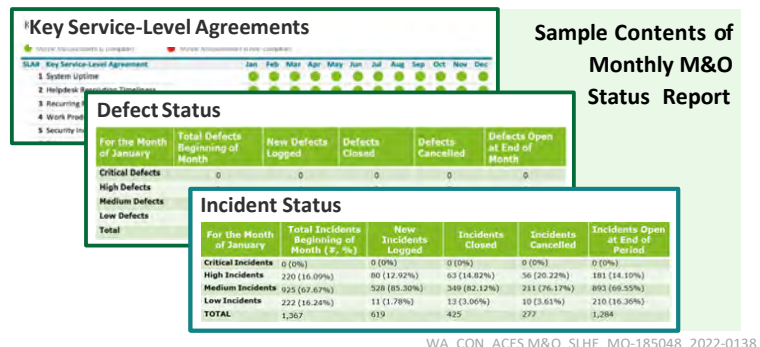


Figure 4.2-102. Sample Monthly Status Report.

We anticipate that our Project Management Center (PMC) tool will play a major role in the creation of our status reports, as it is the centralized place for tracking schedules, resources, tasks/activities, and issues. Formatted status information is extracted from PMC and captured in status reports. The Monthly Status Reports are presented to both leadership and Steering Committees during a meeting or distributed based on a mutually agreed delivery method.

**SLR Performance Management
(Attachment 02)**

6.152 Define and implement methods for monitoring Service Level Requirements which govern the relationships between internal and external service providers (vendors), including provisioning, response times, etc.

Our Understanding of the Requirement

Service Level Managements enables the measurement of work performance, promotes continuous improvement, and provides the project team with insight into the quality, efficiency, and timeliness of the overall service. During the contract negotiations phase I in collaboration with DSHS, we will define and establish the means to measure and report on key service level requirements.

How We Satisfy the Requirement

Our team takes a very tactical, but strategic approach to service level management. We have reviewed the Service Level Requirements (SLRs) included in the RFP and look forward to working with the State to finalize these during contract negotiations. Throughout the life of the project, we expect to report performance against the SLRs that are defined and agreed upon for this scope of work. Our team's goal is to work collaboratively with DSHS to address any SLRs that are not being met and address them as quickly as possible.

Our team brings to DSHS a proven track record of meeting or exceeding Service Level Requirements with our state HHS clients, especially while configuring, customizing, operating, and maintaining large-scale integrated eligibility systems. We have demonstrated success and deep experience managing and complying with service level requirements on each of our projects. Our Service Level Management (SLM) methodology is consistent with the ITIL service management disciplines, which provides the guidelines for the identification, monitoring, and reviewing of the services provided. Its foundation is within our SLA management processes (identify, define, manage, review, and feedback) and integrated with the key processes for maintenance and modifications.

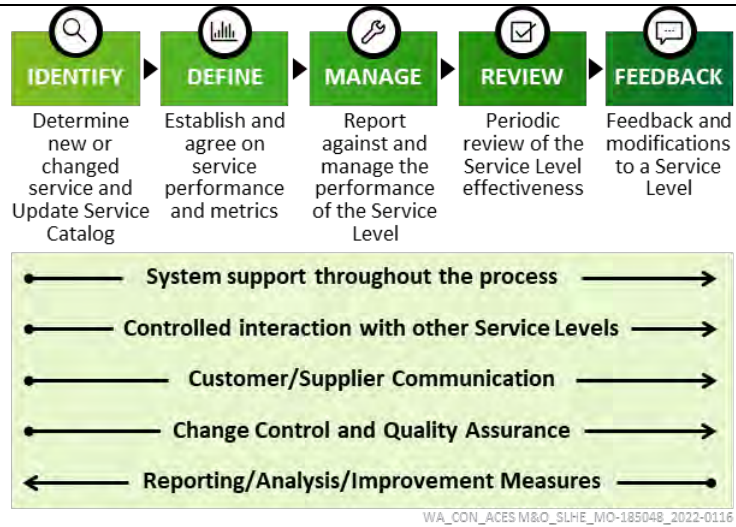


Figure 4.2-103. Our Service-Level Management Framework.

Our approach to SLR requirements and performance expectations follows a structured process to evaluate and test the application to determine whether SLRs are currently being met. Since SLR criteria and definitions have been defined in Attachment 2, we work from that point to manage performance against the defined service levels. From reporting perspective, specific SLRs will be reported to DSHS according to the SLR reporting schedule. Our team logs issues for any SLRs that are not being met. Any SLRs that are not currently being met will be evaluated to determine its root cause. Once the analysis is completed, we submit the analysis to the DSHS so that the fix can be prioritized and implemented. Baselining and meeting the agreed upon SLRs is only the first step in the process. With each system release our team proactively tests the system to verify that the SLRs will continue to be met and have not been adversely impacted by changes or enhancement to the system. This same level of attention is continued through each release of the application and is done to minimize any impacts to system availability. Additionally, we will proactively evaluate SLRs and monitor how close they are coming to hitting their thresholds. Those we feel may be in jeopardy of hitting their thresholds will be evaluated to determine ways to improve their performance. This is essential to

confirm that the application is constantly monitored and tuned for performance.

SLR Dashboards

We will use an SLR summary dashboard to provide DSHS with a monthly trend for key SLR metrics such as Application Availability, Provisioning, Response time, and time to restore, to name a few. These SLRs are key quality metrics to assess how our team is performing and where the improvement areas are. We will work with DSHS to define these metrics and submit them as part of our Monthly Status Reports as well as provide a tool for daily monitoring.

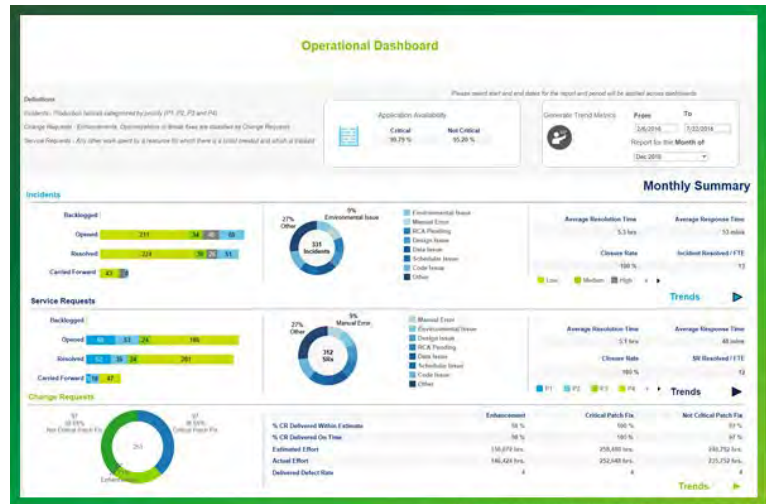


Figure 4.2-104. SLR Dashboards.

The DSHS benefits from a contractor that has the demonstrated capability to meet established SLRs and to implement proactive improvements that mitigate future risk. We are committed to providing a smooth continuation of ACES maintenance, operations, and enhancements, while focusing on continual improvement while working closely with the relationships between internal and external service providers (vendors), including provisioning and response times. Our approach brings an experienced team, mature processes, and proven tools to meet or exceed the SLR requirements from Day One.

		<p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our consistent track record with E&E M&O across states is based on our strong project management, Maintenance and Operations (M&O), and innovative engineering teams that are continuously identifying opportunities for improving system performance and fine-tuning operational procedures. Below are a few examples of our successful efforts that we implemented in other projects, where we have had positive impacts on the service levels identified in the RFP:</p> <ul style="list-style-type: none"> • We maintained stable architectural services by implementing high availability for both online and batch transactions. We have identified and configured monitoring tools to improve our proactive application monitoring capabilities. We have been able to achieve a near 100 percent uptime for our online and batch systems. • We have optimized our batch jobs and operational procedures to reduce overall batch cycle time by 15 percent to allow over six million monthly batch transactions to be completed in the scheduled window and avoid disruption to your end users. • Our innovative engineering team never stops at proactively identifying these system patterns. We have always worked collaboratively with our State counterparts to discuss the benefits of these optimizations, prioritize them, and implement them to bring incremental improvement to our performance.
6.153	Monitor and report performance against service level requirements to DSHS	<p>Our Understanding of the Requirement</p> <p>From the first day when we assume the role of M&O vendor for the ACES system, our team is committed to working with the State to understand your existing performance monitoring and reporting processes and tools and implement a plan to start leveraging them to and to monitor and report on ACES performance with respect to the agreed upon SLRs. We acknowledge that</p>

there might be other viable options to consider as alternatives for evaluation tools and will work with the State to discuss adoption if warranted. One of the tools we plan to will evaluate is how these process and tools compare to our OperateEdge - platform monitoring mechanism and recommend improvements where there is opportunity. OperateEdge is our platform that integrates system infrastructure, ITSM tools, and other DevSecOps tools and leverages the power of artificial intelligence and machine learning technologies to bring a comprehensive approach to government IT operations management.

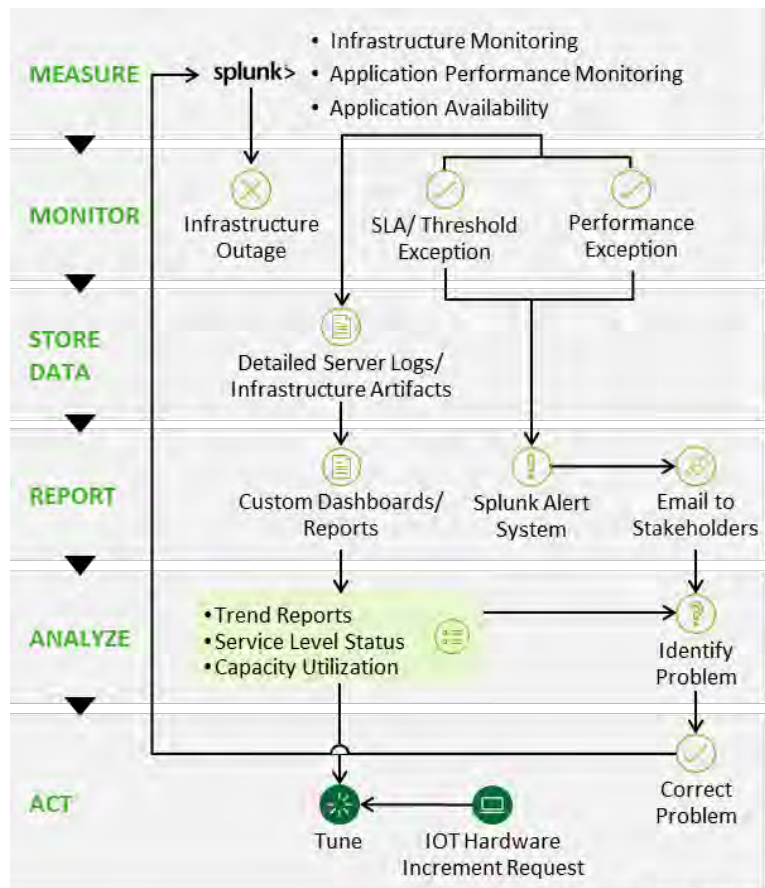
How We Satisfy the Requirement

Our Operations and Infrastructure team proposes to leverage a combination of the existing performance monitoring tools along with OperateEdge platform to provide real-time insights across stages of the delivery life cycle—from application development to test and production monitoring. Our monitoring approach has three primary aspects:

- **Real-Time Infrastructure Monitoring:** Accurate measurement of ongoing server health across multiple utilization dimensions, including CPU, memory, storage, sessions, threads, locks, and log files.
- **Application Performance and Security Monitoring:** Continuous monitoring of performance metrics across various application facets, including key metrics such as user concurrency, transaction response time, user analytics, production traffic, and key security alerting.
- **Batch Monitoring:** Continuous monitoring of executed cycles and outputs, with transparent alerting and reporting on metrics.

Our overarching strategy includes not only monitoring the infrastructure and application but also integration with DSHS's Splunk tool to enable SIEM monitoring to monitor, prevent and troubleshoot security incidents. We integrate OperateEdge with Splunk to develop

monitoring dashboards that demonstrate no negative impact on application performance and infrastructure. OperateEdge and Splunk form the backbone of our monitoring ecosystem, triggering alerts in the case of infrastructure outage, high response time, and performance degradation. We will collaborate with the State to configure the dashboards with the required data elements. Our production support team is promptly notified of alerts, and they complete RCA and assign it to appropriate teams for the SDLC process.



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Figure 4.2-105. ACES Infrastructure and Application Monitoring Lifecycle.

As seen in the diagram above, we leverage the process for monitor and report performance, identifying areas of risk before they become an operational risk, making architectural and infrastructural tuning recommendations based on resource utilization and application behavior reports. We also use the

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		<p>Our processes are built on the fundamentals of the ITIL incident management process. This standardized approach helps us in logging, triaging, prioritizing, tracking, and resolving incidents in an effective and efficient manner.</p> <p>A timely interim business process, root cause correction, and remediation of any impacted dataset can greatly reduce adverse impacts to ACES end users. Our incident management team speaks brings the familiarity of the business and experience delivering similar scope of work which allows us to quickly assess and escalate issues to mitigate risk. In addition, the team routes policy or training questions and issues to the appropriate staff in a timely manner for quick resolution. With years of experience managing IE systems in 26 states, our team understands how different systems integrate and work together to provider better services for residents. The team works closely with key stakeholders to identify and transfer the incident to the correct stakeholder for quicker resolution. The figure below describes the key principles embedded in our approach to incident management.</p> <p>Our commitment to address Operation and service management findings is outlined below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="text-align: left; padding: 5px;">Findings</th> <th style="text-align: left; padding: 5px;">Our Commitment</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">System Administration and Operations</td> <td style="padding: 5px;">Turn-around quickly and address findings in the builds, batches and patches execution and any issues that are a result of system operations.</td> </tr> <tr> <td style="padding: 5px;">Security Compliance</td> <td style="padding: 5px;">Our team conducts periodic reviews of application architecture with senior technical and functional leads. This helps in identifying potential security issues at an early stage and mitigate them. Further, if there are any security findings they are addressed with at most priority.</td> </tr> <tr> <td style="padding: 5px;">Response Time</td> <td style="padding: 5px;">Our IT operations support team will work closely with DSHS and the application team to pro-actively monitor the system and integration applications and address findings on the turnaround time to process inbound and outbound batches to confirm that they are within expected limits. This includes batches, webservice calls, interface process.</td> </tr> </tbody> </table>	Findings	Our Commitment	System Administration and Operations	Turn-around quickly and address findings in the builds, batches and patches execution and any issues that are a result of system operations.	Security Compliance	Our team conducts periodic reviews of application architecture with senior technical and functional leads. This helps in identifying potential security issues at an early stage and mitigate them. Further, if there are any security findings they are addressed with at most priority.	Response Time	Our IT operations support team will work closely with DSHS and the application team to pro-actively monitor the system and integration applications and address findings on the turnaround time to process inbound and outbound batches to confirm that they are within expected limits. This includes batches, webservice calls, interface process.
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		<p>System Availability Address any system availability, database backup, and unavailability findings and confirm that the system performs at established standards and SLAs.</p>										
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		<p>Accessibility Testing As we build new components or solutions, we design for adherence to Section 508 accessibility standards and have experience using several tools to validate compliance post-build, such as JAWS, WAVE.</p> <hr/> <p>Automation Testing We have extensive experience performing automated testing to confirm that existing functionality is not adversely impacted by newly added or modernized capabilities. We will perform automated testing during unit testing, and we recommend it as a component of integration testing and UAT. At one of our clients, these tools have been used successfully during modernization of real-time calls, business rules, data integration services, client correspondences, batch processes, and Interactive Voice Response (IVR) services.</p> <hr/> <p>Performance Testing Our team recognizes the importance of meeting and exceeding pre-defined Service Level Agreements (SLAs), increasing state workers' efficiency, and enabling them to better serve the State of Washington's residents. We work with the State to verify SLAs are met using available profiling and performance-tuning tools and by leveraging third-party tools that have proved helpful in past engagements of similar size and scope.</p>				
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Our Principles	Benefits to Washington					
Responsiveness	Our team provides appropriate, accurate, courteous, efficient, timely, and proactive responses to inquiries and incidents. We analyze the issue and provide the appropriate steps for resolution. If there is an escalated issue impacting users, our team is prepared to take swift action to resolve the issue with priority. We understand that incidents associated with critical functions like SNAP benefit issuance and the MMIS interface may require top priority.					

		<p>Thoroughness Our team tests incident resolution in lower environments before proposing the solution to end users. We validate that our resolution is working end to end, and the end user can process the case.</p> <hr/> <p>Traceability The incident resolution process is organized with well-defined steps. This process prescribes a problem ticket to be created for similar issues being reported by one or multiple incidents. Each incident/group of incidents is linked to a defect and/or data fix (for temporary solution). The entities involved in incident resolution Problem, Incident, Datafix, defect is linked together, which enables end-to-end traceability.</p> <hr/> <p>Clear Communications Our team clearly communicates the root cause of identified issues and the interim resolutions or workaround when available. Awareness of the existing issues and their potential impact is foundational to our incident management process.</p> <hr/> <p>Transparency Our team seeks SME guidance when needed, as we recognize that business is the true decision maker when it comes to policy and operations. We defer to their judgement, but we have the right experience to know when to escalate and when to work independently to make effective use of their time.</p> <hr/> <p>Figure 4.2-108. Approach to Responsiveness and Communication.</p> <p>One of the strengths of our team is our ability to understand the issues, quickly assess and escalate issues, and mitigate risk. Our team is involved in Incident Management processes (end-to-end) because we believe in getting to the root of the issue by talking to field staff. These processes help us triage, analyze, resolve, and respond to inquiries in a courteous, appropriate, and timely manner.</p> <p>Once the incident is reported, we focus on matching the incident with other known problems, resolving the incident as quickly as possible to restore service, prioritizing incidents based on impact, and escalating to other teams where necessary.</p>
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<p>6.155</p>	<p>Provide hours worked by employee broken down by task as defined by DSHS</p>	<p>Our Understanding of the Requirement</p> <p>Accurate time tracking is an essential business enabler to facilitate workload management and transparency of employee hours spent on assignments. We will provide hours broken down by team member and by task as defined by DSHS.</p> <p>How We Satisfy the Requirement</p> <p>Our team uses JIRA for tracking and reporting Project Health which includes managing time and efforts. Our team understands the need to track hours worked accurately and has performed the type of tracking requested by the State on numerous state and federal contracts. JIRA can be used by project managers to track hours across the entirety of the project. The tool allows our team to track time for each project resource and will include the following fields: staff member name, task and hours worked. In addition to the number of hours worked, the reports can also be used to determine the total amount of time worked for each individual and the total hours for the whole project.</p> <p>We will generate monthly reports using these tools and this enables DSHS to make informed decisions, maintain transparency, and review project health. In addition to the monthly status reports, we also provide a report with hours worked by employee broken down by task as defined by DSHS. Examples of this tracking are below.</p>
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		<p>ticket they were working on. This information is then sent to the state on a monthly basis. The state has appreciated this approach as it allows them total visibility on what each worker has been working on.</p>
<p>6.156</p>	<p>Provide application service level reporting based on agreed upon SLR Targets</p>	<p>Our Understanding of the Requirement</p> <p>Our team will provide accurate and timely application service level reporting based on agreed upon SLR Targets with the state.</p> <p>How We Satisfy the Requirement</p> <p>Our team will be able to provide SLR reports based on DSHS requirements and agreed upon frequency. We promote a cooperative approach to client and customer management, by facilitating meetings to review status and successfully resolve escalated issues. In addition to these meetings our team provides monthly status reports capturing the elements requested by DSHS including performance against service level requirements (SLRs). Our team will collaborate with DSHS to define and implement methods for monitoring Service Level Requirements which govern the relationships between internal and external vendors, including provisioning and time to respond to requests. Once the approach is established to monitor and report SLRs, if an application is determined not able to meet the required target, we develop a plan to align with the required service levels.</p> <p>We monitor service levels using tools such as Splunk, customized software assets and ALM tools (e.g., JIRA, IBM RTC/Jazz) that allow us to collect appropriate real time and batch data related to the Service Level measurements. This collected data is then aggregated to generate our monthly SLA dashboard/summary report that is shown in the figure below. We collaborate with the State to document the formula for calculating these metrics and document in the Project Management Plan and Incident Management Plan. We will present the SLA summary and detailed reports to DSHS management monthly.</p> <p>Below is an example of a sample SLA summary report.</p>

PROPRIETARY

PROPRIETARY

associated ACES components.

- Data Decommissioning:
 - Identify and complete data backup requirements
 - Identify and schedule on-premises servers for decommissioning
 - Cancel maintenance and software contracts related to decommission services

Additionally, the Decomposition Plan should include approach, timelines, risk assessment, KPIs, and monitoring for the areas noted above.

Please attach a sample Decomposition Plan from a similar legacy replacement engagement.

products planned in the HHS Coalitions five-year roadmap. This is illustrated in the figure below.

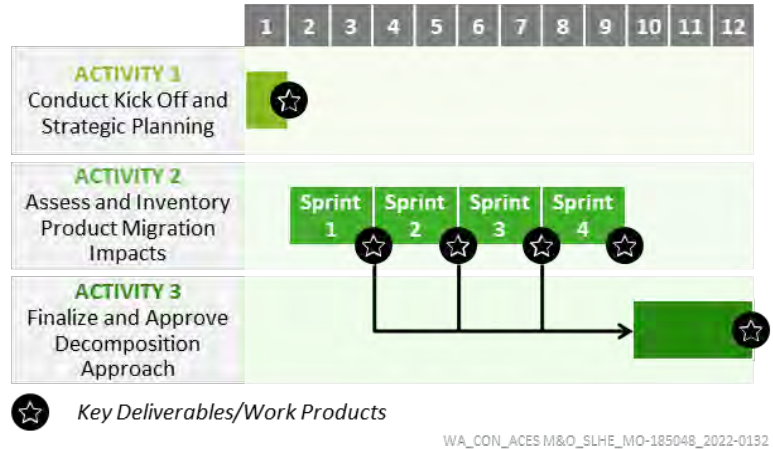


Figure 4.2-112. High-Level Plan for Developing the Decomposition Plan.

We are open to discussing with DSHS whether to complete Decomposition planning for 14 products in 12 months, or more closely aligning to the 5-year IE&E roadmap (i.e., an “Incremental Decomposition Plan” deliverable). Please note there is a considerable amount of participation required from DSHS and other vendor staff for this planning process, including meetings, research, and document/deliverable review, which might be more realistic using a duration that aligns more closely to the 5-year roadmap. The amount of time is similar for our staff using either method. We have depicted our approach using 12 months in alignment with the RFP’s requirements.

We have preliminary grouped the products in the sprints noted below based on the scale of their impact against common IE workflows that ACES supports, and the interconnectivity between specific products. The products aligned to each sprint are in accordance with Washington State’s current IE&E Roadmap as of the submission of this proposal.

We have added an additional “catch all” product to Sprint 4 names ‘Miscellaneous Functionality’. During the journey through sprints, we anticipate there may be topics that need to be considered as part of the decomposition that may not align with the 14 products.

		<p>We want to identify and define what is required for those topics. This may mean that another product is required to be added to the IE&E roadmap or a feature/process is required to be part of the final sunset and ACES decommissioning.</p>										
		<table border="1"> <thead> <tr> <th style="color: green;">Sprint</th> <th style="color: green;">Products</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td> <ul style="list-style-type: none"> • Eligibility and Enrollment Tracker (Product 1) • IE&E Model and Data Technologies (Product 2) • Streamlined Application Submission (Product 3) • Change Reporting and Renewal Tracking (Product 6) </td> </tr> <tr> <td style="text-align: center;">2</td> <td> <ul style="list-style-type: none"> • Document Upload (Product 9) • Classic Medicaid Consolidated into Health Portal (Product 5) • Full Integrated Portal and Modern Business Rules (Product 12) • Modern Notification and Communication (Product 7) </td> </tr> <tr> <td style="text-align: center;">3</td> <td> <ul style="list-style-type: none"> • Modern Case Management (Product 4) • Modernized Eligibility Business Rules (Product 8) • Modernized Enrollment (Product 10) </td> </tr> <tr> <td style="text-align: center;">4</td> <td> <ul style="list-style-type: none"> • Assistor Management and Support Products (Product 11) • Data Warehouse (Product 14) • Document Management System 13) • Miscellaneous Functionality and Sunsetting ACES </td> </tr> </tbody> </table>	Sprint	Products	1	<ul style="list-style-type: none"> • Eligibility and Enrollment Tracker (Product 1) • IE&E Model and Data Technologies (Product 2) • Streamlined Application Submission (Product 3) • Change Reporting and Renewal Tracking (Product 6) 	2	<ul style="list-style-type: none"> • Document Upload (Product 9) • Classic Medicaid Consolidated into Health Portal (Product 5) • Full Integrated Portal and Modern Business Rules (Product 12) • Modern Notification and Communication (Product 7) 	3	<ul style="list-style-type: none"> • Modern Case Management (Product 4) • Modernized Eligibility Business Rules (Product 8) • Modernized Enrollment (Product 10) 	4	<ul style="list-style-type: none"> • Assistor Management and Support Products (Product 11) • Data Warehouse (Product 14) • Document Management System 13) • Miscellaneous Functionality and Sunsetting ACES
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		<p>Figure 4.2-113. Preliminary alignment of roadmap products to decomposition planning sprints.</p> <p>During each sprint, we work to understand how ACES modules align with the new IE&E products being built. We create decomposition “sets” to align with each product. These sets catalog the different ACES functions, processes, and interfaces that are ‘turned off’ when each product goes live.</p> <p>As part of this requirement for Decomposition, a final Decomposition Plan will be submitted at the end of the Year 1 of the contract to DSHS for review and approval. As part of our proposal, we provide a sample decomposition plan that our team had utilized in a past project to successfully decompose and sunset a legacy system similar to ACES. The ACES Decomposition will be its own unique process and plan; therefore we will adapt and build a decomposition plan document that aligns</p>										

		<p>with the outputs of our activities over these 12 months to create the roadmap that will be defined in the Decomposition Plan for ACES.</p> <p>Decomposition Planning Phases</p> <p>Our overall approach uses a sprint-based, three-phased approach for breaking down the ACES Complex into multiple chunks to determine the impact caused by moving functionality out of ACES and to the IE&E Platform. They include:</p> <ul style="list-style-type: none"> • Activity 1 – Conduct Strategic Planning and Project Kick Off • Activity 2 – Assess and Inventory Product Migration Impacts • Activity 3 – Formalize and Approve Decomposition Approach <p>Activity 1 – Conduct Strategic Planning and Kick-off</p> <p>To create the Decomposition Plan, we first start with strategic planning to achieve the State’s desired outcome, while also accounting for DSHS’s technical environment. Like designing and developing a brand-new system, we cannot simply just dive-in and start designing and developing without an overall plan. Strategic planning for constructing a Decomposition Plan is no different to make certain the areas are considered and addressed and can be completed in the target timeframe, which need to align with the IE&E Modernization Products implementations.</p> <p>How do we strategically plan for a Decomposition Plan and kick off? First by having the right participants, well planned agendas and meetings scheduled to formulate the structure of Activity 2 (Assess and Inventory Product Migration Impacts) and ultimately leading to Activity 3 (Formalize and Approve Decomposition Approach). The figure below lists our key sub-activities and goals during Activity 1 and expected participation.</p>
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		Sub-activity	Goal	Participants
		Decomposition Kickoff Meeting	Decomposition mission, guiding principles, and high-level structure and timeline of Decomposition Planning over the next 12 months; Initial Decomposition planning risks and mitigation strategies; Expectations for Decomposition Draft reviews over the year.	DSHS Stakeholders, ACES Business SMEs, Incumbent Vendor, IE&E Modernization Product Vendors, Our Decomposition team, Team Leadership
		Baseline Meetings	Short discussions of key considerations to baseline target areas/impacts of ACES to finalize Activity 2 Sprint groupings	DSHS ACES SMEs, ACES incumbent vendor, Our Decomposition Leads
		Decomposition Plan DED Development	Walkthrough of Decomposition Plan DED prior to submission	Our Decomposition team and DSHS Stakeholders
		Decomposition Discovery Plan Buy-In	Review the finalize plan for Activity 2 and Activity 3	DSHS Stakeholders, ACES Business SMEs, Incumbent Vendor, IE&E Modernization Product Vendors, Our Decomposition team, Team Leadership

Figure 4.2-114. Activity 1 sub-activities.

Activity 2 – Assessing and Inventory Product Migration Impacts

For each decomposition planning sprint, there are 3 key steps that span 8 weeks. The HHS Coalition has already identified the priority for moving ACES functionality to the IE&E platform. We use that prioritization to also drive our order of decomposition planning. Each Product goes through following phases:

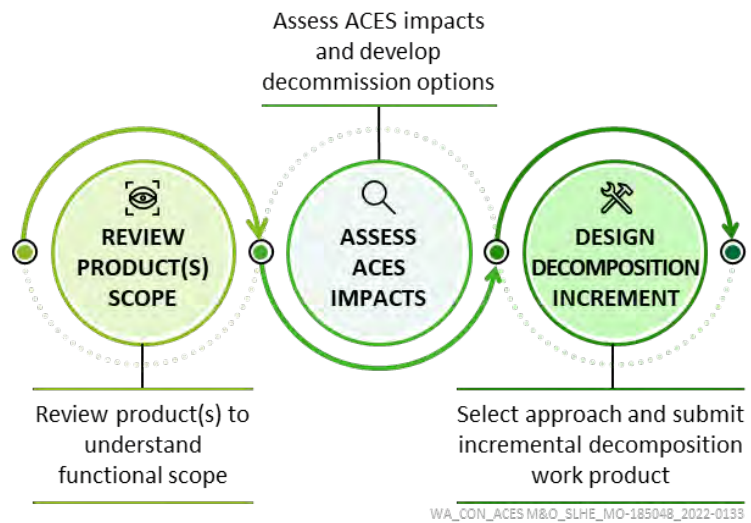


Figure 4.2-115. Our Sprint Approach to Determining Decomposition Impacts to the ACES Complex.

- **Step 1 - Review Product Scope**– Our team meets with DSHS, the appropriate Product Vendor, and impacted stakeholders to understand the functional scope of the Product. This includes understanding ACES workflows impacted, data needs, interface impacts, and policy/program impacts.
- **Step 2 – Assess ACES Impact and Develop Option** – our staff conducts an impact analysis to the ACES complex to identify how the new Product impacts ACES supported workflows, data elements impacted, screens, batch processes, interfaces, and shared routines. A key portion of this assessment is understanding how data needs to be shared or updated between ACES and the new products being developed on the IE&E Platform. This drives data conversion needs that can often be critical path in terms of and effort when Decomposition systems. The figure below summarizes the items analyzed to determine the decomposition needs of the products in scope:

Area	Types of items assessed and key considerations
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		<p>Application Landscape Focus on reviewing legacy application process and methods, assess key integrations, batches, database architecture in ACES that may need to modify continue to support the modernized application processes.</p> <hr/> <p>Data Flows Focus on reviewing the data transactions between ACES, internal and external. Consider impact to data flow for each module modernization, including external data partners.</p> <hr/> <p>Features/Screens Focus on key features and screens, understand worker impact and usage. Consider key features and screens to align with data archiving.</p> <hr/> <p>Integrations/Batch Processes Assess batch processes and points of data exchange in ACES, internal and external as they align with each module modernization product.</p> <hr/> <p>Data Decommissioning Focus on current data and database structures and what may be required to archived vs. purged.</p> <hr/> <p>Risk Management Identify any risk to timeline, approach, decomposition activities that could impact success of ACES decomposition. Consider mitigation strategies.</p> <hr/> <p>Managing KPIs Identify measurements to track the progress of decomposition as compared to the Decomposition Plan.</p> <hr/> <p>Monitoring Create status tracking for decomposition plan execution and staying on track to plan.</p>				
<p>Figure 4.2-116. Consideration areas.</p> <ul style="list-style-type: none"> Step 3 – Finalize Decomposition Design <p>At the end of each Sprint, our team compiles documentation to outline the following:</p> <table border="1"> <thead> <tr> <th>Documentation</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>Decomposition Sets</td> <td> <ul style="list-style-type: none"> Identified ACES system/applications that align based on each Product Module High level requirements and estimation of timeline and work required for each decomposition set Impacted ACES areas that require modification to continue to work as expected. </td> </tr> </tbody> </table>			Documentation	Details	Decomposition Sets	<ul style="list-style-type: none"> Identified ACES system/applications that align based on each Product Module High level requirements and estimation of timeline and work required for each decomposition set Impacted ACES areas that require modification to continue to work as expected.
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		<p>Compilation of Miscellaneous Functionality Findings</p> <ul style="list-style-type: none"> Identify potential gaps that current IE&E roadmap is not modernizing that are essential to programs, workers, and clients. 						
		<p>Final ACES Sunset</p> <ul style="list-style-type: none"> Identify any part of ACES that is not be a part of an incremental decomposition and needs to be accounted for and aligned in the final ACES sunseting activities. 						
		<p>Figure 4.2-117. Activity 2 Documentation.</p> <p>Activity 2 documentation serves as key input for Activity 3, finalizing the Decomposition Plan.</p> <p>Activity 3 – Formalize and Approve Decomposition Plan</p> <p>After Activity 2, our team works during the Months 10 to 12 formalize the Decomposition Plan and present to DSHS for approval. Below is the outline of the activities that are planned during that timeframe.</p> <table border="1"> <thead> <tr> <th style="background-color: #d9ead3;">Decomposition Planning Month</th> <th style="background-color: #d9ead3;">Activity Details</th> </tr> </thead> <tbody> <tr> <td>Month 10</td> <td> <ul style="list-style-type: none"> End to end review of activity 2 documentation Identify the clarifications required <ul style="list-style-type: none"> Schedule additional meetings if needed to with DSHS, product vendors Compose and re-submit DED for Decomposition Plan if changes are required due to outcome of findings during Activity 2. </td> </tr> <tr> <td>Month 11</td> <td> <ul style="list-style-type: none"> Risk/Issue Assessment <ul style="list-style-type: none"> Identify potential risks to ACES system for each decomposition set Identify potential mitigation and impacts to IE&E roadmap Recommendations of modifying Product Modernization roadmap <ul style="list-style-type: none"> ACES and products are not a 1 to 1 match; therefore, we assess if there is potential risk to the current order of the Product Modernization roadmap and recommend updates needed for the decomposition. </td> </tr> </tbody> </table>	Decomposition Planning Month	Activity Details	Month 10	<ul style="list-style-type: none"> End to end review of activity 2 documentation Identify the clarifications required <ul style="list-style-type: none"> Schedule additional meetings if needed to with DSHS, product vendors Compose and re-submit DED for Decomposition Plan if changes are required due to outcome of findings during Activity 2. 	Month 11	<ul style="list-style-type: none"> Risk/Issue Assessment <ul style="list-style-type: none"> Identify potential risks to ACES system for each decomposition set Identify potential mitigation and impacts to IE&E roadmap Recommendations of modifying Product Modernization roadmap <ul style="list-style-type: none"> ACES and products are not a 1 to 1 match; therefore, we assess if there is potential risk to the current order of the Product Modernization roadmap and recommend updates needed for the decomposition.
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		<p>Month 12</p> <ul style="list-style-type: none"> • Weekly checkpoint reviews of Decomposition Plan with DSHS. <ul style="list-style-type: none"> – Each checkpoint reviews the progress of the Decomposition Plan and have DSHS provide ad hoc feedback. – Updates to the Decomposition Plan continue from checkpoint to checkpoint. • Presenting and submission of the Decomposition Plan <ul style="list-style-type: none"> – A final meeting prior to the submission of the Decomposition Plan is held with DSHS to walkthrough the plan. – After the walkthrough, additional edits are made based on feedback and then submitted for approval. <hr/> <p>Figure 4.2-118. Activity 3 Activities.</p>
<p>M&O Turn-Over Service Requirements</p>		
<p>6.158</p>	<p>Create a detailed Turn-Over Plan that covers all activities and the efforts of all involved parties. This part of the plan should express this in time and budget requirements, action ownership and program governance.</p>	<p style="color: green; font-weight: bold;">Our Understanding of the Requirement</p> <p>If a turn-over is required, our team will create a detailed Turn-Over Plan that covers the activities and the efforts of involved parties. The plan will provide details of time and budgetary needs, defines ownership, program governance. The plan will be delivered to DSHS within 30 days of Termination or notification of migration.</p> <p style="color: green; font-weight: bold;">How We Satisfy the Requirement</p> <p style="color: green; font-weight: bold;">Our Approach</p> <p>Our overall approach to Turn-Over is to provide a smooth, seamless transition for the State and/or new vendor and to deliver expertise on processes, documentation, and technology to allow the State’s business to continue at normal business levels during and after the Turn-Over. We accomplish these objectives through a three-phase approach, which can be found in the following figure.</p>

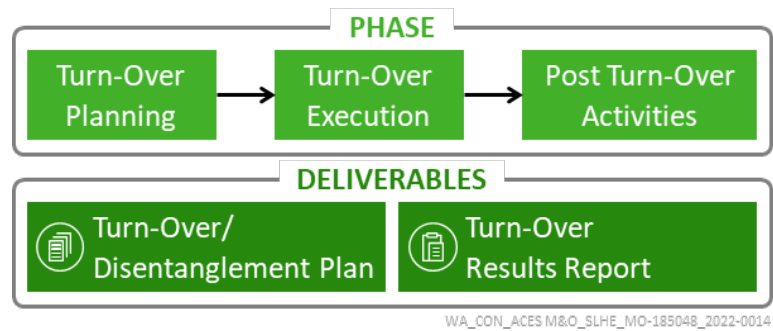


Figure 4.2-119. Phases of Turn-Over/Disentanglement Plan.

Our Turn-Over/Disentanglement Plan will be broken into these three phases. The plan will cover activities, start, and end dates, ownership of each activity, along with program governance details. Listed below are the high-level the objectives and activities of each phase:

Turn-Over Planning

The objective of the Turn-Over Planning phase is to determine the roles and responsibilities of the parties and establish expectations of what must be completed to achieve a successful Turn-Over. We collaborate with the State and/or new vendor to maintain clear communications throughout this phase during activities such as:

- Turn-Over kickoff meeting
- Verify turn-over requirements and expectations with State and new Vendor
- Identify and assign roles for key State, our team, and new Vendor staff on turnover
- Finalize Turn-Over Acceptance Criteria and performance measures
- Establish Turn-Over status reporting requirements
- Develop and deliver finalized M&O Turn-Over Plan
- Complete Inventory of assets
- Assemble knowledge transfer materials and provide to State and/or new Vendor

		<ul style="list-style-type: none"> • Establish skill proficiency testing for KT to gauge the effectiveness of KT • Establish processes to continue no interruption of services <p>Turn-Over Execution</p> <p>The objective of the Turn-Over Execution phase is to conduct activities necessary to completing the Turn-Over to the new vendor. We will focus on providing functional, technical, and operational KT to the State and new vendor staff to deliver a holistic understanding of the requirements of maintaining and operating the ACES system. We maintain open communications through the completion of periodic Turn-Over Assessment reports. List of activities listed below:</p> <ul style="list-style-type: none"> • Provide walkthroughs of functional and technical components to the State and new Vendor • Execute knowledge transfer from our team to the State and new vendor <ul style="list-style-type: none"> - Functional: KT on application design and programs/user interaction of the applications - Technical: KT on technology used for application development, maintenance, and tools used on the project for monitoring - Operational: KT on established processes for online and batch operations • Analyze effectiveness of KT via completion of skill proficiency testing • Create and submit M&O Turn-Over Assessment Report periodically • Conduct briefings on the status of the Turn-Over • Transfer data, documentation, assets, processes, and SLRs to the new Vendor • Complete shadowing (our team performs operational activities, new vendor shadows) and reverse shadowing (new vendor performs operational
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		<p>activities and our team shadows) activities for change requests, defect fixes and help desk tickets</p> <p>Post Turn-Over Activities</p> <p>The objective of Post-Turn Over Activities is to provide the State with an understanding of any gaps during the execution of the Turn-Over through the completion of the Turn-Over Results Report, which will contain how Turn-Over acceptance criteria and requirements have been achieved.</p> <p>Lessons Learned/Best Practices/Examples of Previous Projects</p> <p>Our approach to turn-over is rooted in leveraging proven knowledge transfer methodologies and enhances collaboration with DSHS and its designee. Typically, in the event of a turn-over, the roles are often reversed, and it would our team taking over the responsibilities from an incumbent. We have experience transitioning-in and taking over systems that were built by other vendors and experienced how these vendors executed their respective turnover plans and are able to weed-out approaches that we have often seen as flawed during a turn-over to tailor an approach which we believe would be valuable to a new vendor (in the event that the situation arises).</p> <p>From our experience participating in 'Turn-Overs,' we have learned key lessons that we have implemented in our approach, which will be brought in for ACES turn-over activities. This includes:</p> <ul style="list-style-type: none"> • A comprehensive, agreed-upon work plan is essential to the success of the Turn-Over. • Open, consistent communications. • Timely implementation of tasks and accurate reporting.
6.159	Complete inventory of all assets covered by the Contract and required to provide the services	<p>Our Understanding of the Requirement</p> <p>Our team will complete an inventory of assets covered by the Contract and required to provide the services.</p>

How We Satisfy the Requirement

Typically, when we have taken over responsibilities from another vendor, there is a minimum universe of artifacts that we would expect to be made available to facilitate a successful transition-in. Our experienced team will compile an approach and artifacts inventory that we feel would be beneficial to the receiving organization. At a minimum, this will include assets such as:

- Organizational charts and team member responsibilities
- Customer and other records (including subcontractor agreements that are required to provision the services)
- Configuration information
- Databases
- Documentation
- Asset registers
- Programs
- Knowledge databases and Fault databases
- Asset maintenance history and status
- Manuals, process and procedure documentation
- Any other similar items that our team used or produced during the course of, or for the purpose of, provisioning the services or relating to the configuration control of the services
- Source code
- Development tools and procedures
- Architecture and design documents to include logical system models, diagrams, and blueprints

Examples of Previous Projects

For DSHS, we will leverage refined templates created with experience gained from our transitioning-in and taking over systems from other vendors in other states and update them as required to meet Washington's

needs. The screenshot below is an example of a template from a past project, which can be used and tailored to meet Washington’s specific ask:

Environments									
Environment	OS	Applications Installed	CPU	RAM	Total Dsk Size	Description	Comments		
ACES Servers									
Server Name	Environment	Server Type	Application Installed	Dev/SYS Env	Physical CPU	vCPU	DNS VIP	VIP	IP
Database Servers									
Database SIDs			Instance Name			Server Type			
Hardware									
Type	Category	Function	Vendor	Name	Model	Environment	License Count		
Software									
Software Type	Category	Function	Vendor	Name	Version	Environment	License Count		
Support and Contact Info									
Role	Name		Contact Information		Shift Details				

WA_CON_ACES M&O_SLHE_MO-185048_2022-0093

Figure 4.2-120. Example of Inventory of Assets List.

6.160 Ensure that the M&O Turn-Over Plan includes handing over the key assets in an agreed-to format. These assets include, but are not limited to:

- Customer and other records (including

Our Understanding of the Requirement

The M&O Turn-Over Plan will include handing over the key assets in an agreed-to-format. As outlined in prior sections, our turn-over plan will contain detailed information pertaining to key assets including details required for planning, execution, and verification of the inventory.

<p>subcontractor agreements that are required to provision the services)</p> <ul style="list-style-type: none"> ☐ Configuration information ☐ Databases ☐ Documentation ☐ Asset registers ☐ Programs ☐ Knowledge databases ☐ Fault databases ☐ Asset maintenance history and status ☐ Manuals ☐ Process and procedure documentation ☐ Any other similar items that the Bidder used or produced during the course of, or for the purpose of, provisioning the services or relating to the configuration control of the services ☐ Source code ☐ Development tools and procedures ☐ Architecture and design documents to include logical system models, diagrams and blueprints 	<p>How We Satisfy the Requirement</p> <p>Our M&O Turn-Over Plan follows 3-phase approach, which provides for the handing over of key assets in an agreed-to format and will contain details regarding the following:</p> <ul style="list-style-type: none"> • Organizational charts and team member responsibilities • Customer and other records (including subcontractor agreements that are required to provision the services) • Configuration information • Databases • Documentation • Asset registers • Programs • Knowledge databases • Fault databases • Asset maintenance history and status • Manuals • Process and procedure documentation • Any other similar items that our team used or produced during the course of, or for the purpose of, provisioning the services or relating to the configuration control of the services • Source code • Development tools and procedures • Architecture and design documents to include logical system models, diagrams, and blueprints <p>The complete inventory of assets will be completed during the Turn-Over Planning Phase. The handover of the assets will be completed throughout the Turn-Over Execution phase. Finally, we will verify during the Post Turn-Over Activities phase with Turn-Over Results report</p>
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		that the assets in the documented inventory have been successfully handed over to the State and new vendor.
6.161	Hold briefings on the status and comprehensive nature of all items handed over	<p>Our Understanding of the Requirement</p> <p>Our team will facilitate briefings to discuss Turn-Over status and provide details comprehensive in nature of items handed over.</p> <p>How We Satisfy the Requirement</p> <p>We strive to maintain open and clear communications with the State throughout the Turn-Over phase, including regarding the handover of assets. We value the importance of communication; and recognize the importance it plays during this critical phase. It is something we would expect the incumbent vendor to provide to us when we take over the project at the onset – and would be a courtesy we would also extend to the new vendor, at the time turn-over is being conducted. The comprehensive nature of each item will first be documented with inventory assessment completion during the Turn-Over Planning Phase and will then be updated during the Post-Turn-Over Activities to complete the Turn-Over phase activities. Listed below are the briefings that will be held during the Turn-Over, and each will contain the status of items handed over.</p> <ul style="list-style-type: none"> • Turn-Over Kickoff Meeting <ul style="list-style-type: none"> - Used to identify key stakeholders, review timeline, key activities, and milestones - Will include initial discussion of list of assets and items need to be included in the Inventory for Turn-Over activities • Periodic Turn-Over Status Briefings <ul style="list-style-type: none"> - Used to provide ongoing status updates to the State on Our adherence to the timeline, milestones, and handover of assets - Although the detailed status of items will be covered in the Status Report document, our team can also provide ad hoc comprehensive

		<p>walkthrough of key ongoing activities based on your needs</p> <ul style="list-style-type: none"> - We will also raise any risks or issues identified during the Turn-Over during the Status Briefings and seek next steps, ownership, and resolution for the issue in these meetings. <ul style="list-style-type: none"> • Turn-Over Close-out meeting <p>Used to receive final approval from the State to close out the contract, including documentation that documented assets in the inventory have been handed over</p>
6.162	Complete knowledge transfer of the services to DSHS or alternate service provider(s)	<p>Our Understanding of the Requirement</p> <p>Our approach to knowledge transfer (KT) of the services to DSHS or new vendor is to provide documentation on functional, technical, and operational processes in order to successfully maintain and operate the ACES system. We will work collaboratively with DSHS or the alternate service provider(s) to complete KT of the services.</p> <p>How We Satisfy the Requirement</p> <p>Approach to Knowledge Transfer</p> <p>During the Turn-Over Planning Phase, we will establish clear expectations and requirements that our staff would follow and will respond to requests timely. We will collaboratively set expectations by providing as-is at-the-time baseline assessments to DSHS or alternate vendor team members, which will in-turn help our team understand what areas of KT requires more focus. This will help guide us and the State to make best use of time and resources during the Turn-Over.</p> <p>During the Turn-Over execution, our team will deliver documentation to the State and new vendor on ACES functional, technical, and operational processes. Some of the examples of this documentation includes</p> <ul style="list-style-type: none"> • Existing Change Management Processes • Batch Job Schedules • Data Dictionaries

		<ul style="list-style-type: none"> • Database Names • Application User Guides • Access and Security Procedures for applications. <p>Additionally, our team will attend KT sessions, shadowing sessions, and reverse shadowing sessions. Shadowing sessions involve the State and new vendor staff watching the daily processes of our staff. This enables the new staff to understand certain nuances of managing a complex system such as ACES and provides for a more comprehensive understanding of what is required to maintain the system. After the completion of shadowing activities, our team will conduct reverse shadowing, where State and new vendor staff will begin executing daily tasks necessary for maintaining the system. Our staff will continue to monitor the system to enable no interruption of services, and we will provide feedback to the State and new vendor staff on how they can improve their managing of the system.</p> <p>Finally, as a part of our Turn-Over Results Report, we will provide an overall assessment of the KT activities. This will provide the State with an understanding of what ongoing KT activities may be required, and areas of focus for continuing with the new vendor.</p>
6.163	<p>Define the means by which no interruption of the provision of the services, or reduction in service levels, will occur during the handover period, and during transfer to DSHS or the new service provider</p>	<p>Our Understanding of the Requirement</p> <p>Our team is committed to maintaining and providing services without minimal interruptions or reduction in service levels for the State during the handover/transfer period to DSHS/ new service provider by providing and executing comprehensive Turn-Over plan, which defines processes to avoid interruptions in service.</p> <p>How We Satisfy the Requirement</p> <p>Approach to No interruption/reduction of Services</p> <p>Below are the details of the turn-over methodology that we will use to enable uninterrupted service to DSHS.</p> <ul style="list-style-type: none"> • Turn-Over Plan: In our Turn-Over Work Plan, we will set dates of when our team will officially handover

		<p>responsibility of managing processes and procedures, such as batch job monitoring, database monitoring, and application monitoring.</p> <ul style="list-style-type: none"> • Establish Baseline Standards: Define the baseline standards that will need to be continued and met throughout the Turn-Over. • Responsibilities of Operations: During the Turn-Over Planning phase, our team will define the responsibilities of operations during the Turn-Over Execution phase. • Job Shadowing: Job Shadowing will allow the new vendor to conduct job shadowing to understand operational processes and begin the process of reverse shadowing which is a critical process for a successful Turn-Over. • Reverse Job Shadowing: Throughout the remainder of the Turn-Over, the team will continue to conduct reverse shadowing to fill any remaining gaps in knowledge and to enable no interruption of the provision of the services.
6.164	<p>Arrange for the provisioning of a physical data room into which information shall be placed, for the organization and the new service provider to inspect and make copies for removal</p>	<p>Our Understanding of the Requirement</p> <p>We will arrange for the provisioning of a physical data room which will have access to project documentation, artifacts, and information for the organization and the new vendor to inspect and make copies for removal.</p> <p>How We Satisfy the Requirement</p> <p>In addition to the provisioning of a physical data location, we will utilize the State’s SharePoint location to share documents electronically. As documents will have been saved throughout the course of the project, our team will leverage the existing document storage to provide the State and new vendor with the required documentation.</p>
6.165	<p>Manage the implementation of the Turn-Over Plan and the Disentanglement Plan</p>	<p>Our Understanding of the Requirement</p> <p>Our team will manage the implementation of the Turn-Over/Disentanglement Plan in collaboration with DSHS</p>

		<p>and/or the new service provider within the timeline that has been established for the turnover to be completed by.</p> <p>How We Satisfy the Requirement</p> <p>Approach to Turn-Over/Disentanglement Plan Implementation</p> <p>The successful implementation of the Turn-Over Plan relies on proper planning, agreement of relevant parties, and ongoing communications with the State and new vendor during implementation.</p> <p>The Turn-Over Plan and Disentanglement Plan will assign individuals the responsibility of key activities throughout the Turn-Over, creating ownership and traceability for turn-over activities. The Turn-Over Plan will be reviewed with key DSHS, our team, and new vendor stakeholders to gain acceptance and approval of the required staffing, roles, and responsibilities of each party. The individuals assigned to each role and task will be owners throughout the Turn-Over Execution phase.</p> <p>Throughout the Turn-Over Execution phase, it is critical that parties have a consistent, regular avenue to provide status updates and raise concerns. Our team will complete periodic status reporting to DSHS on the status of the Turn-Over Plan implementation.</p> <p>These status reports will include the progress of activities documented in the Turn-Over Plan, as well as how they track against the timeline of the Turn-Over. Additionally, we will also hold periodic status briefings with the State on the status of the Turn-Over Plan implementation. These meetings will primarily serve as an avenue for any party to raise concerns or roadblocks, and for the State to provide a decision on how to proceed on resolving any issues in the Turn-Over execution.</p>
6.166	<p>Manage regularly scheduled and ad hoc meetings, as well as other communications, to address issues that may affect how involved parties perform their responsibilities in</p>	<p>Our Understanding of the Requirement</p> <p>Our team is committed to facilitating regularly scheduled and ad hoc meetings throughout the Turn-Over phase, as well as provide other means of communications, to</p>

	<p>relation to the Turn-Over Plan and/or the Disentanglement Plan</p>	<p>document, escalate, and address issues that may affect how involved parties perform their responsibilities in relation to the Turn-Over Plan and/or the Disentanglement Plan.</p> <p>How We Satisfy the Requirement</p> <p>Meetings and Reporting</p> <p>Below is a list and short description of meetings and reports that will be facilitated throughout the Turn-Over Phase:</p> <ul style="list-style-type: none"> • Turn-Over Kickoff Meeting: The Turn-Over Kickoff Meeting is designed to create the initial set of expectations at the beginning of the Turn-Over Planning phase. It will include key stakeholders from the State, our team, and the new vendor. • Knowledge Transfer Assessment Meeting: The Knowledge Transfer Assessment Meetings will be conducted during the turn-over phase. These meetings are designed to identify and resolve any gaps or roadblocks in the completion of knowledge transfer. The final meeting will be used to verify that knowledge transfer has been completed, including the handover of required documentation. • Periodic Turn-Over Status Briefings and Reporting: The periodic Turn-Over Status meetings are designed to provide overall status and alignment with timelines. It also provides a channel for dialogue between key State, our team, and new vendor stakeholders. These meetings will provide an overview of the Turn-Over Execution as well as provide a status of any issues raised by leadership or staff. We will seek to use these meetings to follow-up and provide resolution to any risk items. • Turn-Over Close-out meeting: The Turn-Over Close-Out Meeting will be used to verify that Turn-Over activities have been successfully completed as per the Turn-Over requirements, Turn-Over Work Plan, and Disentanglement Plan.
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<p>6.167</p>	<p>Assist DSHS in developing the final handover and acceptance criteria</p>	<p>Our Understanding of the Requirement</p> <p>Our team will assist DSHS in developing the final handover and acceptance criteria. We will work with the State to develop the handover and acceptance criteria that will be used to measure the success of the Turn-Over phase.</p> <p>How We Satisfy the Requirement</p> <p>Final Acceptance Criteria Development</p> <p>Our team with experience in other States knows that defining and meeting acceptance criteria for and by parties is important when it comes to any type of deliverable. This is also true for when it comes to Turn-Over activities is key to success for a ‘Turn-Over’ plan.</p> <p>We will work with the State to define a Deliverable Expectations Document (DED) for the Turn-Over plan which outlines the acceptance criteria, series of activities, owners, timelines and how to measure completion of each activity.</p> <p>The Turn-Over will be considered fully completed when each of the final acceptance criteria is deemed to have been met by DSHS.</p> <p>Examples of Previous Projects</p> <p>The below screenshot is a sample set of acceptance report that have been used in past projects, which will be updated to meet Washington’s needs:</p>
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		Turn-over Readiness Activity	Completed (Y/N)	Approved (Y/N)	Approved by
		Project Management			
		Governance			
		Publish Knowledge Transfer Session Schedules			
		Conduct Knowledge Transfer Sessions			
		Distribute Session Meeting Minutes			
		Deliver Transition Plan			
		Deliver Weekly Transition Status Report			
		Knowledge Transfer Areas			
		Interagency Coordination			
		Application Functional and Technical Overview			
		Testing and Training			
		Configuration Management and Infrastructure			
		Security			
		Interfaces			
		Job Shadowing			
		Project/Enhancement Services			
		System and Network Access			
		LAN Access			
		Laptop/Workstation Access			
		Email Access			
		Remote Desktop Access			
		OFI Application Access			
		Database, Servers, and Tools Access			
		Development Tools Access			
		OFI Security Badge			
		Facility Buildout			
		Workstation Space			
		Office Rooms			
		Conference Rooms			
		Parking Spaces			
		Building Security and Badge			
<small>WA_CON_ACES M&O_SLHE_MO-185048_2022-0092</small>					
Figure 4.2-121. Example of Acceptance Report.					
6.168	Introduce the new service provider to all relevant information and training to allow the service provider to	<p>Our Understanding of the Requirement</p> <p>Our team will introduce the new service provider to relevant information and training to allow the service</p>			

	<p>leverage the DSHS ACES Platform, tools and services and operate within the multi-vendor environment, as required</p>	<p>provider to leverage the DSHS ACES Platform, tools and services and operate within the multi-vendor environment, as required.</p> <p>How We Satisfy the Requirement</p> <p>Our team’s goal is to complete a successful Turn-Over and see the State’s systems continue to succeed.</p> <p>During the Turn-Over planning phase, our team will create a list of functional, technical and operations items that would need to be shared with the new vendor. We will accomplish introducing the new service provider to relevant information and training through Knowledge Transfer session, document sharing the State’s SharePoint, and the completed inventory assessment.</p> <p>Through the completion of Turn-Over activities and meeting each of the mutually agreed upon final acceptance criteria, we will successfully complete the Turn-Over to the new vendor which will allow the new vendor to leverage the DSHS ACS Platform, tools and services and operate within the multi-vendor environment.</p>
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Preventative Maintenance

<p>6.169</p>	<p>Examples of preventative maintenance include:</p> <ul style="list-style-type: none"> • Addressing documented problems that would save enough analyst support time or have material impact on the business to justify making code changes • Reducing time spent looking for the root cause of problems - regardless of whether any action is taken. • Code refactoring such as extracting one or 	<p>Our Understanding of the Requirement</p> <p>We emphasize preventive maintenance where we focus on improving performance and maintainability by proactively addressing latent defects and to find and eliminate errors before they can impact the business and performance of an application, rather than a reactive corrective approach. When opportunities to improve efficiency and prevent errors and reduce downtimes are identified, they are tracked, analyzed, prioritized and resolved using the DSHS defined process.</p> <p>How We Satisfy the Requirement</p> <p>While break-fix and resolution of user reported incidents are key responsibilities of the Operations Team, we will not wait for defects to happen or system modifications to be handed to us. We emphasize preventive maintenance</p>
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	<p>more smaller sub-routines from a larger routine or removing duplicate routines and replacing with one shared function.</p> <ul style="list-style-type: none"> • Removing obsolete code or application modules that are no longer in use. • Improving internal support-related processes. • Making JCL changes to include table backups/reorganizations. 	<p>where we focus on improving performance and maintainability and proactively addressing latent defects and to find and eliminate errors before they can impact the business and performance of an application, rather than a reactive corrective approach. For example, setting the threshold for DB table space, act to either allocate additional table space or archive data if the table size is approaching its threshold.</p> <p>Throughout the maintenance and operations activities, we continually identify, and where appropriate, implement M&O improvement opportunities including:</p> <ul style="list-style-type: none"> • Improving or automating support processes • Continually monitor data quality and identify opportunities for improvement • Report on data quality issues, support improvement plans • Support DSHS in master data management process and provide reports (e.g., list of duplicate clients) • Removing "dead code" • Identifying opportunities to retire legacy systems • Improving the quality of developed code and code refactoring by reviewing the application code, removing any duplicate routines and replacing with a shared functions there forth improving the application performance. • Proactive elimination of recurring problems • Improve performance management • Improve capacity management • Support data acquisition for bi-annual benchmarking • Provide usage information from cost allocations/chargeback perspective • Maintain/enhance procedures for performing ACES Application specific administration that meet requirements and adhere to defined policies • Maintain/Document the root causes of Issues along with its resolution saving analyst support time
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Approach to Preventative Maintenance

The below figure depicts the approach for preventative maintenance:



Documentation Updates

- Leverage SharePoint to store and share system documents such as Capacity Plan and ALM Dashboard, in a central repository and enable transparency
- Update relevant system documentation and collaborate with DHS to receive stakeholder signoff

Product or Code Optimization

- Enable code reusability so that it can be used across different applications
- Continually monitor system performance for page load times, expensive database SQL queries, webservice calls or database space consumption
- Find the root cause for such observations to allow programs to run faster by optimizing queries, adding indexes, removing redundant, obsolete, or unused code, and by maintaining enough DB storage

Code Restructuring

- Reduce complexity in the source code and establish thorough code reviews processes to validate that the developed code follows HHSDC defined coding standards and guidelines
- Review Board meetings, automated code quality reports, architecture review of the application in collaboration with DSHS to enable better usability & efficiency of the system
- Bring innovative ideas and industry leading practices for code restructuring from our national HHS experience

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Figure 4.2-122. Approach to Preventative Maintenance.

Approach	Description
Documentation Updates.	<ul style="list-style-type: none"> • Document created with details of issues identified in Production environment and short-term and long-term fix used to resolve the issue. • Documents contains link to JIRA items which have the actual code fixes

		<p>highlighted</p> <ul style="list-style-type: none"> • Documentation is updated frequently to reflect system changes is a key step in our approach to Maintenance services for DSHS. • Documents can be used by BA/Developers/ Testing team to identify fixes and workarounds. • We will use SharePoint to store and share system documents such as Capacity Plan and ALM Dashboard, in a central repository and enable transparency. <hr/> <p>Code Optimization</p> <ul style="list-style-type: none"> • Tools such as SonarQube, UC detector, and MicroFocus Fortify can be used to scan the entire code base and generate a • report to identify what code is deprecated, commented, duplicated, or not in use. SonarQube and Fortify provide • auto code quality checks for continuous inspection of code quality to perform automatic reviews with static analysis • of code to detect bugs, code smells and security vulnerabilities. Once deprecated and unused code is identified an agreed upon project plan is needed to incrementally achieve no dead code or unused code target for ACES. • We will continually monitor system performance for page load times, expensive database queries, webservice calls, platform performance, or database space consumption. • We identify the root cause for such observations to adjust programs to run faster by optimizing queries, adding indexes, removing redundant, obsolete, or unused code, and by maintaining enough DB storage. <hr/> <p>Code Restructuring</p> <ul style="list-style-type: none"> • We strive to reduce complexity in the source code and have established thorough code reviews processes to validate that the developed code follows DSHS defined coding standards and guidelines and rigorous testing in our delivery approach to validate the efficiency of the changes being made to the system. <hr/> <p>Figure 4.2-123. Need Figure Title.</p>
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PROPRIETARY

- Application packages patches and fixes
- Revisions, and upgrades to platform software and utilities
- Special events, such as state and federal holidays, marketing initiatives, fiscal year end

closely with the State to prevent the occurrence of known issues for future when possible. These efforts are conducted in parallel with the continuous improvement and refinement efforts conducted on the existing data corrections process. We understand the current standards in DSHS as well as goals to increase automation, reduce manual monitoring efforts, and demonstrate adherence to proven technology best practices. We continue to collaborate with you to manage the overall software product upgrade strategy to maintain current and vendor supported software products. Our Software Management practices allow ACES to be easily upgraded because we use standards-based, service-enabled components from leading software product vendors that are well documented and regularly updated. As a standard process for every product upgrade, we verify product compatibility in the solution. We work with DSHS to apply OS patches without causing any adverse impact to SPACES. Our Patch Management Plan consists of six phases, outlined in the following figure.

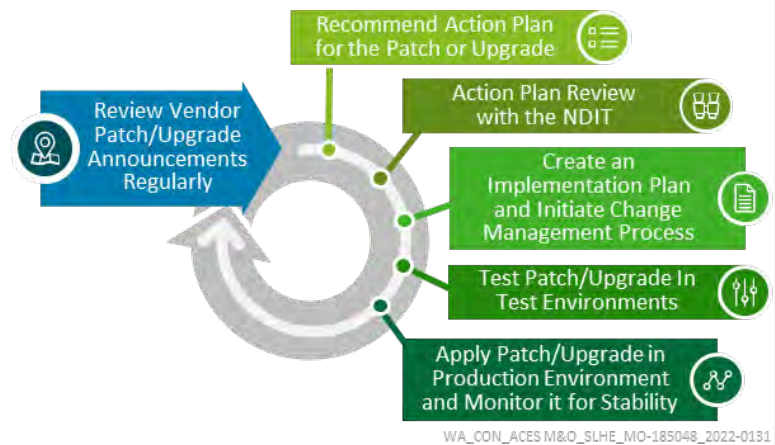


Figure 4.2-124. Patch Management Process.

Step	Task	Description
1	Identify potential upgrade/patch needs	We create a consolidated inventory for the servers across application environments. Each server has an indication of its criticality. Administrators review patch notifications for vendor products and evaluate the risk and impact of the patch/upgrade. Significant

		<p>improvements can be achieved utilizing the OperateEdge platform to automate the inventory discovery and management processes, reduce defects and incidents, and lower resolution times.</p>
2	Analyze risks & benefits	Based on the risk and impact assessment, administrator create a recommendation action plan for the patch/upgrade.
3	Plan & prioritize via change mgmt.	We author and review the action plan with the DSHS.
4	Create Implementation & Rollback plan	We create a detailed implementation and rollback plan, develop automation scripts to carry out patch/upgrade, and initiate the change management process.
5	Test patch/upgrade in non-PROD environments	We test the updates thoroughly before putting them into effect as part of our approach to software updates and upgrades. Prior to implementing an update or upgrade for the Solution, we wait for vendor fixes to mature and request documentation from the relevant vendors demonstrating that each update or upgrade has been successfully tested in a production environment.
6	Production upgrade & monitor	Once the patch/upgrade has passed internal testing and configuration review/approval, we release it in the production environment during the maintenance window and monitor it for stability.
<p>Figure 4.2-125. Steps in Patch Management.</p> <p>The figure below summarizes our approach to integrate preventive, corrective and adaptive activities across business, functional and technical M&O services</p> <p>We will work with DSHS to review and include the following representative list of preventive control measures or mechanisms aimed at preventing an event from occurring:</p>		

		<p>Program Governance</p> <ul style="list-style-type: none"> • Alignment with ITS polices along with accounting for state and federal holidays, marketing initiatives, fiscal year end • Defined IES organization to manage the prevention capability • Documented roles and responsibilities for IES stakeholders • Auto scaling mechanism so that infrastructure instances can scale up or down depending on the business volumes <p>Environment Assessment and Risk Analysis</p> <ul style="list-style-type: none"> • Review of potential risks and recovery requirements • Identifying system vulnerabilities for application and network architecture to confirm that there is no Single Point of Failure (SPOF) • Identifying required mitigation controls • Revisions, and upgrades to platform software and utilities • Apply patches in lower environments to test them prior to releasing in production environments (Also, coordinate outage for patching with DSHS and other vendors to minimize the impact) <p>Redundancy in infrastructure</p> <ul style="list-style-type: none"> • Redundant ITS network infrastructure and suspect cabling • Maintaining backup copies of ACES Solution data needed to run operations, including operations data, configuration and registry files, machine images, etc. in ITS managed physical and virtual locations • State owned network and communication redundancy (on-prem, cloud-based, or hybrid) • Hardened cybersecurity measures and controls
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Capability Maintenance

- Routine security audits

Additional Controls

- Locked ITS physical locations hosting the ACES Solution with access restricted to authorized personnel
- Maintaining proper licensure with software and business applications
- Server and desktop vitalization

The figure below provides an example of preventative maintenance tasks and related activities:

Tasks	Activities	Artifacts
System health monitoring	<ul style="list-style-type: none"> • Proactively monitor system performance and capacity. • Use industry leading network and system monitoring tools. • Create dashboards using OpInsights to provide view of the performance and availability system components and network • Monitor the User Computer Interaction (UCI) response times for applications. • Track and report on the UCI response times against the agreed upon SLRs and initiate preventive or corrective actions as needed in case of issues identified during monitoring 	<ul style="list-style-type: none"> • Monitoring tool dashboards depicting availability of system and application components • Sample: Network, Infrastructure and Applications Monitoring Report includes UCI response times for application
Application and Database maintenance	<ul style="list-style-type: none"> • Define the archive and purge guidelines for database and file management. • Monitor disk space growth to identify the need to archive data or expand storage 	<ul style="list-style-type: none"> • These maintenance activities will be reported in status reports.

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<ul style="list-style-type: none"> • Application of system patches □ Archiving or purging as appropriate to free up storage for expected data volume increase □ Pre-production execution simulation □ Testing for special events 	<p>suite in your lower environments after the work request is approved by DSHS.</p> <p>How We Satisfy the Requirement</p> <p>Our team defines a patch as a change provided by the product vendor to fix problems within a minor version of their software product (e.g., Linux, Windows, WAS). Patch Management covers OS Patches and software patches for ACES Software components managed by our team. Our six-step process for System Patch and Upgrades Management during any special event is described in the following figure.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #d9ead3;"> <th style="text-align: left;">Step</th> <th style="text-align: left;">Task</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Identify potential upgrade/patch needs</td> <td>Our team creates a consolidated inventory for the servers across application environments. Each server has an indication of its criticality. Administrators review patch notifications for vendor products and evaluate the risk and impact of the patch/upgrade. Significant improvements can be achieved utilizing the OperateEdge platform to automate the inventory discovery and management processes, reduce defects and incidents, and lower resolution times.</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Analyze risks & benefits</td> <td>Based on the risk and impact assessment, administrator create a recommendation action plan for the patch/upgrade.</td> </tr> <tr> <td style="text-align: center;">3</td> <td>Plan & prioritize via change management</td> <td>We author and review the action plan with the DSHS.</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Create Implementation & Rollback plan to carry out patch/upgrade, and initiate the change management process.</td> <td>We create a detailed implementation and rollback plan, develop automation scripts & Rollback plan to carry out patch/upgrade, and initiate the change management process.</td> </tr> <tr> <td style="text-align: center;">5</td> <td>Test patch/upgrade in non-PROD environments</td> <td>We test the updates thoroughly before putting them into effect as part of our approach to software updates and upgrades. Prior to implementing an update or upgrade for the Solution, we wait for vendor fixes to mature and request documentation from the relevant vendors demonstrating that each update or upgrade has been successfully tested in a production environment.</td> </tr> </tbody> </table>	Step	Task	Description	1	Identify potential upgrade/patch needs	Our team creates a consolidated inventory for the servers across application environments. Each server has an indication of its criticality. Administrators review patch notifications for vendor products and evaluate the risk and impact of the patch/upgrade. Significant improvements can be achieved utilizing the OperateEdge platform to automate the inventory discovery and management processes, reduce defects and incidents, and lower resolution times.	2	Analyze risks & benefits	Based on the risk and impact assessment, administrator create a recommendation action plan for the patch/upgrade.	3	Plan & prioritize via change management	We author and review the action plan with the DSHS.	4	Create Implementation & Rollback plan to carry out patch/upgrade, and initiate the change management process.	We create a detailed implementation and rollback plan, develop automation scripts & Rollback plan to carry out patch/upgrade, and initiate the change management process.	5	Test patch/upgrade in non-PROD environments	We test the updates thoroughly before putting them into effect as part of our approach to software updates and upgrades. Prior to implementing an update or upgrade for the Solution, we wait for vendor fixes to mature and request documentation from the relevant vendors demonstrating that each update or upgrade has been successfully tested in a production environment.
Step	Task	Description																	
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2	Analyze risks & benefits	Based on the risk and impact assessment, administrator create a recommendation action plan for the patch/upgrade.																	
3	Plan & prioritize via change management	We author and review the action plan with the DSHS.																	
4	Create Implementation & Rollback plan to carry out patch/upgrade, and initiate the change management process.	We create a detailed implementation and rollback plan, develop automation scripts & Rollback plan to carry out patch/upgrade, and initiate the change management process.																	
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- 6 Production upgrade & monitor
Once the patch/upgrade has passed internal testing and configuration review/approval, we release it in the production environment during the maintenance window and monitor it for stability.

Figure 4.2-127. System Upgrades and Patch Management Activities.

Our approach defining the archiving and purge guidelines for file management. It also includes managing batch data files securely and scheduling archiving and purge activities.

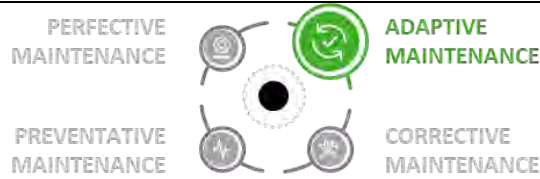
These steps map to Availability Management process of ITIL framework to deliver consistent application file management services. This process defines standards responsible for confirming that each of the IT infrastructure, processes, tools, roles are appropriate as per governance setup by InfoSec for managing application files. It includes managing batch data files securely and scheduling archiving and purge activities.

Below is the list of activities that fall under Application File management

Activities	Our Approach to Continued Success
Managing batch data files	Managing data files from external trading partner securely during batch execution is always a top priority. The intensive archiving process for batch files is automated and executed as soon as file processing is complete by ACES system.
Scheduling archiving and purge activities	Our batch team forecast the scheduling of automated jobs to purge archived batch file such that each of the application files is purged after their retention period is expired.
Governing new software release follows application file management guidelines	During the development phase, our custom-built batch framework prompts the developer to build an archiving and purging process. These guidelines are further enforced by automated testing and peer code review so that for any new files, we follow protocols defined by the application file management process.

Figure 4.2-128. Activities for Application File Management.

Adaptive Maintenance	
<p>6.172 DSHS and the Bidder further agree that there are standardized work requests with known effort and lead time that can be requested by DSHS as part of Adaptive Maintenance activities. The Bidder will respond to such Pre-Approved work requests by DSHS within the agreed lead time as set out for each Pre-Approved work request.</p> <p>Examples Include:</p> <ul style="list-style-type: none"> • Installation, configuration and testing of dot releases and patches of Bidder package/COTS software (including security patches) • Required upgrades to a new version of the application's DBMS, language(s), utilities and/or operating system • Testing the application following changes to the hardware environment such as server upgrades, virtualization, etc. • Changes to support application security • Required modifications due to new Framework versions 	<p>Our Understanding of the Requirement</p> <p>We agree that there will be standardized work requests with known effort and lead time that can be requested by DSHS as part of Adaptive Maintenance activities. DSHS requires a vendor who implements and follows proper governance models to respond to such work requests within the agreed lead time and produces the quality to be expected by DSHS.</p> <p>Our team understands that Adaptive Maintenance process focuses on improving performance and maintainability and proactively addressing latent defects and to find and eliminate errors before they can impact the business and performance of an application</p> <p>How We Satisfy the Requirement</p> <p>We share your goal for continuous improvement and understand that minimal system disruption leads to better service to the citizens of the WA. To deliver an integrated experience to the citizens of the Washington, it is imperative that the critical DSHS applications interact closely, and exchange information seamlessly without any disruptions from the supporting infrastructure. We realize that changes in one system could potentially lead to downstream impact in another given the nature of their interactions and to deliver uninterrupted benefits, effectively adapting to these changes are necessary.</p> <p>Our approach to the above categories of Adaptive Maintenance is classified as process into Software Upgrade/Patch Management, Configuration Management, Release Management and Performance Management, outlined in the following figure.</p>

<ul style="list-style-type: none"> • Changing JCL due to changes in versions of software support tools • .Net, Java upgrades • Ensuring software is maintained within an N-1 revision level unless agreed upon by DSHS • Implement and integrate major software upgrades according to the application list contained in Section 5.4 - ACES System Software • Logging and monitoring of system performance, system events, issues and errors, and storage of system logs for log review, analysis and correlation <p>This does not include implementation of a Contractor package/COTS software which include a substantial amount of new or changed business functionality and require significant effort to implement.</p>	 <p>Software Upgrade/ Patch Management</p> <ul style="list-style-type: none"> • Evaluate software upgrades or patch deployments that may impact the system • Plan the change ahead of time, discuss changes with Change Control Board and develop deployment schedule <p>Configuration Management</p> <ul style="list-style-type: none"> • Maintain effective configuration control for all applications, databases, and third-party software being used • Store the most recent configuration control document at a central location accessible to both DSHS and Deloitte • Plan for any updates required to remain compliant with SLAs <p>Release Management</p> <ul style="list-style-type: none"> • Work with DHS to prioritize work for established release windows or determine if additional release windows are needed • Establish release timelines and follow established communications process to inform systems stakeholders of upcoming release deployment for system downtimes • Update system documentation to keep it current with the changes being deployed <p>Performance Management</p> <ul style="list-style-type: none"> • Closely monitor system performance post deployment of adaptive software changes to validate that the system operates within set standards and is available to users • Regularly monitor production, UAT, stress environments for their availability, performance and batch returns <p><small>WA_CON_ACES M&O_SLHE_MO-185048_2022-0054</small></p> <p>Figure 4.2-129 . Adaptive Maintenance process areas.</p> <p>In addition to Preventative or Perfective Maintenance principles, we leverage Adaptive Maintenance procedures for adapting the application to changes in the operating environment. The changes are categorized as highlighted in the figure below:</p> <table border="1"> <thead> <tr> <th>Technology Area</th> <th>Our Adaptive Management Processes</th> </tr> </thead> <tbody> <tr> <td>Infrastructure</td> <td> <ul style="list-style-type: none"> • Infrastructure includes the servers, Hardware, LAN, Storage, VLAN, Virtual Servers • Infrastructure changes are generally planned well in advance as it has impact on the components of the system. The changes are </td> </tr> </tbody> </table>	Technology Area	Our Adaptive Management Processes	Infrastructure	<ul style="list-style-type: none"> • Infrastructure includes the servers, Hardware, LAN, Storage, VLAN, Virtual Servers • Infrastructure changes are generally planned well in advance as it has impact on the components of the system. The changes are
Technology Area	Our Adaptive Management Processes				
Infrastructure	<ul style="list-style-type: none"> • Infrastructure includes the servers, Hardware, LAN, Storage, VLAN, Virtual Servers • Infrastructure changes are generally planned well in advance as it has impact on the components of the system. The changes are 				

		<p>planned half yearly or on agreed upon schedule</p> <ul style="list-style-type: none"> • New Infrastructure upgrades like Hardware upgrade, DB RAC, Network, LAN, Switches, Firewall are scheduled and planned well in advance with DSHS and infrastructure providers <hr/> <p>Operating system</p> <ul style="list-style-type: none"> • Operating system (OS) patches for Servers, DB, Firewall • OS, Kernel, Windows updates are planned every month • These patches are applied in non-production and tested for at least 2 weeks before moving to production <hr/> <p>COTS Products</p> <ul style="list-style-type: none"> • Commercial Off the Shelf (COTS) products are generally kept on N-1 schedule • Patches are applied based on the frequency of patches or agreed upon timelines • COTS upgrade list is also created to highlight the end of life support any existing software that needs immediate attention. • Upgrades go through impact analysis to identify the impact and hours required for testing • Prioritization is done as part of change management schedule • Automated and Functional testing is carried out before moving the patch to higher environment • Follows SDLC life cycle for code promotion. • Performance testing is completed in lower environments for impact on performance. • Automated Regression suites are executed to find impact on existing functionality • The system is monitored for any impact on performance, security in Production environment. <hr/> <p>Framework</p> <ul style="list-style-type: none"> • Framework upgrade like Java and .NET • Framework changes are subjected to Proof of Concept (POC) before committing the changes in lower environment • Additional testing is done in the POC environment before moving the changes to any lower environment • Automation scripts is executed to understand functional impact • Performance testing is carried out to understand performance Impact • Security testing is added to identify any security vulnerabilities • The system is monitored for any impact on performance, security in Production environment.
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		<p>External Libraries</p> <ul style="list-style-type: none"> • Any external libraries in the code are identified • Libraires are always kept at N-1 version for stability • Release notes are checked to identify the impact on the existing system • Impact analysis is done to identify the impact on different modules and testing required • Follows SDLC lifecycle for promotion to Production environment <hr/> <p>Security</p> <ul style="list-style-type: none"> • Any Security findings follow this schedule • Security changes are first subjected to criticality and impact • Any security finding impacting Production and impact is high is taken on priority • Others follow general SDLC life cycle • Changes are tested in lower environment before moving to higher environments • Automatic regression suite is executed to identify any impacts on functionality • <hr/> <p>Figure 4.2-130. Patching and Standardized Work Requests.</p> <p>Ongoing License and Upgrade Tracking and Planning</p> <p>To assist with adaptive maintenance, we propose use of our OperateEdge tool as License and Certificates Management Center. This tool helps teams track the use of OS versions, software versions, license, and certifications. It also shows when certificates or licenses are set to expire and when products enter end-of-life support, and it can even help plan relational impacts of interdependent system components and technologies. This feeds into overall maintenance planning. As shown in the following figure, the License and Certificate Center in OperateEdge helps teams with maintenance planning by tracking license and certificates expirations and interdependencies between system components.</p>
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PROPRIETARY

<p>perfective maintenance activities can occur:</p> <ul style="list-style-type: none"> • General performance tuning • Improve incident and change response • Improve incident resolution processes • Increase automation to shorten change request implementations • Archiving to increase application performance • Database performance tuning • Platform Optimization 	<p>How We Satisfy the Requirement</p> <p>Our team understands the DSHS’s requirement to provides services in areas of M&O, enhancement services, Incident Management, Change Management and Performance Tuning of systems. Our approach is based on established processes that we’ve fine-tuned in collaboration with other states and incorporated by continued improvements based on feedback, lessons learned, and a drive to continuously improve. Our M&O processes are aligned with Information Technology Infrastructure Library (ITIL) standards and emphasize the need to be preventative rather than corrective in nature.</p> <p>Our Perfective Maintenance activities are highlighted in the following subsections below:</p> <ul style="list-style-type: none"> • Performance Monitoring and Tuning • Incident Management • Archive/File Management • Database Performance Tuning <p>Performance Monitoring & Tuning</p> <p>We proactively conducting performance analysis to identify performance issues and produce performance monitoring reports. We conduct performance tuning activities that need to be undertaken based on this performance analysis conducted and reporting.</p> <p>Below is a flow chart depicting the steps conducted in performance monitoring and tuning, as well as an in-depth description of each step. These steps map to Availability Management process of ITIL framework to deliver consistent performance monitoring and tuning services.</p>
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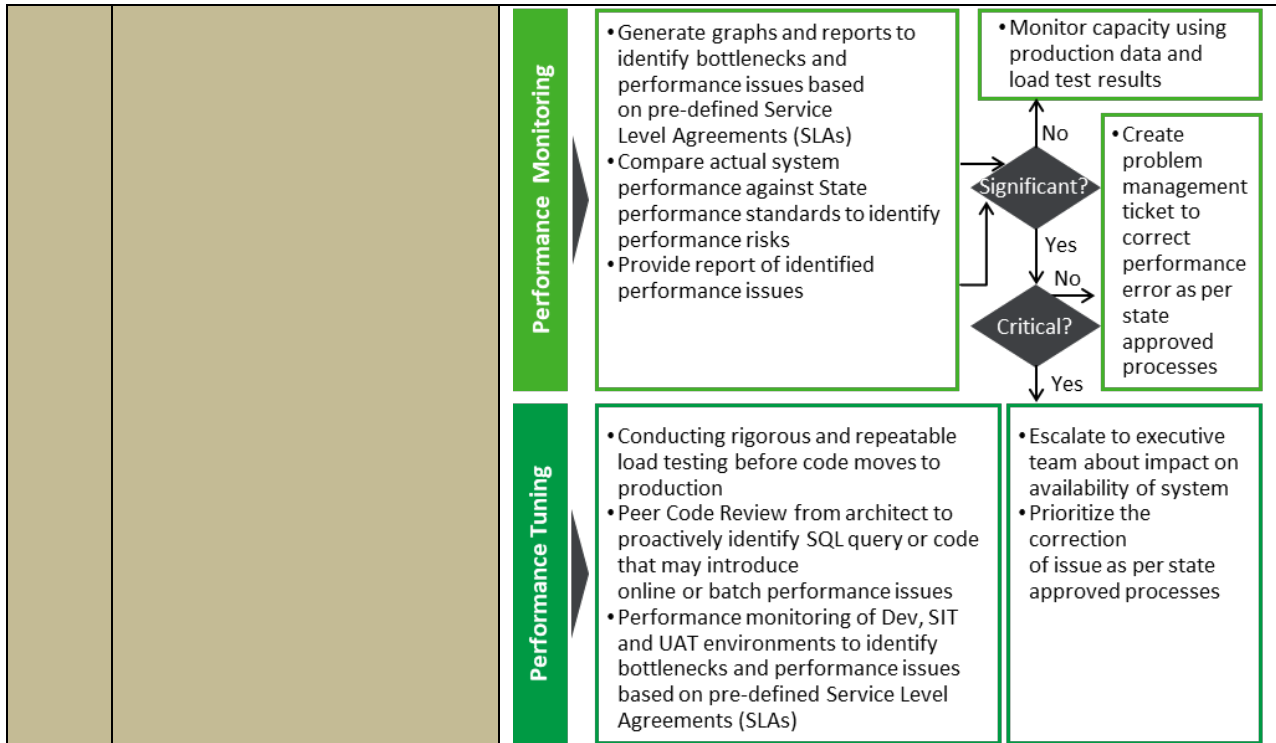


Figure 4.2-132. Flow Chart for Performance Monitoring and Tuning.

Our performance monitoring team focuses on continuously improving our delivery of these services.

Incident Management

Our business and technical knowledge of the E&E systems allows us to provide end-user support promptly. Below is the characteristic of our support team:

- **Responsive:** Our team members are quick to analyze and review tickets. Our incident management Team Lead proactively monitors incident work queues and assigns them based on the priority of the tickets.
- **Transparent:** Our team follows state-approved processes for uploading details inside the tickets on JIRA. The details provide transparency on the root cause of the ticket and the next steps for the ticket to be fixed.
- **Organized:** Our team follows an organized process to triage tickets and take the first pass on assigning a

		<p>track to the ticket, so they get queued to the right team.</p> <p>We work continuously with the DSHS to improve the process by adding/modifying JIRA workflows to add any automation of assignment. Identify any bottlenecks and fix them</p> <p>Archive/File Management</p> <p>Our approach involves defining the archiving and purge guidelines for file management. It also includes managing batch data files securely and scheduling archiving and purge activities. Below is the list of activities that fall under Application File management</p> <table border="1"> <thead> <tr> <th>Activities</th> <th>Our Approach to Continued Success</th> </tr> </thead> <tbody> <tr> <td>Managing batch data files</td> <td>Managing data files from external trading partner securely during batch execution is always a top priority. The intensive archiving process for batch files is automated and executed as soon as file processing is complete by ACES system.</td> </tr> <tr> <td>Scheduling archiving and purge activities</td> <td>Our batch team forecast the scheduling of automated jobs to purge archived batch file such that each of the application files is purged after their retention period is expired.</td> </tr> <tr> <td>Governing new software release follows application file management guidelines</td> <td>During the development phase, our custom-built batch framework prompts the developer to build an archiving and purging process. These guidelines are further enforced by automated testing and peer code review so that for any new files, we follow protocols defined by the application file management process.</td> </tr> </tbody> </table> <p>Figure 4.2-133. Activities for Application File Management.</p> <p>The following figure depicts activities that are crucial to overall application performance as it relates to the database tuning required for high performance.</p>	Activities	Our Approach to Continued Success	Managing batch data files	Managing data files from external trading partner securely during batch execution is always a top priority. The intensive archiving process for batch files is automated and executed as soon as file processing is complete by ACES system.	Scheduling archiving and purge activities	Our batch team forecast the scheduling of automated jobs to purge archived batch file such that each of the application files is purged after their retention period is expired.	Governing new software release follows application file management guidelines	During the development phase, our custom-built batch framework prompts the developer to build an archiving and purging process. These guidelines are further enforced by automated testing and peer code review so that for any new files, we follow protocols defined by the application file management process.
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		Database Performance Activity	Description
		Adding indices to databases to increase speed	<ul style="list-style-type: none"> As a part of every release, we send each of the SQL queries to our Database team. The team reviews the SQL plan and suggests indices to the database tables to increase the speed the data can be searched and retrieved. To optimize the query execution, we work proactively with the Database team to explore avenues to create indices. These indices are applied in lower environments for testing and validation. Then, these changes are applied within the production environment once the desired outcomes are validated in the lower environments.
		Performance tuning	<ul style="list-style-type: none"> Our team monitors SQLs, application logs and batch logs. Conduct database performance tuning by confirming that the modified SQLs return an explain plan analysis that yields an optimized query cost estimate, read efficiency, cardinality, or statement execution time. Identify the resources or server instances causing the slowness of the application and tune the application parameters and/or arguments to improve the performance.
		Changes to the system parameters & configuration	<ul style="list-style-type: none"> Generate periodic reports to provide DSHS stakeholders detailed status of services used by various business applications. We will work with the DSHS team to identify and implement changes to these reports in terms of frequency, number, or format.
		Addition of new values & changes to existing system tables	<ul style="list-style-type: none"> Modifications to the existing system tables are handled through standard data fix processes. The addition of new values and changes within the database are completed through the DSHS change management process. We work with DSHS to review the data model, and data dictionary.
		Improve incident response and resolution processes	<ul style="list-style-type: none"> Assign the incident ticket to the experienced personnel and review the severity of the incident. Track that incidents are following the preset and defined SLRs based on severity Document resolution for each incident
		Increase automation	<ul style="list-style-type: none"> Automate the manual tasks with scripting so that change implementation process is faster.

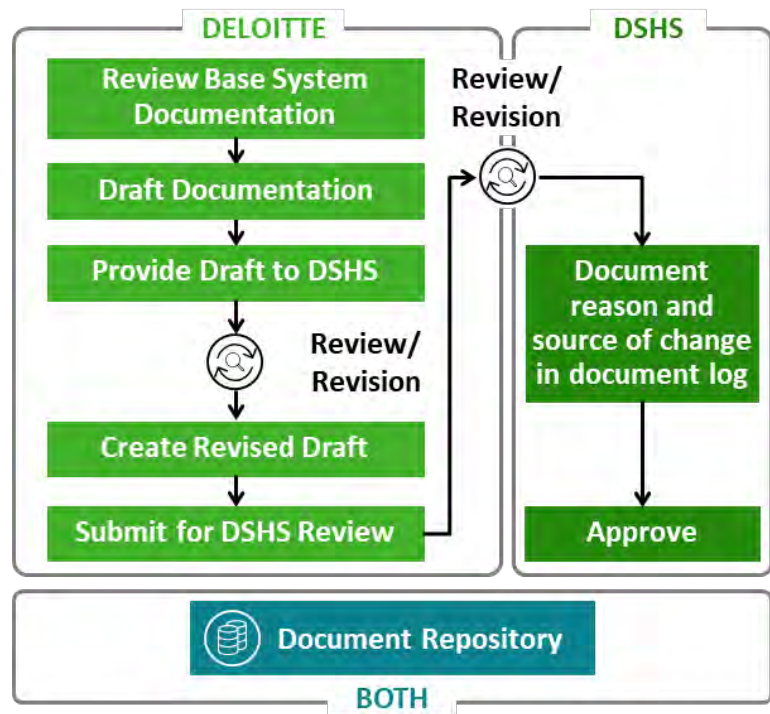
		<p>Archiving to increase application performance</p> <ul style="list-style-type: none"> • Discussing the archival processes and standards with DSHS to move the files once it has reached the threshold limit
		<p>Database performance tuning</p> <ul style="list-style-type: none"> • Periodically maintain indexes and optimize the database tables and constraints to elevate the performance tuning

Figure 4.2-134. Database Performance Tuning Activities.

Design Documentation

<p>6.174</p>	<p>The Bidder will be responsible for conducting systems analysis and producing design documentation that reflects any changes or adjustments to the as-built architecture diagrams. The development of such documentation will be based on formal requirements specifications and will follow a formal process of analysis and design. The products of analysis and design will include a reflection of logical and functional changes to the hardware and software components of the system.</p>	<p>Our Understanding of the Requirement</p> <p>For any new functional or technical changed planned for ACES, our team will work collaboratively with DSHS to conduct system analysis and produce complete design documentation that reflects the modifications that are being planned as part of the change. As part of our approach, we will gather detailed level requirements, capture them in user stories and technical documents, maintain existing documents and submit them for DSHS’s review.</p> <p>We will work with DSHS staff to review and get the design documentation approved. Our approach provides transparency and enables the stakeholders to be aware about the changes being introduced to the system.</p> <p>How We Satisfy the Requirement</p> <p>Throughout the contract period, we align our work to maintain established documentation standards and continuously update plans, design documents, development artifacts and training materials as necessary to maintain an approved system documentation repository. Both system and user documentation materials are critical for training and as a reference for future modifications, documentation will be available for DSHS usage at any time and with no vendor dependency.</p> <p>Team will maintain overall accountability for management of user and technical/system documentation and follow the procedures to maintain established documentation standards while updating system documentation, work products and deliverables.</p>
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Our team will continue to maintain existing technical/system documentation as required to reflect system changes to enhance or improve quality of documentation. These project documents are stored and maintained at the document management tool/repository selected by DSHS with versioning, check in/out, and search functionality as indicated by the figure below.



WA_CON_ACES M&O_SLHE_MO-185048_2022-0026

Figure 4.2-135. Our Document Review, Revise, and Submission Approach.

We use a multi-step process for documentation modification that begins with ‘checking out’ an approved system document from the document repository. Next, acquiring a foundational understanding of the need for an update or new documentation and includes reviews by our team leads and functional testing analysts to achieve high quality, accurate documentation for review by DSHS staff.

Once the modified documentation is drafted, we will provide the documentation to the DSHS staff for review and approval. After review comments are addressed and the document is approved by DSHS, the document is

PROPRIETARY

	<p>System documentation for infrastructure and application software shall include system support and design documentation.</p> <p>This includes maintaining and setting up system documentation in DSHS agreed upon repositories.</p>	<p>but not limited to architecture diagrams, system configurations, operating guides, application system documentation, design and development, interface documentation, among others. During the transition phase, we will review existing documentation and analyze the accuracy, and work with DSHS to update if needed. Upon review and approval, system documentation will be stored in agreed upon DSHS repositories like SharePoint.</p> <p>How We Satisfy the Requirement</p> <p>Our approach to system documentation provides many benefits to DSHS and our own team as the vendor taking over the systems. Our approach provides:</p> <ul style="list-style-type: none"> • Three categories of technical documentation – software development documentation, user documentation and system documentation • A systematic, easy to read format with clear language and section headings and are summarized with a table of contents and index, allowing for ease of navigation • Documentation updated in accordance with the functional and architectural changes in the agreed upon repositories • A proven documentation approach that streamlines the creation, review and approval process and delivers documents of high quality and completeness ultimately saving the Department time. <p>Our team recognizes that maintaining a complete and accurate set of system artifacts forms the foundation for successful Maintenance and Operations (M&O) of the ACES system as well as Design, Development, and Implementation (DDI) of new or updated components to the existing solution. Our experience in creating, maintaining, and publishing system documentation delivers a proven approach that reduces risk and streamlines the artifacts management process. This helps us not only maintain existing artifacts but also update them or generate new artifacts, as applicable, throughout the SDLC process. These artifacts include</p>
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		<p>documentation related to Program/Project Management, Requirements and Technical Definition and Analysis, Design, Construction, Testing, other SDLC processes and the Helpdesk. We are committed to creating, maintaining, and retaining appropriate system documentation in accordance with PMB document standards and guidelines using the DSHS SharePoint Site.</p> <p>Our understanding of the existing artifacts obtained through a combination of the industry knowledge and expertise of our HHS professionals help us develop better understanding of the existing system. In addition, knowledge sharing sessions with the incumbent vendor and various State stakeholders helps to solidify our understanding during the Initial Transition Period.</p> <p>Technical Documentation</p> <p>The purpose of technical documentation is not simply to have a complete record of the systems functionality and operational procedures. Documents are meant to live through the entirety of the processes. Keeping the document alive or maintaining and keeping it up to date is one of the important parameters for our management lifecycle.</p> <p>These documents include but is not limited to: built architecture diagrams/blueprints, key functions, key application procedures, configuration specifications, source code, location of error logs, reference tables, logical and physical data models, data flow diagrams, sequence diagrams, build scripts, system diagrams, operating guides and instructions etc. Furthermore, SDLC for ACES will be made efficient with timeliness updates to design documents to keep system documentation intact followed by application deployments in lower environments through production.</p> <p>Our team is familiar supporting and maintaining system documentation often required to maintain compliance with governing entities like MARS-E 2.0. We will work with DSHS to implement controls to keep technical documentation up-to-date and accurate in agreed upon repositories. Prior to any system change, the technical impact is reviewed by subject matter experts and a</p>
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proposed solution, including updates to documentation, is presented to a review board consisting of key stakeholders. Feedback from the review is incorporated and once signoff is achieved, the new system documentation will be published as part of the implementation effort.

User Manuals

Effective documentation is critical for software development and ongoing support and maintenance. It enables important functional and technical knowledge to be recorded in documentation and provides consistency of knowledge transfer during the transfer of responsibility for operations from our staff to yours. Our team proposes leveraging the existing DSHS user manuals and modifying and enhancing these documents based upon specified requirements.

Document Maintenance

Our team uses an established approach for planning, reviewing, and modifying system documentation. During the transition period, activities start with a review of existing procedural and system documentation to perform an “As-Is” assessment and a baseline understanding of project procedures and solution functionality including existing defects and planned enhancements. A Knowledge Transfer/Training template is documented for each process reviewed and includes a summary of our understanding, the criticality of the process to business operations, relationships to other processes, knowledge transfer complexity, monitoring processes to confirm current Production operations, and a risk assessment for the anticipated completeness of knowledge transfer based on existing documentation and availability of incumbent vendor or subject matter experts. Sessions with the incumbent vendor and DSHS staff are conducted to review that baseline understanding, clarify questions or misunderstandings, and allow for scenario-based walkthroughs.

For more technical topics, code walkthroughs, configuration reviews, and architecture reviews are

PROPRIETARY

6.176

The Bidder will be responsible for updating business rules. This includes:

- Updating business rules stored in editable tables
- Explanations of and assistance with setting up Supplemental Tables
- Change of business rules requiring changes to code

Our Understanding of the Requirement

Our team will continue to use the current rules engine used by DSHS and will use WebSphere Operational Decision Manager (ODM) as the Business Rules Management System (BRMS) to maintain and enhance ACES. Our team will update business rules as per DSHS requirement and assist in creating of new supplemental tables and maintaining existing ones. We will also modify code as needed to support the changes in business rules.

How We Satisfy the Requirement

Having developed and maintained Eligibility and Enrollment (E&E) system in 31 states we understand that eligibility rules are complex and require relevant knowledge and experience. Our team has hands on experience with ODM and we have used it to develop and maintain E&E systems similar in size and scope as ACES.

Updates to Business Rules

We understand that changes to a business rule can have cascade impact across multiple modules, interfaces, reports, and data collection screens and must be handled carefully to prevent improper eligibility determination and benefit calculation. In lieu of this, whenever a new change is requested for a rule logged in ODM, we capture business rules from policy team and transform them into Decision Tables in excel (sample shown below).

A				B				C				D			
NAME: 1010_010 SNAP GC Set-up															
PURPOSE: Control group composition determination for SNAP															
COMMENTS: This table will be performed once per Eligibility Determination Month where 1010_010 is to be performed															
POLICY REFERENCE: Technical Decision Table															
Conditions				Condition Mapping				1				1			
1	Start			Performed when called											
Actions				Action Mapping				1				1			
2	Perform 1010_380 SNAP GC Age			Flag will set to call 1010_380 from the rule flow.											
3	Perform 1010_015 ALL GC Create New Filing Unit			Flag will set to call 1010_015 from the rule flow.											
4	Perform 1010_420 SNAP GC Deny Group For Voluntary Withdrawal			Flag will set to call 1010_420 from the rule flow.											
5	Perform 1010_400 SNAP GC Exclude Deceased Individuals			Flag will set to call 1010_400 from the rule flow.											
6	Perform 2000_142 SNAP PITAP KCSP NF Incarceration			Flag will set to call 2000_142 from the rule flow.											
7	Perform 1010_090 SNAP GC Determine Institutional Residence Status			Flag will set to call 1010_090 from the rule flow.											
8	Perform 1010_095 SNAP GC Residing in the Household the Majority of the Month			Flag will set to call 1010_095 from the rule flow.											
9	Perform 1010_109 SNAP GC Identify SNAP Student			Flag will set to call 1010_109 from the rule flow.											

WA_CON_ACES M&O_SLHE_MO-185048_2022-5001

Figure 4.2-137. Sample Decision Table.

These excel decision tables are then transformed to the rulesets (explained later in this section). Every time a ruleset is modified our team will update the citations to the applicable policies and regulations and references to the applicable data elements and code values. Our team also adds comments in rulesets so that it is easier to understand when each rule was modified. In addition, our team will keep the rules organized logically in multiple folders to cater to the business needs in repository. For instance, financial rules are in one folder while group composition rules are stored in another.

Supplemental Tables – Types, Purpose and Setup

We understand that besides the rulesets, business rules execution needs to refer static/time-sensitive data which can change based on policy changes in different Fiscal Years. Such data is captured in supplemental tables and categorized in 2 types as mentioned below:

Type 1 Supplemental Table:

- Captures highly dynamic data (frequently changed) in the form of ranges or limits, dates, or numeric values
- Change in data is often independent of application changes

Type 2 Supplemental Table:

- Captures dynamic data (does not change often) in the form of traditional code-value pairs, string, or text values
- Change in data is often dependent on application changes

Our team will continue to maintain these reference tables (in the form of code-value pairs) for quick reference from the rules engine.

Changing Business Rules tied to Application Code

For every change that is done in a ruleset, our team conducts a holistic assessment on which components are impacted and needs to change. Our team then assigns

those changes to the same developer so that it does not get missed. For example, an addition of a business reason to an existing business rule introduces a new variable to the ruleset and needs to be referenced via an additional type to be created in application code. Our team will complete both the changes together so that impacted components are constructed together and work seamlessly.

Testing Changes in Business Rules

We understand the criticality of sufficient integration and regression testing of changes in business rules considering the impact even a minute incorrect change can make. We follow rigorous end-to-end integration testing to verify that process flows, business rules, related development objects and converted data behave as expected across the solution. We conduct exhaustive regression testing using our extensive regression test scenarios suite at the end of functional test scenarios to validate there are no impacts to the existing functionality.

Lessons Learned/Best Practices/Examples of Previous Projects

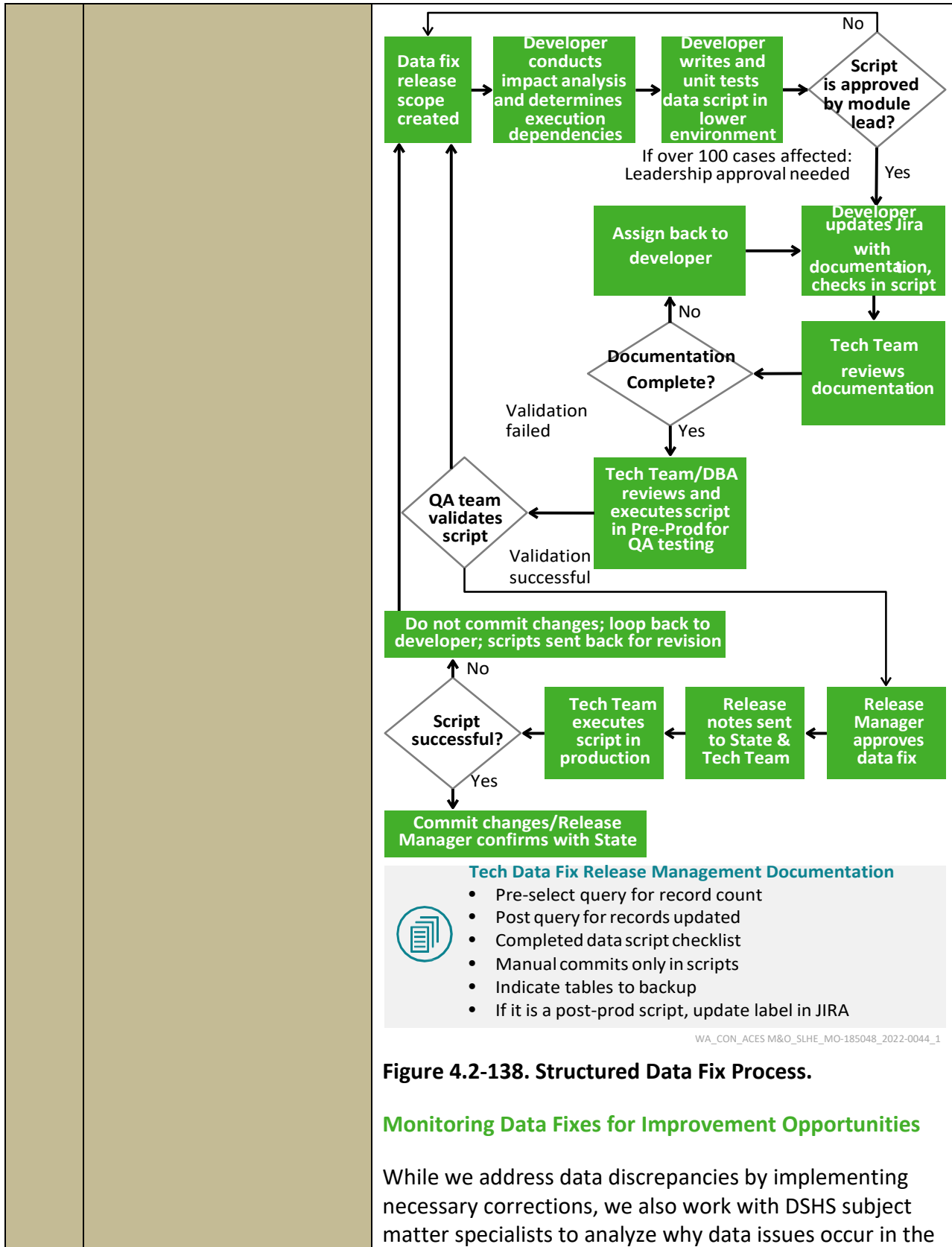
We understand ACES uses IBM WODM rules engine integrated with Mainframe as backend and our team is not new to this architecture. We have successfully maintained, and enhanced Mainframe backed State of Nevada's eligibility rules engine for years. In Nevada, our team implemented messaging queues to mitigate the challenges of slower transactions. We also cached supplemental data on the rules engine server itself (refreshing them every 24 hours) which enabled us to process and share eligibility results faster back to case workers. Our innovative process has helped State of Nevada in maintaining and enhancing their E&E system with business stability, continuity, and accurate eligibility results. Our team is committed to bring the same rigor to DSHS in maintaining and enhancing ACES.

System Audits	
6.177	<p>The Bidder will be responsible for supporting system audits by providing requested reports, data and information.</p> <p>Our Understanding of the Requirement</p> <p>We understand the importance of auditing of system and access controls to confirm the security of ACES. Our team will continuously support DSHS with the system audits of ACES by providing requested reports, data, and information for audit activities.</p> <p>How We Satisfy the Requirement</p> <p>Our team will work with DSHS to provide internal risk assessments, third-party system reviews, and on-site audit reports on ACES and its applications. We will consult and provide M&O-related relevant information to assist with the ingestion and archival of security log files, generation of scheduled security audit reports, and generation of incident reports.</p> <p>Our team has experience implementing and supporting robust auditing and monitoring solutions for security systems that utilize Splunk. Splunk aggregates component-level audit data with a correlation engine to provide actionable intelligence in addition to proactive alerting and reporting to identify security anomalies, processing issues, system performance, and the overall health of DSHS applications and components.</p> <p>In addition, audit events for user accounts will be continuously monitored through Splunk. Splunk generates graphs, reports, alerts, dashboards, and visualizations to continuously monitor and alert as required. Our team will work with DSHS to select and define monitoring and alerting use cases to support federal requirements and to monitor the activity of interest within the environment for the applications being used (e.g., user role changes, unauthorized attempts to access data, and system functions).</p> <p>Reports from Splunk and data on implemented security controls will be provided as part of system audit activities.</p>

		<p>Best Practices</p> <p>Our team recommends that a centralized dashboard be created for the system audit participants, including access review team, certifiers, and reviewers, to act on the certification task and provide associated audit history.</p>
<p>Data Discrepancies</p>		
<p>6.178</p>	<p>Examples of data discrepancies Include:</p> <ul style="list-style-type: none"> • End user misuse of system functionality that can cause undesired effects. DSHS is then asked to "fix" the data • Customers ask DSHS to investigate data mismatches between two systems and it turns out not to be a system problem, but the way the user was looking at the data • Physically manipulating production data caused by a customer's inappropriate use of the system • Instances where screen level field edits are not implemented or enabled • Circumstances where referential integrity of data is not enforced 	<p>Our Understanding of the Requirement</p> <p>The goal of any large system operations project is to automate data management and minimize data discrepancies (i.e., data corruption or inconsistencies). This, however, is a challenge for a complex portfolio like the ACES complex. Our team understands and acknowledges that, if selected, we will be responsible for assisting with the resolution of data issues where the data is the problem, not the associated code.</p> <p>Data fixes may be necessary due to end-user misuse of the system, missing system validations, or as a temporary workaround to address a system issue. Data fixes are also sometimes used to address other needs. For example, we use data fixes in many of our IE&E solutions to address temporary policy changes required by the COVID-19 Public Health Emergency.</p> <p>A structured data fix process must be followed to develop, test, and execute scripts to correct data discrepancies. Additionally, the process should include a continual focus on identifying and fixing the underlying source of data issues to drive improvement in this area.</p> <p>How We Satisfy the Requirement</p> <p>Data Fix Process</p> <p>Addressing data discrepancies requires a deep understanding of the DSHS applications and qualified database administrators, developers, and team leads that understand the various relationships between the data elements. Our staff proposed for the DSHS ACES project</p>

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		<p>data fix. For major data fixes we validate that the corrected data in ACES flows to the EDW, correcting the data in the EDW environment as well.</p> <p>As with code fixes, Jira is utilized to document the discrepancy, including root cause analysis and business impact, and track the status and related approvals of the data fix as it is developed and tested. State stakeholders can view these details at any time. Additionally, the team lead overseeing the data fix process is in frequent communication with DSHS business and technical teams regarding the expected completion date so it can be scheduled in production and executed. The team lead will also document in Jira and communicate the results of the data fix post execution.</p> <p>The following figure details the steps in our structured process for DSHS after the root cause analysis is complete and the need for a data fix has been identified.</p>
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Tech Data Fix Release Management Documentation



- Pre-select query for record count
- Post query for records updated
- Completed data script checklist
- Manual commits only in scripts
- Indicate tables to backup
- If it is a post-prod script, update label in JIRA

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Figure 4.2-138. Structured Data Fix Process.

Monitoring Data Fixes for Improvement Opportunities

While we address data discrepancies by implementing necessary corrections, we also work with DSHS subject matter specialists to analyze why data issues occur in the

first place. We perform root cause analysis of individual issues so that we can recommend improvements that may prevent the discrepancy from arising in the future. We also proactively monitor the data fixes that are occurring in aggregate and look for trends and patterns. Analyzing and understanding these data helps our team and DSHS collectively understand areas where data discrepancies are occurring most frequently and ultimately allows us to identify and prioritize impactful system improvements. These opportunities may include systems enhancements such as adding screen-level field edits or implementing database-level referential integrity validations. This also could include completely new system functionality. Aside from system enhancements, there may also be opportunities to reduce the number of data fixes by enhancing the training or help documentation or updating standard operating procedures.

Previous Project Example

Our work for the Allegheny County Department of Human Services (ACDHS) is an example of reviewing data fix data in the project Application Lifecycle Management (ALM) tool to identify completely new system functionality to reduce the dependency on the development team for data fixes. Based on an analysis of historical data, we suggested to ACDHS that new screens be developed within their HHS case management and child welfare applications to allow authorized users to remove clients from a case or referral and to make client information changes and request the court hearing information be republished. Previously these changes required a data fix that took significant time to research and resolve. Now that the screens have been implemented an Allegheny County system administrator can process these changes in minutes. These simple enhancements significantly reduced the number of data fixes (and time required from the development team) and increased the overall user satisfaction.

4.3 Key Personnel

The contract resulting from this competitive solicitation will require highly skilled resources with a high level of management. Bidders shall describe in detail their approach to sourcing and managing high level staffing contracts.

Bidders shall submit a one page resume for each of the key personnel listed in Section A.7.2. Individual resumes shall clearly indicate which roll each resource will be assigned.

<p>The contract resulting from this solicitation will require that any change in key staff will be subject to prior DSHS approval. The contract will also provide that DSHS may request the removal of selected staff on three (3) days' notice and provide replacement staff without impacting the schedule. Describe your firms approach to sourcing highly skilled resources on short timelines.</p>	<p>It is important to have continuity of staff to deliver successful projects and maintain complex systems like ACES. We carefully select staff for our project team based on the skills, experience level, and duration of a role so that we get people who are engaged, competent, and dedicated to delivering for our clients.</p> <p>If DSHS determines that any staff member needs to be replaced giving us a 3-day notice, we work with DSHS to create a transition plan and provide a replacement staff member promptly without impacting the project schedule. We minimize these replacement impacts by having our staff document institutional knowledge in plans, procedures, checklists, and reports. We also have designated back-ups across our team that can temporarily step in the event and staff member leaves the team. Our repeatable and consistent processes reduce the consequences of staff changes and successfully retain institutional knowledge.</p> <p>If the substitution is required for a staff within short notice, our deep bench of resources helps expedite find the replacement. Our combined team has over 4,000 experienced Eligibility & Enrollment (E&E) practitioners working with our state clients, focusing on health and human services benefit programs such as SNAP, TANF, and Medicaid. In addition, we have a large subcontractor network that we can also draw on for key skills.</p> <p>We identify a replacement with the right business and technical skills from this resource pool. In the interim till the position is filled we can also leverage or "loan" resources with similar skills from other E&E projects so that project schedules are not impacted. Therefore, we have both a short term and long-term approach.</p>
<p>The Bidder must commit that staff identified in its response will actually perform the assigned work. Any staff substitution must have</p>	<p>Deloitte agrees that staff identified in our response will perform assigned work and any substitution will require prior approval of DSHS. We are fully committed to DSHS' Principle #4 outlined in this solicitation: Quality Personnel to Support the Relationship. We will devote qualified personnel to support our relationship. Deloitte's E&E</p>

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	<p>written notification within three calendar-days of knowledge of an unplanned transition or 30 calendar-days' notice for a planned transition. Deloitte's national staffing managers can quickly mobilize and deploy people with the right mix of skills and experience for specific project roles, drawn from across the U.S.</p> <p>We provide a resume for recommended replacements and three references for review for key staff replacement. Within seven days of providing the written notice of the transition, Deloitte provides a transition plan describing the approach for handoff and knowledge transfer between the current and replacement staff, to minimize the risk and impact to the Project.</p>
<p>Provide a narrative describing the proposed team and their approach to working with DSHS</p>	<p>As a team that has 40+ years of Integrated Eligibility (IE) experience, we can provide highly qualified and extensively skilled staff with experience in program, policy, technology, architecture, security, and project management. This is the reason many states choose us to assist in completing their most complex eligibility projects. Our team brings extensive hands-on transition experience with complex State systems, a commitment to customer service, a desire for innovative solutions, and a willingness to be a dependable advisor and trusted partner. Each brings individual expertise, and they collectively function as a cohesive and well-integrated team to successfully deliver large scale projects.</p> <p>We assembled a team based on five guiding principles:</p> <ul style="list-style-type: none"> • Developing Strong Working Relationships and Building Trust – We hire people who want to deliver for their clients. Key to achieving this is build excellent, open, transparent working relationships that build and foster trust. We encourage our team members to not only build business relationships with our client counterparts, but personal relationships. The goal is to build trust, excellent communication, and clear understanding of what needs to be done to keep ACES working and help decommission as part of the IE&E Platform effort. Our team members use formal forums (status meetings, working sessions, etc.) and informal channels (e.g., scoping conversations, deep dives on topics) to build relationships that foster a collaborative working environment. • Low Transition Risk and Use IE System Program Knowledge: Our proposed team brings in experience of successfully taking over maintenance and operations (M&O) of systems like ACES. Our team also brings 40+ years of experience in large M&O systems with complex business rules and functions. Their M&O and IE

experience gives them expertise in transitioning and sharing system knowledge and procedures with their client counterparts. We have also hired key practitioners with ACES system knowledge to augment our team.

- **Quality Personnel to Support Transparent Communications with DSHS and Other Stakeholders:** Effective communication and transparency with DSHS and relevant stakeholders are key factors in achieving success and building a strong relationship. We are committed to bring qualified management, implementation, consulting, technical, administrative, and other support personnel to achieve the objectives of this relationship. Our approach to transparency will be to identify and establish a process that will be open, accurate, direct, and in the best interest of DSHS and other key stakeholders.
- **Focus on Innovation and Agility:** Our proposed team reflects the best and the brightest in our practice, equipped with knowledge from past IE experience and healthcare exchange projects. Our proposed team is committed to leverage their implementation experience to bring new ideas and infuse innovation into your business needs by creating efficiency, increasing automation, and driving improved cost controls. Our team will recommend innovative ideas to enhance program accuracy, modernize technology, and streamline processes and improve operational efficiency. These enhancements can improve the accuracy of eligibility determinations, increase Agility, and decrease delivery times.
- **Commitment to Continuous Improvement.** The team we are proposing to DSHS has demonstrated a commitment to continuous improvement and a desire to enhance the overall experience for end users. In addition to the proposed changes identified by the state, we will listen to the State's needs and leverage our network of practitioners with experience on similar projects to bring ideas that will enhance the system, while working on enhancements and change requests. By proactively suggesting proven processes from other Washington projects and others across the country, we can anticipate improvements to the delivery that may be needed in the future.

Our leaders and staff fully understand this partnership is a long-term investment by organizations, firms, and individuals supporting DSHS. Our integrated team structure is designed to encourage collaboration, communication, and shared responsibilities across the team. Our team

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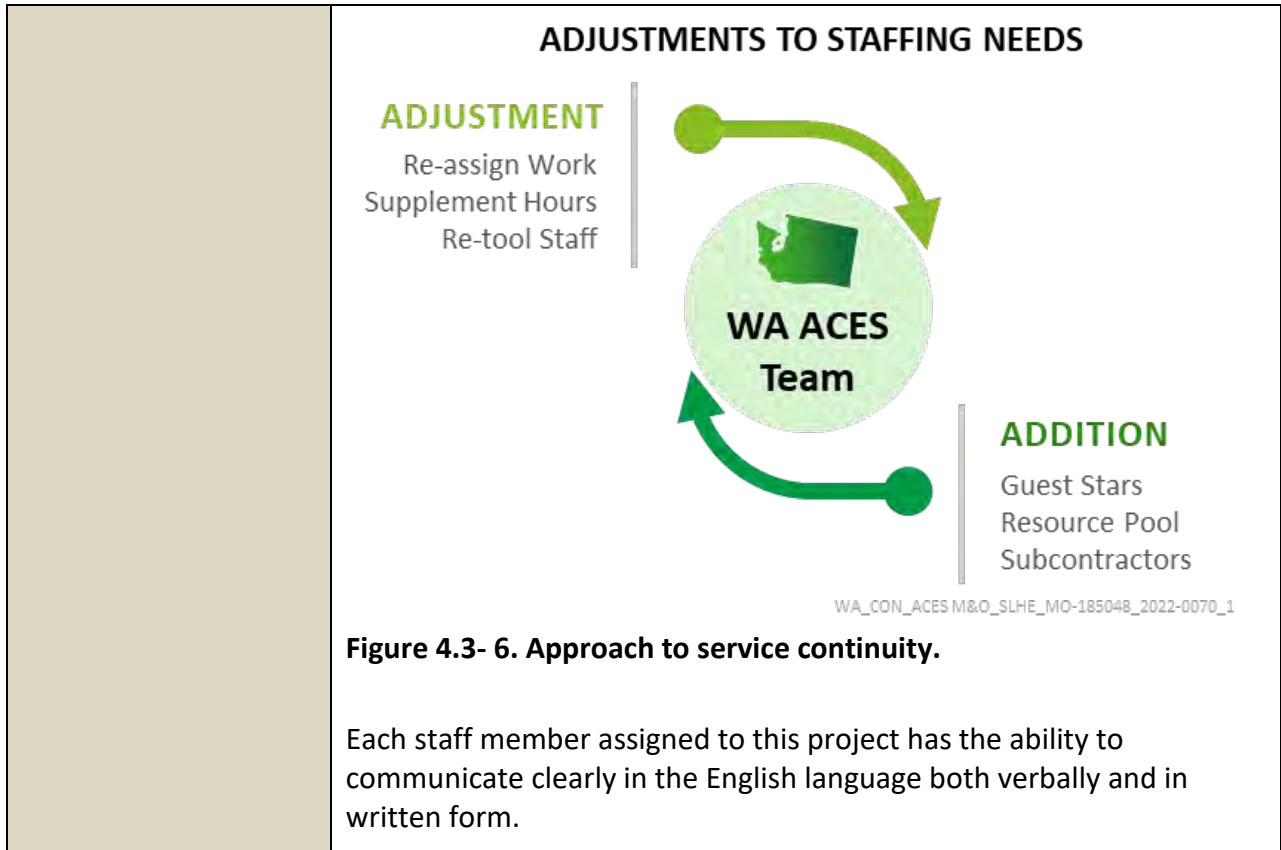
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	<p>has a proven and scalable staffing approach and the depth of talent to respond to unforeseen staffing needs. Deloitte plans for each work order individually, and accounts for how each phase fits into the overall work order and staffing model. We build into our staffing plan the appropriate amount of ramp-up and ramp-down time for individuals who are joining or leaving the project. This provides adequate opportunity for us to plan and onboard resources who are joining the project, so that these resources can hit the ground running for their specific work orders.</p>
<p>Address how availability of any of the proposed staff for this Engagement could be impacted from existing contracts to which they are currently assigned or from other potential contracts for which they are proposed. Where such cases exist, identify the priority DSHS would have in cases of conflict.</p>	<p>We currently maintain IE systems across 26 states, our teams are fully staffed, and we are maintaining a healthy bench. DSHS benefits from our experienced pool of resources that brings the right mix of business domain knowledge and technical capabilities required for ACES project. From our resource pool, we can choose practitioners from multiple current projects.</p> <p>Given the time for ramping up our ACES team, we do not see any challenges in staffing the ACES project. We have reviewed the staffing requirements within the RFP and, based on the timelines, have identified staff who are available to commence project execution per contractual timeline.</p> <p>Through the course of this contract there is always a possibility that we might need to alter our staffing, however we are capable of providing a replacement from our large pool of skilled practitioners promptly. We will follow agreed on project processes for any staff changes needed. We will be able to rightfully prioritize DSHS staffing needs.</p>
<p>Describe how your company will ensure continuity of service in the event your resource becomes unavailable during the term of this Work Order.</p>	<p>There are times when adjustments to your staffing needs may be required. Our proposed staffing strategy ensures that DSHS receives uninterrupted support and continues to benefit from having the right blend of experienced and knowledgeable staff by its side.</p> <p>We will provide replacement candidates with comparable skills, experience, and work with DSHS to seek approval for the replacement if a backfill is needed. To confirm continuity of service we follow these adjustments to staffing needs.</p> <ul style="list-style-type: none"> • Re-assign Work: We have identified a backup for each of the key personnel roles who can step in for a duration provided by the contract due to a planned or unplanned absence. These backups

	<p>have the required experience, are engaged in ongoing activities, and can ramp up quickly to fill the vacant role.</p> <ul style="list-style-type: none"> • Retool Staff: Our companies stand out as a place where people seeking different types of work can retool their skillsets internally. Resources are often cross trained across workstreams to mitigate the risk of unplanned absence within large teams supporting other State engagements. • Access Our Resource Pool: We have access to experienced practitioners working with State and federal clients focusing on health, human services, and social services benefit programs such as SNAP, TANF, and Medicaid. This experienced resource pool enables us to meet replacement needs more quickly than other vendors. Additionally, our team leads work with our dedicated resource managers to maintain knowledge of available resources through staffing calls. This helps to identify the right qualified candidate from the resource bench. • Utilize Our Subcontractors Network: In the event we cannot identify resource from our talent pool, we will work internally with our Contingent Workforce Service (CWS). Our CWS group has over 10,000 skilled resources staffing over 1,300 client service projects. Most of those work with us for many years and move project to project or decides to join as a full-time employee. CWS has access to many resources within the eligibility determination industry that have the experience and required technical expertise to support DSHS's mission • Guest Stars: Experts, SMEs from other IE projects are invited and made available on a need-by-need basis to the ACES team to confirm continuity of service in the event of resource need in niche areas of skills.
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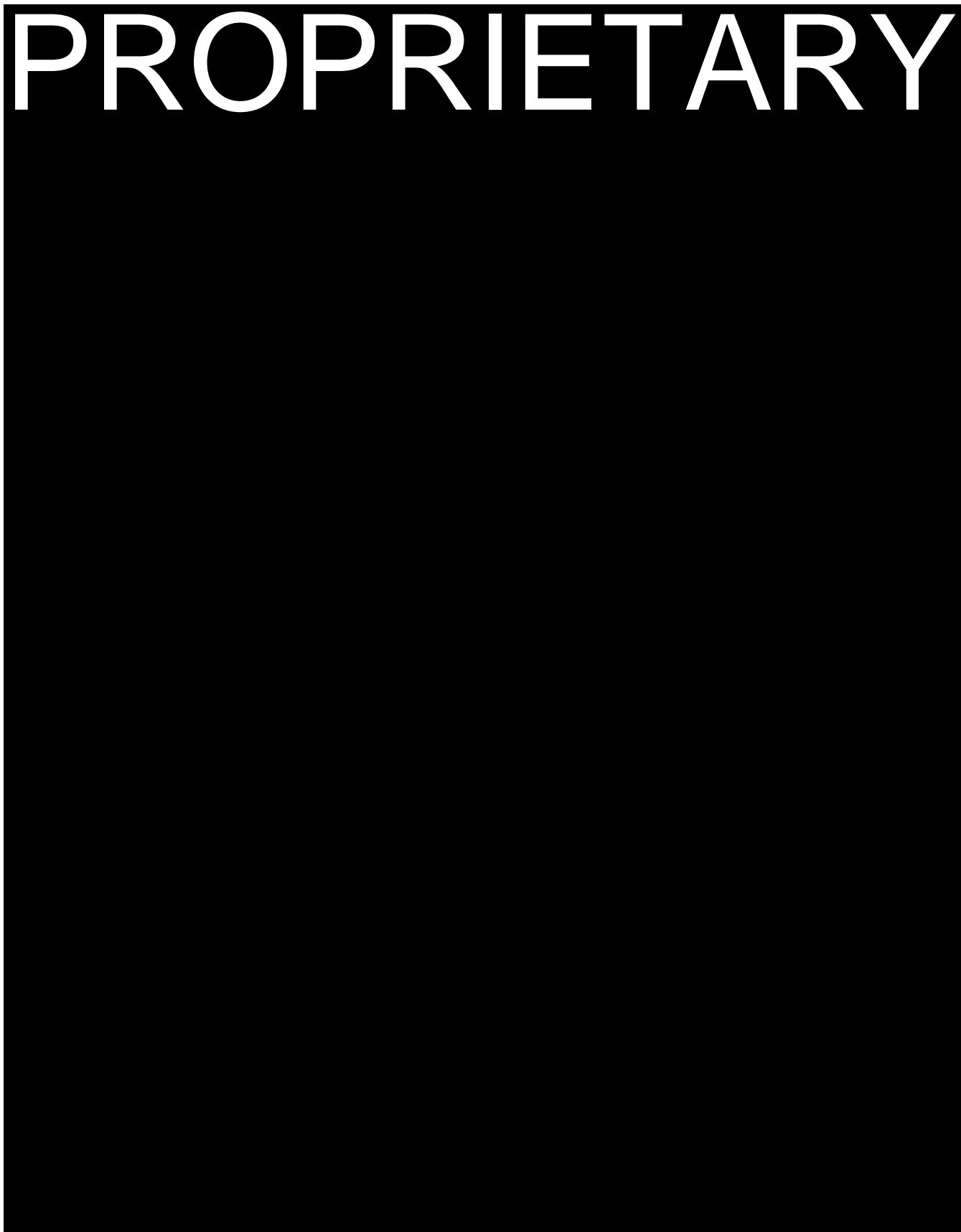


Resumes

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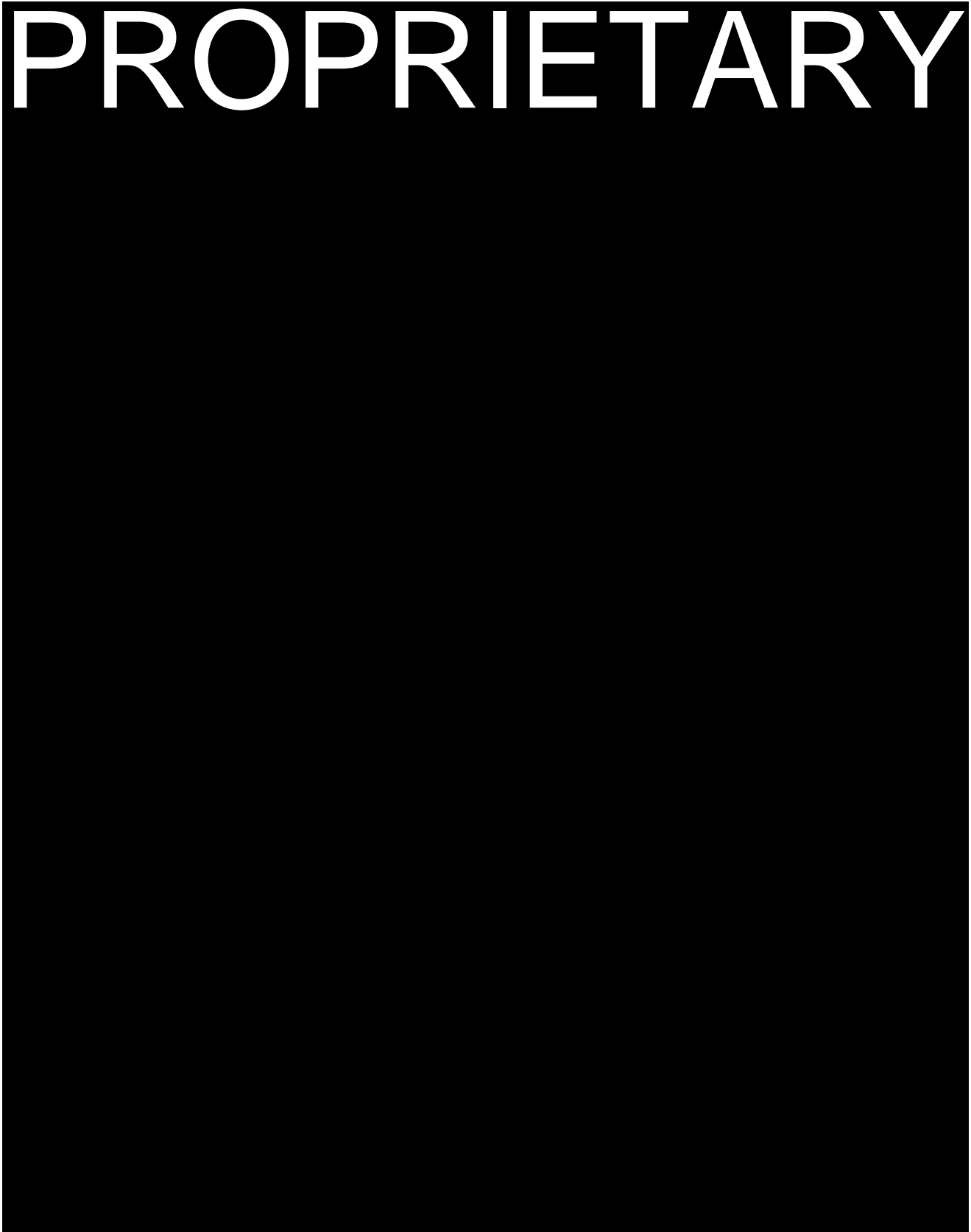
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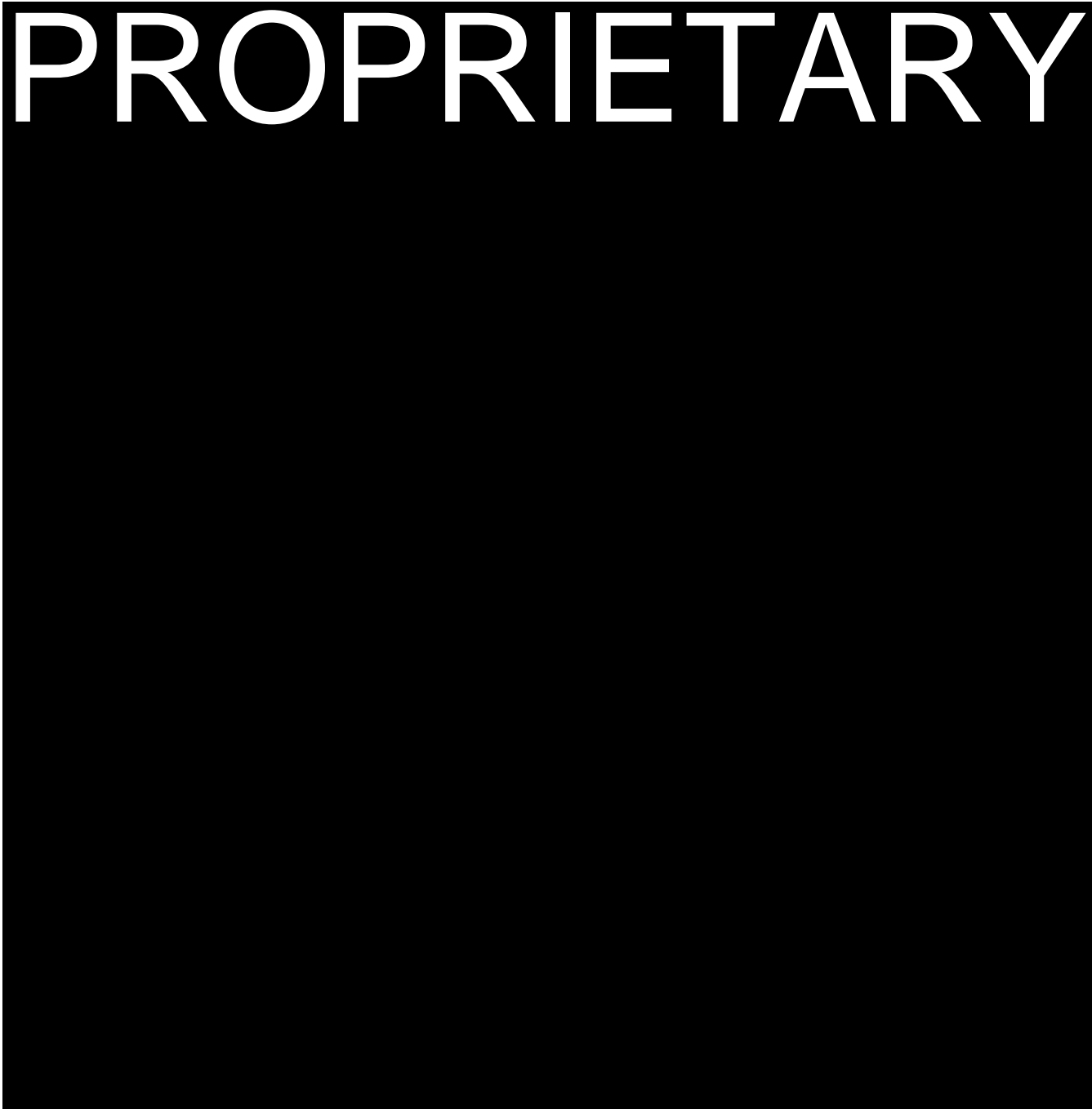
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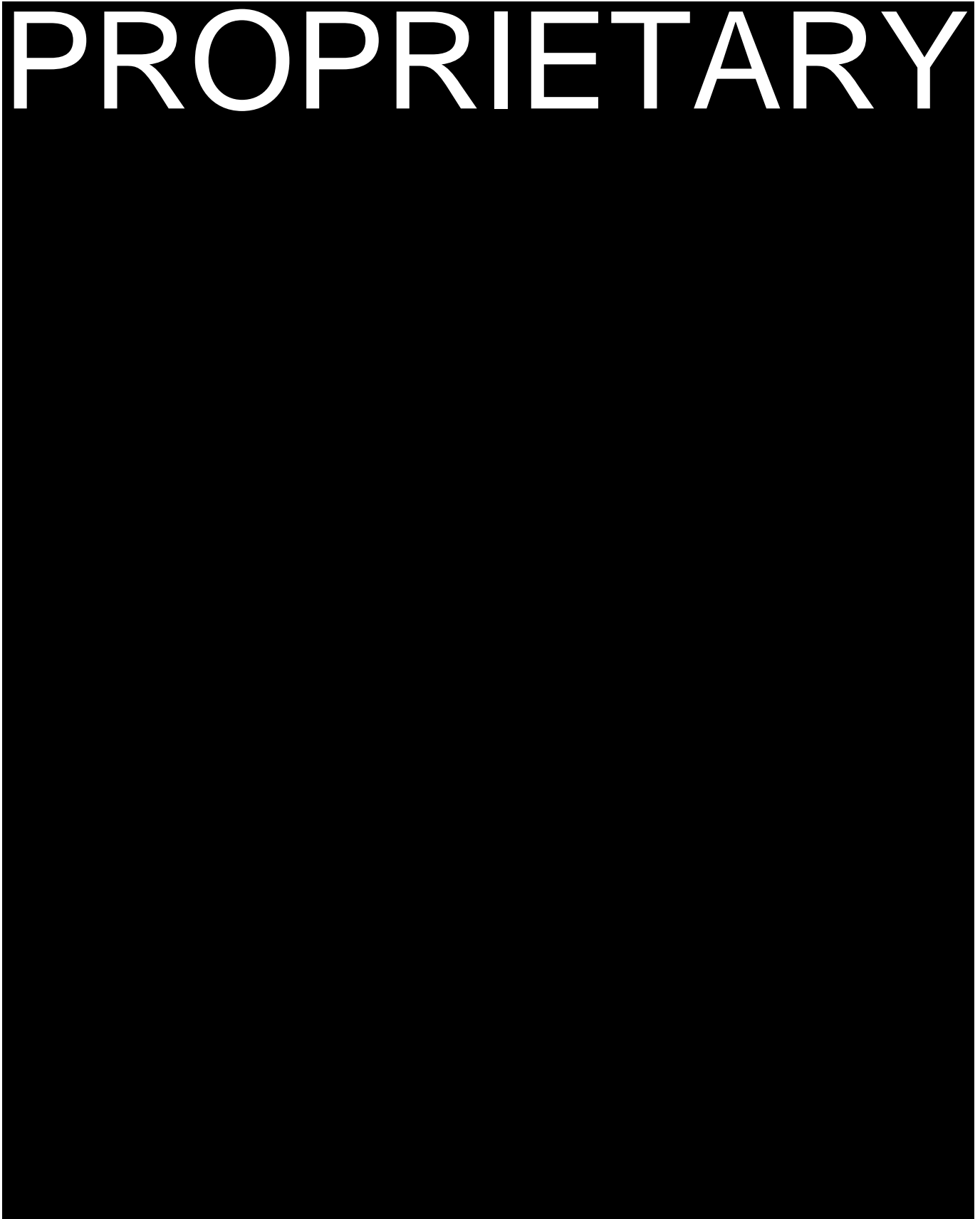
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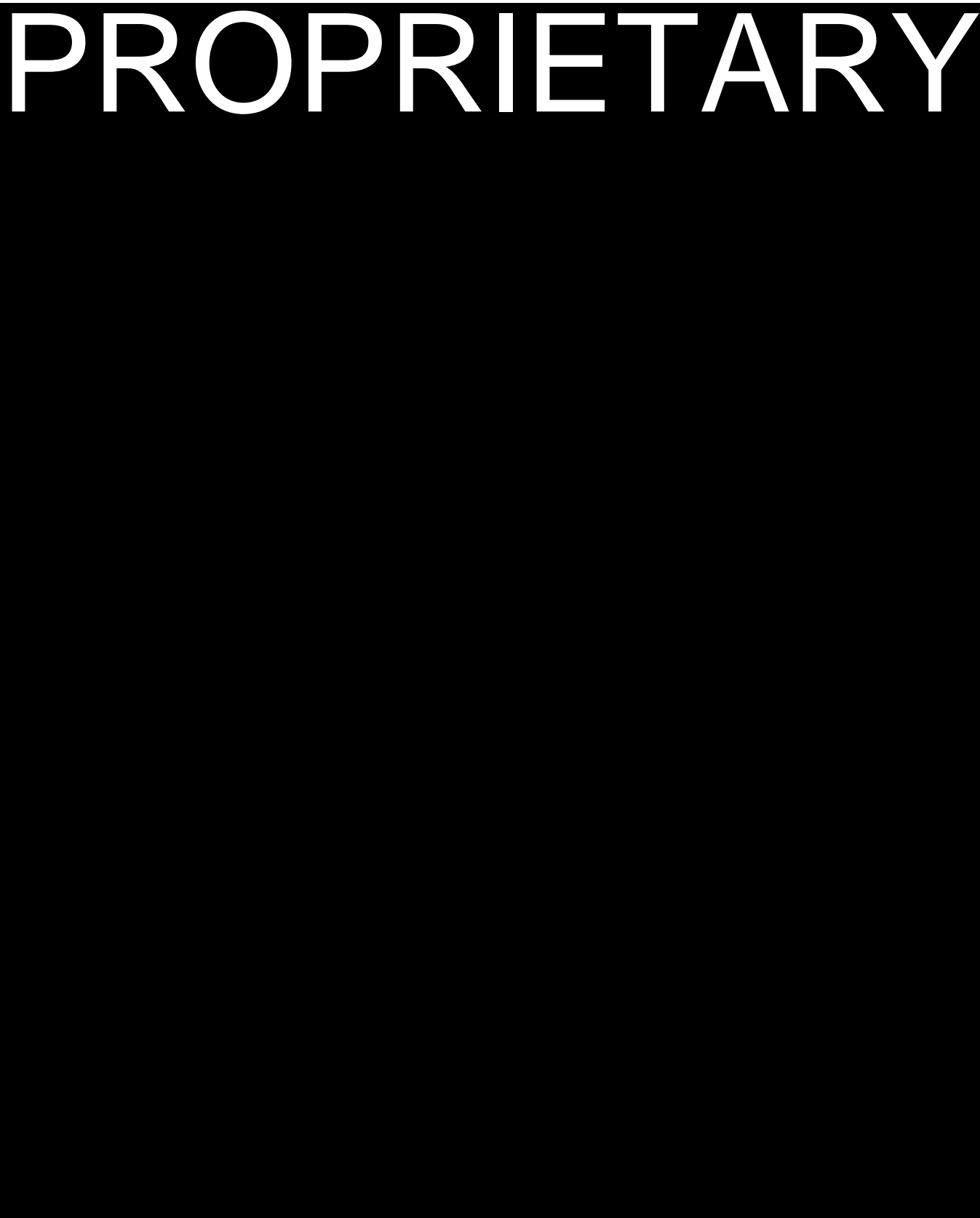
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4.6 Contract Questionnaire

This Section of the Bidder Response Form contains questions regarding the vendor’s capability. Responses shall utilize the space provided below. If the contractor requires additional space, additional pages may be added.

DSHS is interested in knowing the following information about a vendor’s experience and approach managing complex systems.

What is your company’s and staff’s specific experience with large, highly integrated ecosystems

Deloitte’s experience with commercial, state and federal large-scale systems

Our team has been serving commercial, state and federal clients for over 50 years, and we have the largest national footprint and greatest investment in the HHS and Medicaid, SNAP, and TANF E&E marketplace. Deloitte’s systems integration experience is one of the key pillars of our technology consulting practice. We bring lessons learned implementing Enterprise Architecture (EA) components in cross-program, cross-agency projects for many federal clients, nearly 30 states and countless commercial clients. One of the most exciting things we do at Deloitte is work with our public sector clients. We believe in the power of design to transform government services. While we bring to the table considerable design insights from the commercial industry, we are also experienced in the unique nuances of government and deliver more integrated eligibility solutions than any other vendor.

Deloitte has introduced HHS solutions in 49 states, the District of Columbia, and Puerto Rico. Deloitte has implemented, maintained, and enhanced E&E solutions across states of all sizes, giving us the background, experience, and agility needed to support Washington’s goals during the next contract. In addition, Deloitte is also a market leader in maintaining custom enterprise systems in Health and Human Services (HHS) across Child Support Enforcement, Child Services, Labor and Workforce Development, and Program Analytics.

We have maintained and operated these solutions, introduced innovative solutions to enhance states’ legacy systems, collaborated with states to meet federally mandated requirements, supported states in implementing temporary policy and system changes to address challenges during the COVID-19 public health emergency, and assisted HHS agencies in planning for and achieving strategic objectives. The following figure illustrates the breadth of our national experience working alongside our clients.

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State Health, SNAP, Labor and Workforce Development, HHS Analytics, and Cybersecurity. We have supported HHS solutions in 49 states and the District of Columbia. We have maintained and operated these solutions, modernized legacy platforms, migrated systems to the cloud, collaborated with states to meet federally mandated requirements, innovated to deliver more for clients and staff, and supported states through challenges (e.g., the COVID-19 Public Health Emergency).

National Public Assistance Domain Experience

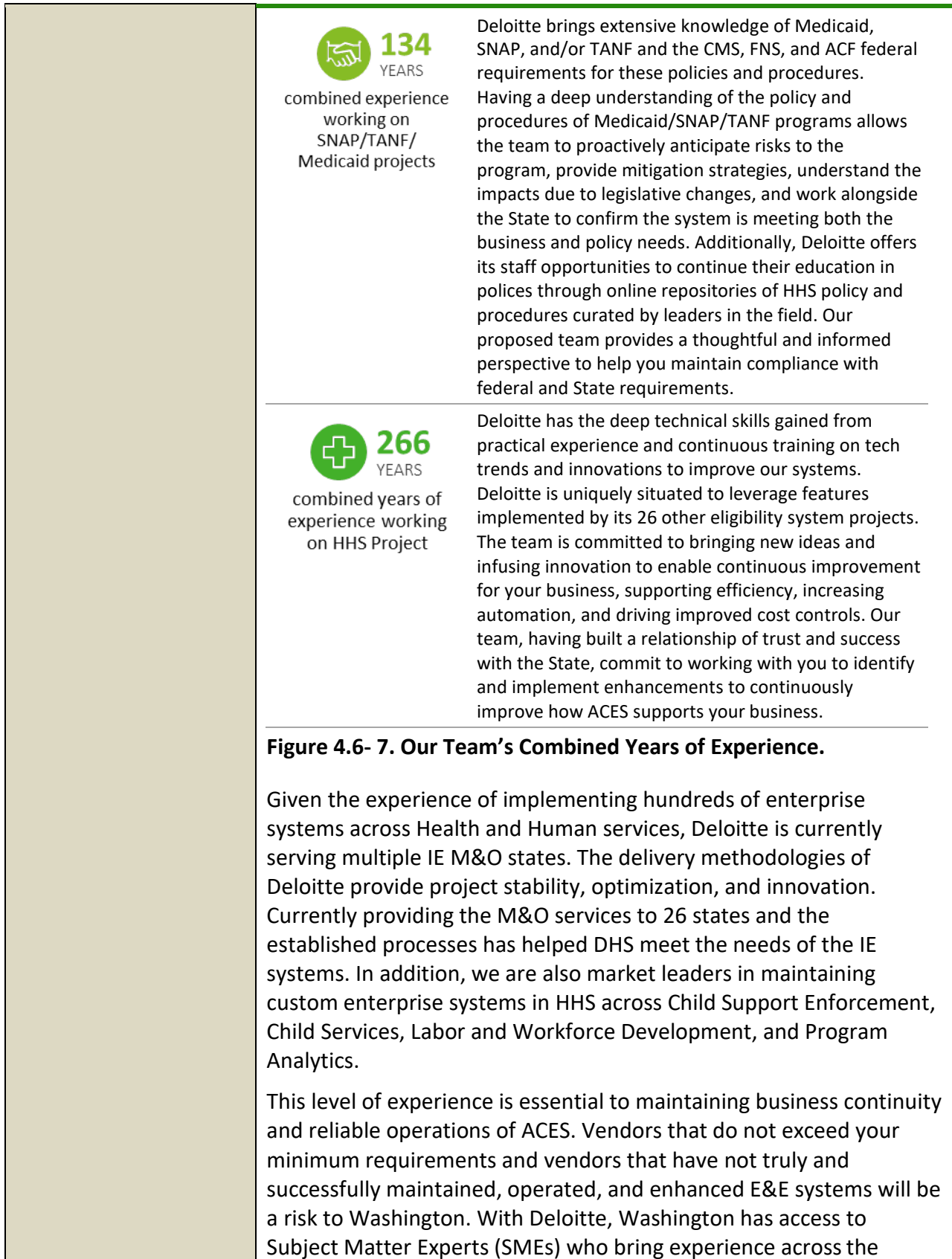
The 26 E&E systems we currently maintain support approximately 40 million residents and process tens of millions of transactions per day supporting Medicaid, SNAP, TANF, and various HHS programs. This experience proves Deloitte is able to successfully deliver large-scale, E&E modernization projects including project management, installation of municipal, state, or federal information systems, architecture and design services, and leading digital technology projects based on participatory design principles on the scale of ACES and the IE&E modernization.

Below are key monthly statistics across the 26 states where we are currently maintaining, operating, and improving E&E systems.

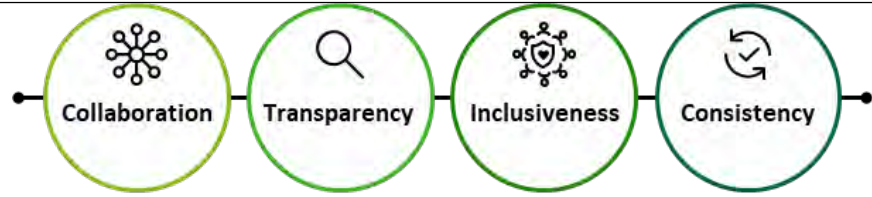


Figure 4.6- 6. Monthly Metrics Of E&E System Maintained by Deloitte.

Deloitte brings you innovation, evolution, and continuous improvement, an expert team with the ability to flex up (or down) per your project requirements, a partnership in compliance and program management, and technology innovation at a pace that Washington approves.



	<p>spectrum of Medicaid, SNAP, and TANF programs; strong and tested capabilities within Enterprise Architecture components; and staff experienced in industry-leading methodologies and processes such as Agile, Information Technology Infrastructure Library (ITIL), and the Project Management Body of Knowledge (PMBOK®).</p> <p>Deloitte prides itself on delivering the right team for the WA ACES project. We will bring hand-picked senior delivery team with deep E&E experience in public assistance domain, one who brings the experience you need to implement your vision. Our people bring hands-on experience with similar Mainframe complex systems, hands-on experience maintaining and operating E&E systems, vast transition experience with complex state systems, a commitment to customer service, a constant desire to improve processes and seek innovative solutions, and a willingness to listen, advise, and be a trusted partner.</p> <p>Summary</p> <p>ACES is a complex system that requires keys areas of experience from a vendor to be able to maintain the system and continue enhancements to meet state and federal guidelines. These experiences demonstrate our ability to maintain, operate, and enhance large-scale eligibility systems and the associated components that come with such large systems, like ACES. Our client working relationship over the years demonstrates our ability to provide quality deliverables, complete project tasks on time, and effectively deliver on complex, large-scale information systems. Deloitte has developed “muscle” over time in key areas required to successfully maintain ACES.</p>
<p>What is your approach to working with multiple vendors and agencies in support of a single project? The ACES environment impacts millions of customers and many State agencies, please be specific in your approach and experience.</p>	<p>Deloitte has collaborated with numerous state and federal agencies across the country to successfully deliver projects with similar services and similar size, scope, and technical components. Our experience includes working with multiple agencies and data exchange partners throughout the maintenance and operation of systems, include large eligibility systems (serving over 1 million enrollees and over 1,500 end users), multiple programs served (Medicaid/SNAP/TANF), M&O and enhancement services, and similar technical components.</p> <p>Our approach is based on the following key principles:</p>



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Figure 4.6- 8. Deloitte’s Principles for Vendor Management.

Collaboration: Deloitte reviews the change requested for ACES enhancement, maintenance, and operations to identify the impacted stakeholders. An integrated work plan is created describing the responsibilities and dependencies of stakeholders. Deloitte also uses an Interagency Coordinator who acts as a liaison between data exchange partners, agencies, and ACES system for effective communication and delivery.

Transparency: Deloitte maintains a status dashboard highlighting the actual status of the project for every stakeholder. The dashboard is shared across the data exchange partners, agencies, and ACES system. A status update meeting is conducted per agreed-upon DSHS contract. A representative from each stakeholder attends and provides an update on the status of the development and testing.

Inclusiveness: Deloitte conducts cross-vendor ceremonies including sprint planning, feature demos, SoS meetings and retrospectives. A variety of cross-team architecture meetings furthers a common understanding of the business requirements and end-to-end design across technology stacks owned by each vendor.

Consistency: DSHS and vendors work as one team, aligned on common goals and working toward successful outcomes in a badge less environment while still staying consistent with individual contractual obligations.


Deloitte has worked with various federal and state external agencies such as Conduent, Social Security Administration, Food and Nutrition Services, MMIS, CMS, State Department of Education, and Administration for Children and Families across different states.

The following figure highlights our multi-vendor experience with **Kentucky** and **Colorado**.



Kentucky Integrated Eligibility and Enrollment System (IEES)

Project Overview For the past seven years, Deloitte has been the prime vendor for design and implementation of Kentucky’s Integrated Eligibility and Enrollment System (IEES), launched in February 2016, that provides citizens and workers an integrated

	<p>technology platform for eligibility, enrollment, and case management functionality and supports various functions and programs administered by the Commonwealth of Kentucky’s Cabinet for Health and Family Services (CHFS).</p> <hr/> <p>Key Project Aspects</p> <p>Multi-Vendor/Partner Environment</p> <p>IEES involves integrating with a large number of technology partners and coordinating work across different technology stacks and vendors, where Deloitte was the prime contractor. Key groups of vendors involved:</p> <ul style="list-style-type: none"> • Outside Vendors: Conduent, DXC Technology • Federal Partners: Social Service Administration, USAC, Public Assistance Reporting Information System (PARIS), National Directory of New Hires (NDNH), Electronic Disqualified Recipient System (eDRS), Internal Revenue Service (IRS), Federal Platform, Treasury Offset Program (TOP), CMS Hub. • State Partners: Medicaid Management Information System (MMIS), Kentucky Automated Support Enforcement System (KASES), State Income and Eligibility Verification Systems (SWICA) and 12 other interfaces with different Commonwealth agencies. • Commercial Partner: Equifax, MCOs – Humana/Anthem/Passport/Well Care/ Aetna, SHOP Employers. <p>Similar Programs, Size, & Technologies</p> <ul style="list-style-type: none"> • Kentucky’s IEES solution supports Supplemental Nutrition Assistance Program (SNAP), Transitional Assistance Program (TANF), Child Care Assistance Program (CCAP), and the Commonwealth’s Medicaid programs. • The IEES solution issues SNAP benefits for more than 500K recipients every month, supports 1.2M individuals for Medicaid services, 48K individuals for TANF and more than 30K children for Child Care subsidies. The solution is highly robust and scalable, currently supporting 1,999 eligibility rule sheets, 949 portal screens, 183 interfaces with 41 partners, 316 types of notices, 849 batches, and 2,000+ staff workers. <hr/> <div style="display: flex; align-items: center;">  <p>Colorado Benefits Management System (CBMS)</p> </div> <hr/> <p>Project Overview</p> <p>The State of Colorado Governor’s Office of Information Technology (OIT) enables Colorado county workers to determine Coloradans’ eligibility for HHS programs and disburse food, cash, and medical assistance through the Colorado Benefits Management System (CBMS). CBMS is a mission-critical, state-wide integrated eligibility system used to assess and issue government benefits to Coloradans based on their eligibility.</p> <p>Since Nov. 2008, Deloitte has served as the prime vendor for CBMS and completed a complete re-platforming to Salesforce and AWS in 2019.</p>
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	<p>Key Project Aspects</p> <p>Multi-Vendor/Partner Environment</p> <p>CBMS system integrates with a number of other partners, requiring Deloitte to coordinate with other technology vendors to complete enhancement work throughout the engagement. Stakeholders included:</p> <ul style="list-style-type: none"> • Outside Vendors: IBM Truven Health Analytics, DXC Technology Services, Magellan, Public Knowledge, CenturyLink, Hyland • Federal Partners: Social Service Administration, USAC (LifeLine), Public Assistance Reporting Information System (PARIS), National Directory of New Hires (NDNH), Electronic Disqualified Recipient System (eDRS), Internal Revenue Service (IRS), CMS Hub. • State Partners: Medicaid Management Information System (MMIS), Colorado Automated Child Support Enforcement System (ACES), BENDEX/COLA, Colorado Department of Revenue (DoR), Child Care Automated Tracking System (CHATS), and many other State interfaces. • Commercial Partners: Equifax, Connect for Health Colorado, CyberSource (Wells Fargo), KeyBank, PingID, Regional Transportation District (RTD). <p>Similar Programs, Size, & Technologies</p> <ul style="list-style-type: none"> • CBMS supports Medicaid, food assistance (SNAP), cash assistance (TANF), Children’s Basic Health Plan (CHP+), and case management for work programs. CBMS is accessible to nearly 5,000 county and state workers across the geographically dispersed 64 counties in the State. • CBMS manages benefit eligibility for more than 760K cases each month, supporting nearly 1.175M Medicaid recipients, 455K SNAP recipients, and 36K TANF recipients. CBMS supports 80+ interfaces with entities, including federal agencies like the IRS and Social Security Administration (SSA), payment processing through CyberSource, and many other Colorado and federal systems and agencies. • The system is flexible and robust, currently supporting nearly 5,000 eligibility rule sheets, approximately 500 portal screens, 800 types of correspondence, and nearly 29K batch jobs run monthly. <hr/> <p>Figure 4.6- 9. Deloitte’s Experience.</p> <p>Our approach helps the State to reduces the risk of communication gap across the vendors and manage the project scope and timeline.</p>
<p>What is your approach to managing development efforts in parallel with the legacy system undergoing</p>	<p>Deloitte provides a proven release management process that enables solutions to move through build and test environments to a production environment successfully in a scheduled, predictable manner. Our release management facilitates how changes flow</p>

<p>continuous enhancements?</p>	<p>through any pre-production environment to the production environment.</p> <p>Our approach to managing development efforts for enhancements and defects is consistent with the Hybrid Agile method. We work with DSHS to add each item to the Product backlog, elaborate the user stories through backlog refinement, and prioritize and schedule the enhancements within Sprints based on the given priority level and the readiness of the story. The figure below is an overview of our approach to supporting system enhancements and defects release throughout the project.</p>
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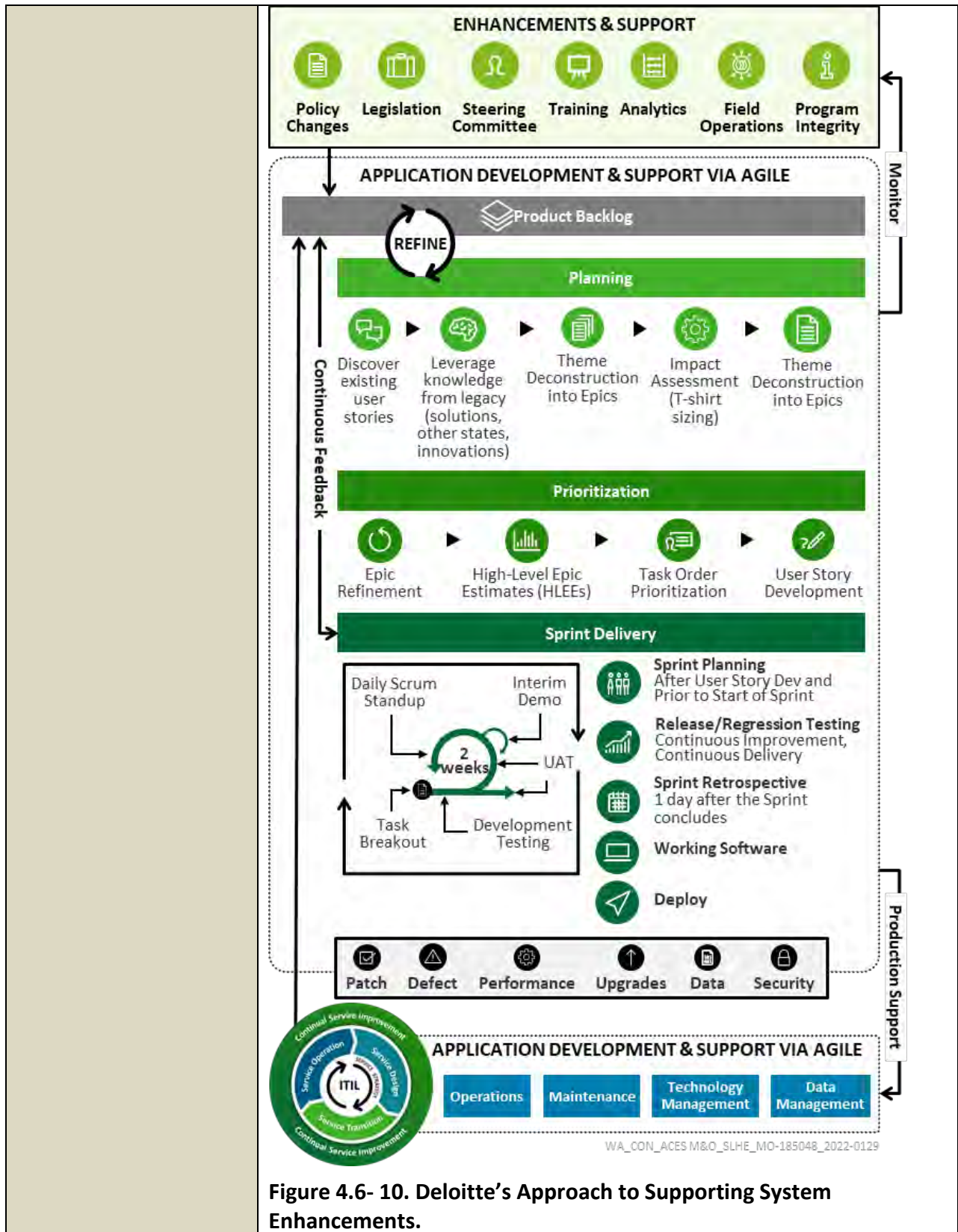


Figure 4.6- 10. Deloitte’s Approach to Supporting System Enhancements.

	<p>Defects and enhancements are identified through a variety of sources (maintenance, operations, data management, infrastructure management, policy changes and many more). Each of the identified defects and enhancements are added to the backlog.</p> <p>User stories recorded in the Product Backlog are reviewed and prioritized regularly through a process called Backlog Refinement. They are evaluated for the level of detail included, to validate whether they have met the Definition of Ready (DOR). This is a joint task to be completed by the State Product Owner, supported by the functional and development resources.</p> <p>User stories are also evaluated to determine their priority—that is, their relative ranking when compared to other user stories in the backlog. The State Product Owner and stakeholders are responsible for assigning the priority of each user story or feature. This helps to manage development effort across the ACES system undergoing continuous enhancements and modernization.</p> <p>User stories prioritized are moved to development and sprint planning. Once the sprint is completed, the change is moved for User Acceptance Testing before releasing to Production. Deloitte shares a release checklist with DSHS to avoid any scheduling and end user issues.</p> <p>A release plan is created for each release identifying the business and technical components of releases that are related to product upgrades, defects, and specific enhancements.</p> <p>Our approach to release management reduces cycle time, increases predictability, maintains a high degree of compliance, and contributes to reduced costs.</p>
<p>What is your approach to developing and maintaining a Decomposition Plan and modular transition activities?</p>	<p>Approach to Developing and Maintaining a Decomposition Plan</p> <p>Over the next 5 years, it is the goal of DSHS and the broader HHS Coalition to retire the ACES complex and move to a modern, flexible cloud-based platform – the IE&E Platform. To do this successfully, DSHS needs an approach to developing a Decomposition Plan. The plan needs to consider 1) ACES technological complexity, age and opaqueness, 2) the user flows and business processes ACES supports and their interconnectivity, 3) the order of the IE&E Roadmaps planned functional migration, and 4) the data needs of the IE&E Platform. Without a well thought out and regularly reviewed</p>

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related data. This data was extracted and loaded into a new archival database system. As a part of data display process, the legacy system screens selected by business units were captured as it appeared at the end of life of the application and were displayed in a new archival portal.

How We Satisfy the Requirement

At the start of every journey, there is always a destination. There is never one way to get there; planning and creating a Decomposition Plan is no different. Deloitte proposes using a product-based, decomposition planning approach to develop the right ACES decomposition approach for each of the 14 products planned in the HHS Coalitions five-year roadmap. This is illustrated in the figure below.

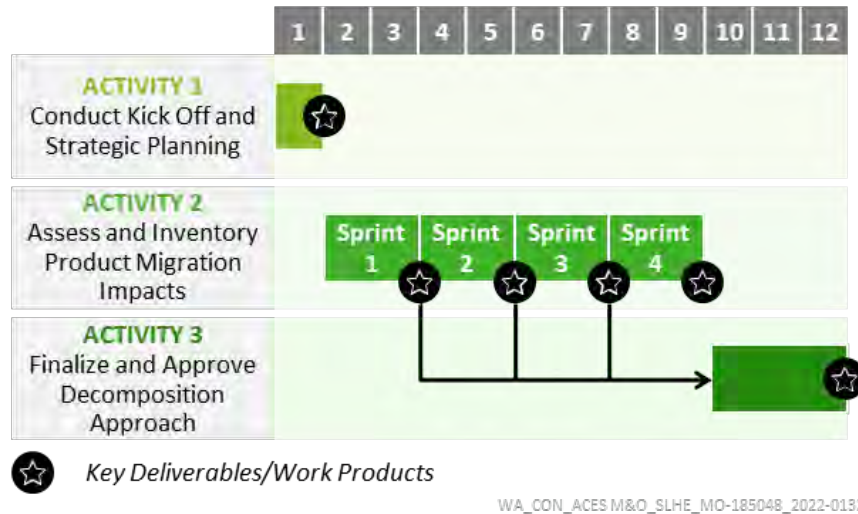


Figure 4.6- 11. High-Level Plan for Developing the Decomposition Plan.

We are open to discussing with DSHS whether to complete Decomposition planning for 14 products in 12 months, or more closely aligning to the 5-year IE&E roadmap (i.e., an “Incremental Decomposition Plan” deliverable). Please note there is a considerable amount of participation required from DSHS and other vendor staff for this planning process, including meetings, research, and document/deliverable review, which might be more realistic using a duration that aligns more closely to the 5-year roadmap. The amount of time is similar for Deloitte staff using either method. We have depicted our approach using 12 months in alignment with the RFP’s requirements.

We have preliminary grouped the products in the sprints noted below based on the scale of their impact against common IE workflows that ACES supports, and the interconnectivity between specific products. The products aligned to each sprint are in accordance with Washington State’s current IE&E Roadmap as of the submission of this proposal.

We have added an additional “catch all” product to Sprint 4 names ‘Miscellaneous Functionality’. During the journey through sprints, we anticipate there may be topics that need to be considered as part of the decomposition that may not align with the 14 products. We want to identify and define what is required for those topics. This may mean that another product is required to be added to the IE&E roadmap or a feature/process is required to be part of the final sunset and ACES decommissioning.

Sprint	Products
1	<ul style="list-style-type: none"> • Eligibility and Enrollment Tracker (Product 1) • IE&E Model and Data Technologies (Product 2) • Streamlined Application Submission (Product 3) • Change Reporting and Renewal Tracking (Product 6)
2	<ul style="list-style-type: none"> • Document Upload (Product 9) • Classic Medicaid Consolidated into Health Portal (Product 5) • Full Integrated Portal and Modern Business Rules (Product 12) • Modern Notification and Communication (Product 7)
3	<ul style="list-style-type: none"> • Modern Case Management (Product 4) • Modernized Eligibility Business Rules (Product 8) • Modernized Enrollment (Product 10)
4	<ul style="list-style-type: none"> • Assistor Management and Support Products (Product 11) • Data Warehouse (Product 14) • Document Management System 13) • Miscellaneous Functionality and Sunsetting ACES

Figure 4.6- 12. Preliminary alignment of roadmap products to decomposition planning sprints.

During each sprint, we come to understand how ACES modules align with the new IE&E products being built. We create decomposition “sets” to align with each product. These sets catalog the different ACES functions, processes, and interfaces, etc. that are ‘turned off’ when each product goes live.

Decomposition Planning Phases

Our overall approach uses a sprint-based, three-phased approach for breaking down the ACES Complex into multiple chunks to determine

the impact caused by moving functionality out of ACES and to the IE&E Platform. They include:

- **Activity 1** – Conduct Strategic Planning and Project Kick Off
- **Activity 2** – Assess and Inventory Product Migration Impacts
- **Activity 3** – Formalize and Approve Decomposition Approach

Activity 1 – Conduct Strategic Planning and Kick-off

To create the Decomposition Plan, we need first start with strategic planning of how we get to the result. Like designing and developing a brand-new system, we cannot simply just dive-in and start designing and developing without an overall plan. Strategic planning for constructing a decomposition plan is no different to make certain areas are considered and addressed and can be completed in the target timeframe, which need to align with the IE&E Modernization Products implementations.

How do we strategically plan for a Decomposition plan and kick off? First by having the right participants, well planned agendas and meetings scheduled to formulate the structure of Activity 2 (Assess and Inventory Product Migration Impacts) and ultimately leading to Activity 3 (Formalize and Approve Decomposition Approach). The figure below lists our key sub-activities and goals during Activity 1 and expected participation.

Sub-activity	Goal	Participants
Decomposition Kickoff Meeting	Decomposition mission, guiding principles, and high-level structure and timeline of Decomposition Planning over the next 12 months; Initial Decomposition planning risks and mitigation strategies; Expectations for Decomposition Draft reviews over the year.	DSHS Stakeholders, ACES Business SMEs, Incumbent Vendor, IE&E Modernization Product Vendors, Deloitte Decomposition team, Deloitte Leadership
Baseline Meetings	Short discussions of key considerations to baseline target areas/impacts of ACES to finalize Activity 2 Sprint groupings	DSHS ACES SMEs, ACES incumbent vendor, Deloitte Decomposition Leads
Decomposition Plan DED Development	Walkthrough of Decomposition Plan DED prior to submission	Deloitte Decomposition team and DSHS Stakeholders
Decomposition Discovery Plan Buy-In	Review the finalize plan for Activity 2 and Activity 3	DSHS Stakeholders, ACES Business SMEs, Incumbent Vendor, IE&E Modernization Product Vendors, Deloitte

Decomposition team,
Deloitte Leadership

Figure 4.6- 13. Activity 1 sub-activities.

Activity 2 – Assessing and Inventory Product Migration Impacts

For each decomposition planning sprint, there are 3 key steps that span 8 weeks. The HHS Coalition has already identified the priority for moving ACES functionality to the IE&E platform. We use that prioritization to also drive our order of decomposition planning. Each Product goes through following phases:

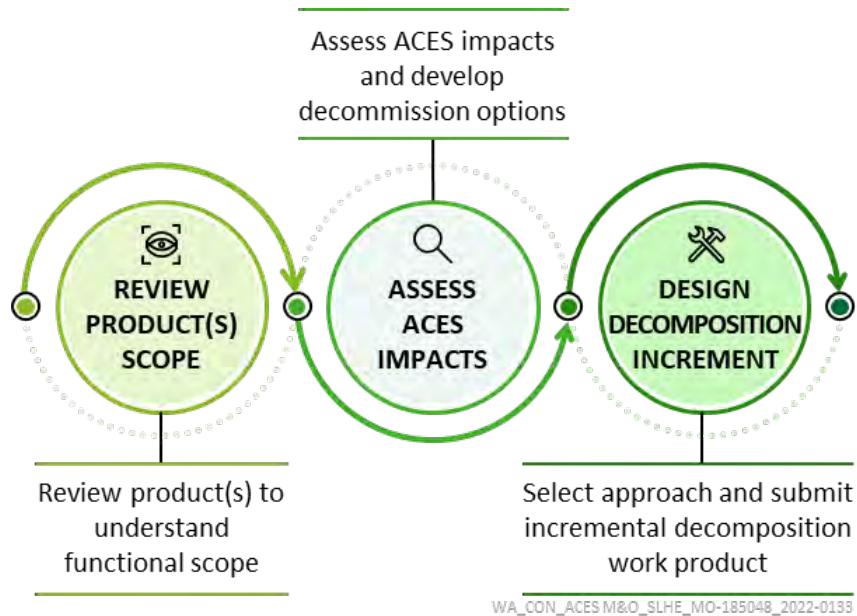


Figure 4.6- 14. Deloitte Sprint Approach to Determining Decomposition Impacts to the ACES Complex.

- Step 1 - Review Product Scope– Deloitte meets with DSHS, the appropriate Product Vendor, and impacted stakeholders to understand the functional scope of the Product. This includes understanding ACES workflows impacted, data needs, interface impacts, and policy/program impacts.
- Step 2 – Assess ACES Impact and Develop Option – Deloitte staff conducts an impact analysis to the ACES complex to identify how the new Product impacts ACES supported workflows, data elements impacted, screens, batch processes, interfaces, and shared routines. A key portion of this assessment is understanding how data needs to be shared or updated between ACES and the new products being developed on the IE&E

Platform. This drives data conversion needs that can often be critical path in terms of and effort when Decomposition systems. The figure below summarizes the items analyzed to determine the decomposition needs of the products in scope:

Area	Types of items assessed and key considerations
Application Landscape	Focus on reviewing legacy application process and methods, assess key integrations, batches, database architecture in ACES that may need to modify continue to support the modernized application processes.
Data Flows	Focus on reviewing data transactions between ACES, internal and external. Consider impact to data flow for each module modernization, including external data partners.
Features / Screens	Focus on key features and screens, understand worker impact and usage. Consider key features and screens to align with data archiving.
Integrations / Batch Processes	Assess batch processes and points of data exchange in ACES, internal and external as they align with each module modernization product.
Data Decommissioning	Focus on current data and database structures and what may be required to archived vs. purged.
Risk Management	Identify any risk to timeline, approach, decomposition activities that could impact success of ACES decomposition. Consider mitigation strategies.
Managing KPIs	Identify measurements to track the progress of decomposition as compared to the Decomposition Plan.
Monitoring	Create status tracking for decomposition plan execution and staying on track to plan.

Figure 4.6- 15. Consideration areas.







- Step 3 – Finalize Decomposition Design

At the end of each Sprint, our team compiles documentation to outline the following:

Documentation	Details
Decomposition Sets	<ul style="list-style-type: none"> • Identified ACES system/applications that align based on each Product Module • High level requirements and estimation of timeline and work required for each decomposition set • Impacted ACES areas that require modification to continue to work as expected.

	<p>Compilation of Miscellaneous Functionality Findings</p> <ul style="list-style-type: none"> Identify potential gaps that current IE&E roadmap is not modernizing that are essential to programs, workers, and clients. 								
	<p>Final ACES Sunset</p> <ul style="list-style-type: none"> Identify any part of ACES that is not be a part of an incremental decomposition and needs to be accounted for and aligned in the final ACES sunseting activities. 								
<p>Figure 4.6- 16. Activity 2 Documentation.</p> <p>Activity 2 documentation serves as key input for Activity 3, finalizing the Decomposition Plan.</p> <p>Activity 3 – Formalize and Approve Decomposition Plan</p> <p>After Activity 2, our team works during the Months 10 to 12 formalize the Decomposition Plan and present to DSHS for approval. Below is the outline of the activities that are planned during that timeframe.</p>									
<table border="1"> <thead> <tr> <th>Decomposition Planning Month</th> <th>Activity Details</th> </tr> </thead> <tbody> <tr> <td>Month 10</td> <td> <ul style="list-style-type: none"> End to end review of activity 2 documentation Identify clarifications required <ul style="list-style-type: none"> Schedule additional meetings if needed to with DSHS, product vendors Compose and re-submit DED for Decomposition Plan if changes are required due to outcome of findings during Activity 2. </td> </tr> <tr> <td>Month 11</td> <td> <ul style="list-style-type: none"> - Risk/Issue Assessment <ul style="list-style-type: none"> Identify potential risks to ACES system for each decomposition set Identify potential mitigation and impacts to IE&E roadmap - Recommendations of modifying Product Modernization roadmap <ul style="list-style-type: none"> ACES and products are not a 1 to 1 match; therefore, we assess if there is potential risk to the current order of the Product Modernization roadmap and recommend updates needed for the decomposition. </td> </tr> <tr> <td>Month 12</td> <td> <ul style="list-style-type: none"> Weekly checkpoint reviews of Decomposition Plan with DSHS. <ul style="list-style-type: none"> Each checkpoint reviews the progress of the Decomposition Plan and have DSHS provide ad hoc feedback. Updates to the Decomposition Plan continue from checkpoint to checkpoint. Presenting and submission of the Decomposition Plan </td> </tr> </tbody> </table>		Decomposition Planning Month	Activity Details	Month 10	<ul style="list-style-type: none"> End to end review of activity 2 documentation Identify clarifications required <ul style="list-style-type: none"> Schedule additional meetings if needed to with DSHS, product vendors Compose and re-submit DED for Decomposition Plan if changes are required due to outcome of findings during Activity 2. 	Month 11	<ul style="list-style-type: none"> - Risk/Issue Assessment <ul style="list-style-type: none"> Identify potential risks to ACES system for each decomposition set Identify potential mitigation and impacts to IE&E roadmap - Recommendations of modifying Product Modernization roadmap <ul style="list-style-type: none"> ACES and products are not a 1 to 1 match; therefore, we assess if there is potential risk to the current order of the Product Modernization roadmap and recommend updates needed for the decomposition. 	Month 12	<ul style="list-style-type: none"> Weekly checkpoint reviews of Decomposition Plan with DSHS. <ul style="list-style-type: none"> Each checkpoint reviews the progress of the Decomposition Plan and have DSHS provide ad hoc feedback. Updates to the Decomposition Plan continue from checkpoint to checkpoint. Presenting and submission of the Decomposition Plan
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	<ul style="list-style-type: none"> - A final meeting prior to the submission of the Decomposition Plan is held with DSHS to walkthrough the plan. - After the walkthrough, additional edits are made based on feedback and then submitted for approval.
<p>Figure 4.6- 17. Activity 3 Activities.</p>	
<p>What is your experience for implementing integrated business rules for multiple public assistance programs such as Medicaid, Supplemental Nutrition Assistance Program, Temporary Assistance for Needy Families, etc.?</p>	<p>National Leader in Building Large-Scale Eligibility & Enrollment (E&E) Systems</p> <p>Deloitte currently operates and enhances 26 E&E systems that determine eligibility for Medicaid, SNAP, TANF, and a variety of other human services programs. In most instances we implemented these E&E systems and configured the business rules with our clients. Each E&E systems contains a business rules engine with tens of thousands of business rules to determine benefit eligibility. This includes financial, non-financial, assets, and functional rules We have a breadth and depth of knowledge of these programs and architecting business rules in a logical and manageable form to facilitate ease of maintenance and lower cost.</p> <p>In the figure below, we highlight six examples that represent our experience providing M&O services for large E&E systems with business rules. Each supporting over 1,500 users and over 1 million records annually for current recipients, prior recipients, historically denied applicants, and corresponding technical rules engine components to handle this capacity for intake, processing, batches/interfaces, and reporting.</p>

						
	Indiana	Texas	Michigan	Wisconsin	Pennsylvania	Louisiana
Programs Supported						
	Medicaid, SNAP, TANF	Medicaid, SNAP, TANF	Medicaid, SNAP, TANF	Medicaid, SNAP, TANF	Medicaid, SNAP, TANF	Medicaid, SNAP, TANF
Users						
	4,400+	9,000+	5,000+	8,000+	7,200+	2,600+
Client records processed (per year)						
	2,656,428	12,273,643	2,694,712	3,174,631	3,771,889	5,089,126
Interfaces						
	185	250+	162	130	200+	330+
Batch Programs						
	599	580	1,833	2,500	6,200	1,800
Correspondence Generated (per year)						
	10 million	47,899,022	12 million	12,476,358	10.3 million	6,356,994
Tasks Completed (per year)						
	4.9 million	20.2 million	9.5 million	1 million+	25.8 million	2.1 million
No-Touch Determinations (per year)						
	369,180	986,905	409,590	154,281	565,000	658,339
Eligibility Rules						
	1,574	3,900+	2,100+	400+	12,000+	2,725
Stored Procedures						
	80	25	15	52	765	350
Screens						
	1,134	500+	2,035	700	490	1,000+
Enterprise Components						
	8	8	8	12	10	8
Reports Generated						
	116	105	550	550	1,300	380

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Figure 4.6- 18. How Our Experience Dovetails with Washington’s Needs.

<p>What are the critical elements to assuming responsibility for ACES? What will you require from the incumbent contractor or the state in order to assume responsibility?</p>	<p>Transition of a mission-critical eligibility system such as the ACES requires know-how, aggressive schedule management, tight coordination of parallel work threads, and early validation of knowledge transfer completion and operational readiness.</p> <p>Deloitte understands that the specifics of the transition period will be defined with the successful bidder during contract negotiations. However, we would like to share our experiences and items that we</p>
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view as critical elements for assuming responsibility from an incumbent vendor.

- During the transition period, incumbent vendor personnel will be available to conduct transition activities as directed by the project leadership.
- A well-defined RACI matrix that clearly defines responsibilities of the transition activities.
- Vendor experienced with takeover projects, especially takeover of public assistance and eligibility systems.
- Vendor experienced with large, complex transactional systems in public assistance systems including SNAP, TANF, Medicaid, and Childcare eligibility
- Well-established relationships for managing file exchanges with trading partners such as FNS, IRS, MMIS Vendors, and State agencies that integrate with PA agencies
- A well-defined and proven method for assuming responsibilities and transitioning systems from an incumbent vendor
- DSHS will provide workspace, software, hardware, and system access (both locally and remote) necessary for our team to provide the services required for the scope identified in the RFP.


We will rely upon a thorough and professionally conducted transition effort from the incumbent vendor for the duration specified in our response. During the transition period, we may direct incumbent vendor personnel to conduct knowledge transfer and/or perform Maintenance and Operations activities as we deem necessary to support the smooth operation of the transition period. Based on our experiences of transitioning systems of similar size and scope to Washington ACES, we will create a transition plan that includes very specific information required of both the incumbent vendor and DSHS. Information that we will collect as part of our transition period includes:

- Complete inventory of applications supported and managed by the incumbent vendor
- Complete inventory of configuration items currently in use and managed by the incumbent vendor including software, hardware, and other infrastructure related configuration items
- Knowledge Transfer from the incumbent vendor

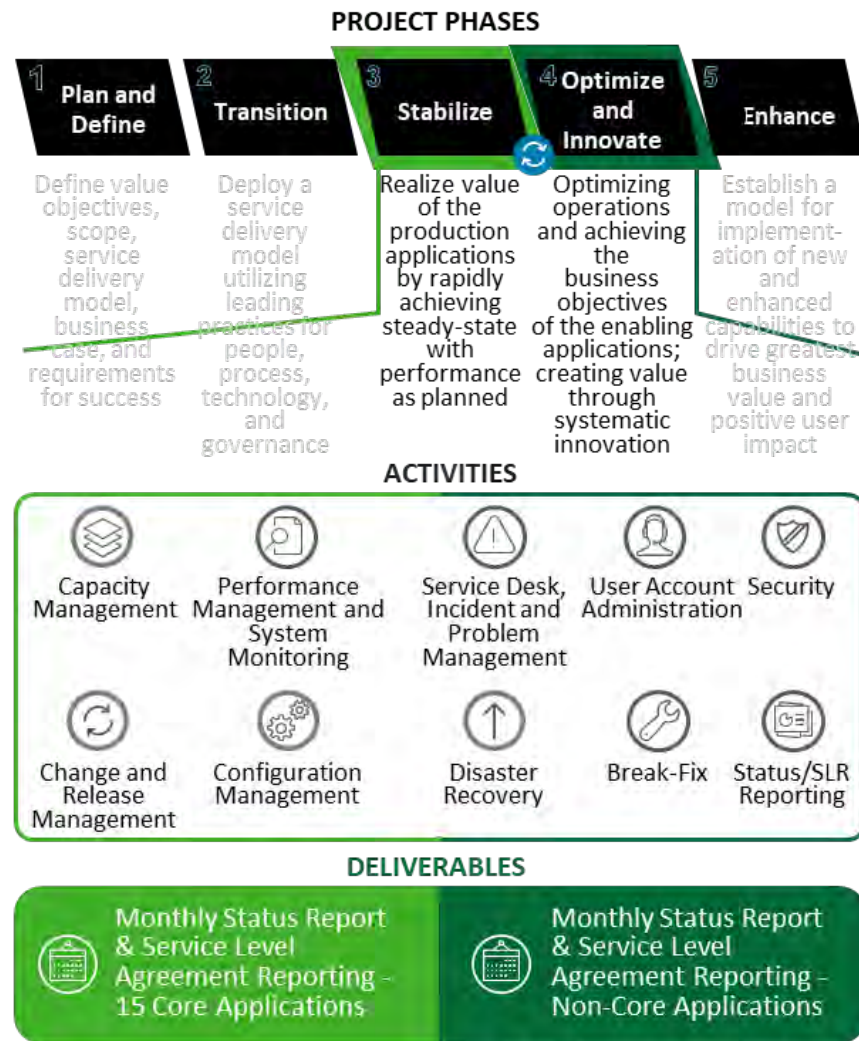
	<ul style="list-style-type: none"> • Business overviews from DSHS Business Owners for each application. • Each form of documentation including system documentation, application documentation, complete data models with data dictionary, infrastructure related documentation including physical diagrams and • Source Code for supported components (applications, interface jobs, etc.) • Defect backlog • Enhancement projects and updated project status information <p>Deloitte has a history of successfully collaborating with external vendors and organizations that impact our client’s services and systems. Throughout our 40+ year history of maintaining and implementing HHS systems, we have successfully worked with many other vendors. Our transition strategy and approach have proven successful for states and agencies where we have transitioned from incumbent contractors, allowing for a smooth transition of system operations, accelerating stabilization, and enabling stakeholders to focus on addressing strategic priorities during Operations and Maintenance (O&M).</p> <p>In addition to our proven transition methodology, infrastructure partner – Peraton – are very experienced in the exact technologies that are part of the ACES Complex. Our combined team has been carefully selected to minimize technology disruptions and performance risks, simplify the transition of hardware and software, and identify opportunities to improve infrastructure stability during the Transition Phase and the subsequent Stabilization Period.</p>
<p>Describe the approach to maintaining 24/7 support. How are after hours issues handled?</p>	<p>Providing human services benefits to Washington residents requires a 24/7 system that cannot afford to have disruptions. This requires a vendor with knowledgeable staff on call to deal with issues and resolve them quickly before they impact users or residents and their benefits.</p> <p>After-hours coverage plans are unique to each client and their respective systems that we support and will be developed in conjunction with DSHS. For handling after-hours issues, on a bi-weekly basis Deloitte publishes an after-hours coverage plan of ACES primary and back-up functional and technologies SMEs on our team.</p>

	<p>The plan is used by the designated batch and application monitoring team for escalation of issues which they cannot address.</p> <p>Additionally, incidents are logged in Jira for tracking purposes. In the event a Production code change or release is required to resolve the issue, the Deloitte Project manager or the designee reaches out to the DSHS point of contact for discussion and necessary approvals.</p>						
<p>Describe the approach to monitoring Service Level Requirements which govern the relationships between internal and external service providers (vendors), including provisioning, time to respond to requests etc.</p>	<p>Washingtonians, interface partners, and the DSHS staff depend on underlying service levels being achieved consistently to not disrupt ACES operations, and ultimately, not impact Washingtonians benefits. As one of multiple stakeholders in the ACES Complex, we understand that the concerns of data exchange partners and agencies must be understood and addressed to facilitate continued smooth ACES operation and support the ongoing updates and changes to ACES.</p> <p>We have a solid record of meeting established SLAs. We currently are managing and meeting SLAs for 26 E&E systems we maintain nationally. Even when we were challenged with the pandemic during the go-live of one of the largest and complex integrated eligibility systems in the nation, our teams were able to meet agreed upon SLAs.</p> <p>The following figure explains Deloitte's approach to monitoring the Service Level Requirements with respect to service providers and vendors:</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Approach</th> </tr> </thead> <tbody> <tr> <td>Provisioning</td> <td> <ul style="list-style-type: none"> • Step 1 – Meet with data exchange partners to understand data exchange contracts, define transition roles and responsibilities, and outline requirements for performance monitoring • Step 2 – Identify key points of contact and develop a communication approach with partners • Step 3 – Provide the detailed analysis regarding new interfaces implementation or changes required for the existing systems of ACES which are interfacing with State’s providers and vendors • Step 4 – Develop an appropriate escalation plan, should any issues arise </td> </tr> <tr> <td>Time to Respond to Requests</td> <td> <ul style="list-style-type: none"> • Step 1 – Prioritize each ask based on the severity and urgency of the request; the severity of the ask will be effectively communicated with the partner • Step 3 – If required, requests from external partners/vendors will be escalated to the appropriate DSHS </td> </tr> </tbody> </table>	Activity	Approach	Provisioning	<ul style="list-style-type: none"> • Step 1 – Meet with data exchange partners to understand data exchange contracts, define transition roles and responsibilities, and outline requirements for performance monitoring • Step 2 – Identify key points of contact and develop a communication approach with partners • Step 3 – Provide the detailed analysis regarding new interfaces implementation or changes required for the existing systems of ACES which are interfacing with State’s providers and vendors • Step 4 – Develop an appropriate escalation plan, should any issues arise 	Time to Respond to Requests	<ul style="list-style-type: none"> • Step 1 – Prioritize each ask based on the severity and urgency of the request; the severity of the ask will be effectively communicated with the partner • Step 3 – If required, requests from external partners/vendors will be escalated to the appropriate DSHS
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	<p>lead to confirm that timely response is provided, to meet our SLR targets</p> <hr/> <p>Downtime</p> <ul style="list-style-type: none"> • Step 1 – Send downtime notifications to interface partners, staff, and other stakeholders at least 2 weeks prior to deployment • Step 2 – Send reminders to stakeholders prior to, and on the day of deployment <hr/> <p>Interface Monitoring / Issue Resolution</p> <ul style="list-style-type: none"> • Step 1 – To monitor partner/vendor data and activities, real time dashboards and reports will be established, which allow ACES users to view on-demand data and monitor for any data discrepancies or spikes in usage • Step 2 – If there are spikes in data usage or application usage, DSHS staff will be notified by the system • Step 3 - If required, third-party vendors will be notified of suspicious activity so that appropriate action can be made
<p>Figure 4.6- 19. I y Steps for Managing and Responding to Interface Issues.</p>	

<p>In Section B of the RFP the HHS Coalition describes a list of modular components being considered by the IE&E Workgroup. Describe, in detail, your approach to maintaining and operating a legacy environment, similar to that described in this RFP, while also supporting a major modernization effort of that environment.</p>	<p>Deloitte understands the importance of a legacy system offering a seamless online experience for its users in the simplest means possible, whether they are benefit recipients or caseworkers. With this understanding at the forefront of what we do, we will keep the different components of ACES operating smoothly by bringing together resources with business and technical expertise whom Washington can trust.</p> <p>Our approach to maintaining and operating Washington’s ACES legacy system is derived from the “Plan and Define” and the “Transition” phases of Deloitte’s Enterprise Value Delivery (EVD) Methodology. Our EVD methodology is built on years of experience, and we have tailored our tactics based on lessons learned from IE&E projects to optimize the transition and decommission of the current ACES legacy system for Washington. These M&O processes are grounded in the IT Infrastructure Library's (ITIL's) best practices to deliver effective results relevant to the State's needs.</p> <div style="text-align: center;"> <p>DELOITTE’S ENTERPRISE VALUE DELIVERY (EVD) METHODOLOGY</p>  <p>WA_CON_ACES M&O_SLHE_MO-185048_2022-0084</p> </div> <p>Figure 4.6- 20. Deloitte’s Enterprise Value Delivery (EVD) Methodology.</p>
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Once our team has stabilized the maintenance and operations of the daily tasks associated with benefits distribution, we will begin focusing more on the “Optimize and Innovate” and “Enhance” phases of our EVD methodology. These phases will guide our approach to supporting the major modernization efforts to the legacy environment.



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Figure 4.6- 21. EVD Methodology Project Phases.

The EVD methodology provides our team with the templates to effectively manage the moving parts and different aspects of maintaining and operating an E&E system, like ACES, while simultaneously implementing enhancements and preparing the system to transition later.

We know there are many different aspects to consider for this system, and our approach to these different aspects is shown in the following figure:

Category	How We Deliver
Integrated Work Plan	Deloitte uses an integrated workplan with key milestones across different vendors to help confirm there is no confusion when implementing system changes during the modernization effort. For each Product developed by an IE&E vendor, we conduct an impact assessment to ACES and determine touchpoints and system changes required. Once the change request is approved for these changes, we coordinate a release schedule that works for both ACES and the new IE&E system. Key milestones are tracked, including testing in lower environments and items like specialized conversion processes.
Communication Management	Clear and frequent communication is central to how we operate. It is our priority to communicate consistently with Washington, the HHS Coalition, and Product vendors to provide transparency throughout the change and release process. To achieve this, we use Software Configuration Management tools and processes to help mitigate risks in real time and improve communication across stakeholders. With frequent update logging, we will be able to quickly diagnose and resolve system issues and track tickets until they get resolved. In addition to this, we partner with DSHS to create a Communication Plan that fits its needs and communication styles.
Joint Cutover/ Implementation Design	Deloitte works closely with Product vendors to develop the implementation strategy for the modules being transitioned. This allows us to identify impacts early and help confirm the implementation and cutover approach for modules being transitioned is comprehensive, and that there is test strategy that works. Once the enhancements are completely ready, they will be tested using the agreed-upon strategy. This approach also allows the State to have confidence the module transition will not be disruptive.
Prioritization of Change Enhancements and the Decision Process	Enhancement changes to the ACES legacy system and implementations of the future IE&E system will go through an approval process with the Change Control Board (CCB) . The CCB, which will consist of DSHS, Deloitte, and other vendor partners, will facilitate the approval process for system changes. Change Request tickets will be submitted to the CCB where the team will determine the urgency and feasibility of the change, if the change should be made to the legacy system, or whether it will be made in the modernization thread. If the ticket is approved, then the Change Request will be passed on to Integrated Change Management. This decision-making process will enhance communication across parties and vendors, confirming changes are tracked and that there are no adverse impacts across modules and tools.

	<p>Infrastructure & Data Management Our approach to infrastructure management provides the State with reduced risk of unexpected business disruptions and helps protect sensitive data by constant monitoring and updating of the infrastructure. We understand the security risks which come with handling clients' personal information, and we will work closely with DSHS and IE&E stakeholders in the CCB to determine the need for conversion, to devise migration activities, and to develop tests and conversion plans for change requests or applications. Modifications will allow the applications to be easily converted later into the new IE&E system - maintaining data integrity and keeping client information secure.</p>
	<p>Release Management Our M&O team will support ACES release management processes during modernization implementations and will identify opportunities to automate existing manual activities. While the decomposition of ACES will rely on the order of IE&E modernization, we will continue to support and stabilize ACES and as modules transition into the new IE&E platform until we can sunset the legacy system. We work to determine which enhancements work with your existing environment, and once approval is received for a new implementation, we will closely follow the change and release management process and document changes made and actions taken to allow for quick and easy reviews.</p>

Figure 4.6- 22. Areas of Delivery for ACES Project.

<p>Describe your approach to developing a modular cost model that supports the incremental breakout of modules from the ACES Fixed Price.</p>	<p>In the first year of the contract, Deloitte works with DSHS to develop a Decomposition Plan. The Decomposition Plan drives a series of cost estimates tied to what changes are needed in ACES to support functionality migrating to the IE&E Platform. Given that DSHS's plan for the IE&E roadmap is incremental over five years, each product will go live in accordance with the roadmap.</p> <p>Our approach to developing the cost model will reflect the estimate of actual work and the incremental release of modules from the ACES Fixed Price as our designated staff implement IE&E modernization products. As ACES modules and screens get decommissioned and batch jobs are retired, the transaction sizes will decrease. As a result, the number of people required for M&O activities may reduce and resources could be redirected to support other efforts such as integrating with the IE&E Platform based products as well as other enhancements to ACES. Additionally, we believe that DSHS staff will be able to reduce their effort in supporting the ACES activities over time, which will help drive DSHS operating costs of the ACES system, as modules start moving towards sunset. These associated costs will be proactively managed as we regularly monitor system performance of the legacy system with modules of ACES getting decommissioned.</p>
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MFaaS solution hosted out of our mid-Atlantic data center (MDC), as well as multiple transformation initiatives to reduce technical debt and improve security.

To accomplish the migration we used applied Transition and Transformation Methodology (TTM), analyzed customer usage of the mainframe, addressed multiple large-scale legacy network issues within the commonwealth's environment and ensured agency connectivity was not disrupted when the workload moved to the MDC. Customer data was replicated to the awaiting mainframe environment in the MDC and multiple live tests were conducted allowing the customer to test system behavior and network connectivity using real data.

Benefits of Mainframe to cloud migration

- Replicated data allowed for minimal downtime to mission-critical agency applications once the final cutover occurred and the disaster recovery site was fully operational and synchronized from the moment the transition cutover was complete.
- Network complexity was reduced and resiliency and security were improved. The system now supports secure signing algorithms and up-to-date encryption protocols with a comprehensive system security plan based on National Institute of Standards and Technology and Department of Defense standards.
- Scheduled batch processing was streamlined by automation, which improved quality and increased efficiency; reduced manual and ad hoc actions; and implemented a job request system to track and document schedule changes; reducing duplication.

Another example of our team migrating a large, complex HHS-based mainframe environment to the cloud is for the Centers for Medicare and Medicaid Services (CMS).

Our team provides full lifecycle development and maintenance, program/project management, requirements engineering, enhancements, DDI, testing, Quality Assurance, and M&O for the CMS. This contract, like WA ACES, includes support for both mainframe and mid-tier applications - IBM Mainframe, COBOL, COBOLS SP2, zOS, zLinux, NetCOBOL, DB2, CICS, MQ Series, IBM Q Rep, Connect:Direct, Gen Tran, Oracle, Informatica, and OPTIM. We have successfully transitioned many services of this mission-critical system to the cloud.

MEPBS's enrollment data is used by nearly every system in Medicare to determine whether a beneficiary is eligible for services. As CMS adopted modern technologies and techniques such as DevSecOps, Agile, and Cloud, more and more applications needed access to this data. Sharing data via mainframe extracts was a common practice at CMS for decades. Our team helped identify a number of problems CMS was having with this approach: it required too much data to be sent, introduced lag-time between data updates and consumer applications, introduced delays as mainframes would go down for maintenance, and led to data inconsistency across systems as they would pull the extracts at different times. To solve these challenges, we created an innovative approach to make MEPBS one of the first major Systems of Record at CMS to make data available in the cloud via Real-time APIs.

Benefits of Mainframe data to cloud migration

- This approach greatly reduced integration costs for new systems,
- ensured data consumers had the latest, most accurate data, and,
- enabled CMS to meet interface needs 24/7/365.

Migrating mainframes to cloud platforms is a staple of our services offered but we are also quite experienced in migrating off of mainframe environments. We have great success in modernizing mainframe-based applications to cloud-based web applications.

We bring relevant experience delivering next-generation infrastructure and cloud solutions for states and technology environments of similar size, scope, and complexity to ACES. For example:

- **Louisiana** - We implemented hyper-converged infrastructure for Louisiana and containerization on a private cloud.
- **Washington** - Deloitte provided the Health Benefit Exchange in the State of Washington, including end-to-end cloud services to migrate to Azure Cloud, providing infrastructure management and systems administration services as part of our M&O services.
- **Tennessee** - We developed the reference architecture to map targets to build the State's AWS-specific landing zone. In addition to standing up landing zones, we have developed the operational processes, key performance indicators, and standards to support a new cloud-ready organization.

	<ul style="list-style-type: none"> • California - Deloitte also brings experience modernizing components of infrastructure in an incremental manner. For example, we implemented a new Enterprise Content Management (ECM) solution for the California Department of Conservation built on Azure, MSO365, SharePoint Online, Nintex PaaS, and SaaS. • Indiana – Deloitte has experience migrating Production systems to Oracle ExaCC (cloud) and supported Indiana with migrating their production system to the cloud. <p>These experiences mean Washington has access to experienced infrastructure management professionals who understand how to tailor and deliver the best approach for the State Data Center’s long-term evolution of your data center, emphasizing consistent improvement and proactive planning throughout delivery.</p>
<p>How does your company manage IT Service Level Requirements such as requiring system up time in excess of 99.9%? What is your approach to managing operations critical SLR’s? What other critical SLR’s has your organization dealt with in the past and what methods were used?</p>	<p>Deloitte knows the State of Washington has high expectations for its ACES vendor and, given what is at stake, we understand why. The State depends on ACES to maintain federal compliance, maintain staff productivity, and meet project timelines and budgets. DSHS customers, interface partners, and staff depend on underlying service levels being achieved. Deloitte has a solid track record of meeting established Service-Level Requirements (SLRs) across the nation. We have the experience, processes, and tools to meet or exceed each SLR. Should any failure to achieve a service level occur, we have an established process to identify, prioritize, communicate, and resolve the issue. Most important, we seek to identify root cause(s) and mitigate future occurrences. Our approach to this requirement is divided into the following subsections:</p> <ul style="list-style-type: none"> • How We Manage IT Service Level Requirements • Monitoring Measuring and Reporting • Resolving Incidents that Impact SLRs • Managing Critical Service Level Requirements • Example of Other Critical SLRs Previously Used <p>How We Manage IT Service Level Requirements</p> <p>During the initial period of transition, the Deloitte team will work the incumbent vendor to evaluate the existing Performance Measures and establish Performance Objectives to focus on as part of the new scope of work. As a new vendor transitioning in, it is imperative that</p>

	<p>our team is provided with every opportunity to familiarize ourselves with the current SLRs and determine how the incumbent traditionally operates to meet these SLRs. During the transition-in phase, our team will catalog the existing SLRs, obtain current SLR performance metrics and create a baseline SLR that can be used as a reference and help us manage from. While we assume that SLRs will not be effective until 90 days have elapsed after successful transition, we look forward to having discussions regarding these SLRs during contract discussions and incorporate into our transition-in phase.</p> <p>Service-Level Management (SLM) promotes consistent quality while providing insight into the quality, efficiency, and timeliness of the overall service delivery. Our SLM methodology is consistent with the ITIL service management disciplines, which provide the guidelines to identify, monitor, and review the services provided. Its foundation is within Deloitte’s SLA management processes (Monitor, Measure & Report, Manage, Resolve, Review & Feedback) and is tailored to meet or exceed the thresholds for compliance defined in the ACES Maintenance & Operations RFP, or as otherwise mutually agreed upon.</p> <p>Our SLM process is not new; it is an extension of the current Service Level Management process in use today. Our experienced staff, using Deloitte’s SLM methodology, is ready to go on Day One, helping us meet or exceed the stated service levels mentioned in this RFP. The 28 service levels in this RFP span across various M&O and SDLC services areas. The following figure depicts how our SLM methodology traverses these service areas.</p>
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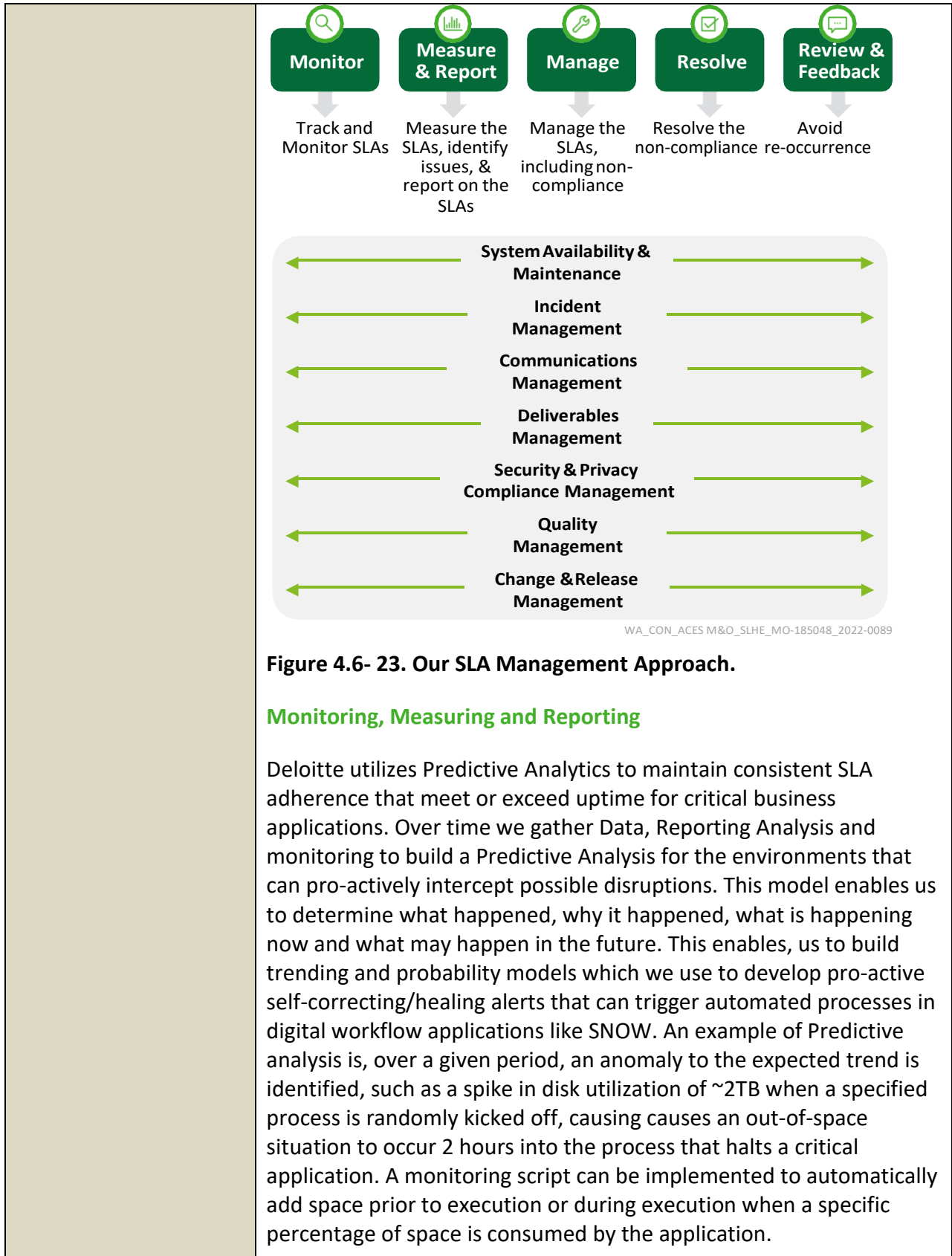


Figure 4.6- 23. Our SLA Management Approach.

Monitoring, Measuring and Reporting

Deloitte utilizes Predictive Analytics to maintain consistent SLA adherence that meet or exceed uptime for critical business applications. Over time we gather Data, Reporting Analysis and monitoring to build a Predictive Analysis for the environments that can pro-actively intercept possible disruptions. This model enables us to determine what happened, why it happened, what is happening now and what may happen in the future. This enables, us to build trending and probability models which we use to develop pro-active self-correcting/healing alerts that can trigger automated processes in digital workflow applications like SNOW. An example of Predictive analysis is, over a given period, an anomaly to the expected trend is identified, such as a spike in disk utilization of ~2TB when a specified process is randomly kicked off, causing causes an out-of-space situation to occur 2 hours into the process that halts a critical application. A monitoring script can be implemented to automatically add space prior to execution or during execution when a specific percentage of space is consumed by the application.

In addition, our team utilizes Monitoring, Measuring and Reporting to monitor service levels using tools such as Splunk, customized software assets and ALM tools (e.g., JIRA, IBM RTC/Jazz) that allow us to collect appropriate real time and batch data related to the Service Level measurements. This collected data is then aggregated to generate our monthly SLA dashboard/summary report that is shown in the figure that follows. We collaborate with the State to document the formula for calculating these metrics and document in the SLA Management Plan. The SLA summary and detailed reports are presented to State management monthly. In the current ACES contract, Deloitte works with the State to define and document the SLA reporting formula and format. We will expand current reports to cover the SLAs for this contract.

Our team provides continuous monitoring of systems software and production activities for problems, performance, and proactive maintenance. To achieve this objective, we use IBM and third-party software monitoring tools, such as RMF, CA-NetMaster Network Management for TCP/IP, and BMC MainView. Our technical support, production control, and operations staff monitor system/network availability and performance 24x7x365 on dedicated display monitors. Escalation procedures are in place to enable us to identify, analyze, and resolve problems in a timely manner. Our teams log problem status and resolution actions according to ITSM best practices and the approved Problem Management processes.

Our team provides continuous monitoring of production CICS system, using the real-time Micro Focus Enterprise Server Monitor and Control, or other monitors to identify any problems that negatively affect system availability and performance and to coordinate corrective action with the appropriate staff. If system monitoring discovers any long running, resource-intensive transactions that are negatively impacting the system, the appropriate Data Center team escalates according to established plans and takes remedial action as directed.

Under defined exception conditions, our team implements automation to take unattended, remedial action when long-running task thresholds have been exceeded. System Administrators also use monitors to view real-time exceptions and take corrective action if necessary.

Our team's practice is to monitor and actively manage and tune the system to proactively confirm sufficient resources are available to

enable development and test activities are supported in addition to production demands.

Our team has had sustained success leveraging IBM Workload Manager (WLM) Goal Mode to provide improved and consistent processor resource management for online and batch processes. Goal Mode helps achieve optimum throughput for active, concurrent on-line and batch parallel workloads

Our standard practice is to provide a Daily Production Status Report that includes current month Production Batch Cycle statistics. Our Operations and Production Control unit obtains statistics to maintain this report from data collected and reported by the CIMS or similar software product. We use a data access tool to extract specific data from existing mainframe reports to reports for distribution and collect other data from the Daily Operations Log and JES2 Job Logs. We also calculate month-to-date totals for inclusion in the Daily Production Status Report.

The reported statistics in the Daily Production Status Report may include:

- Production Batch Run Date
- Production Batch Run Job Count
- Production Batch Run Abend Count
- Production Batch Run Abend Log
- Data Center Operations Log
- Number of Tape Mounts
- Start/Finish Time, Record Counts for the Following Jobs:
 - Special Request Jobs
 - Other jobs at the request of the State
- FTP and NetView or other File Transfer validation and statistics data.

We provide a data access tool to report the following items:

- Reports for Production Job Statistics (job start/end time, CPU time, wall clock time)
- Daily and Month-to Date Run Statistics

We provide the Data Center Operations Log that contains log entries for the current month.

We also report file transfer validation and statistical data. To process this report, we use the file transfer log which contains queue handler commands processed during the queue handler’s run time.

Our team applies our process to provide cumulative month-to-date statistics included in the Daily Production Status Report. We review the cumulative month-to-date statistics with the State to confirm that we have captured and reported requested statistics.

We also regularly produce additional reports such as Database Maintenance Reports(job performance, reorganizations on Journal partitions, automated maintenance schedule, etc.), RACF reports, TSO Response Times, Connectivity Log, DASD Usage, and others.

Below is an example of an SLA summary report, which we submit to the State every month.

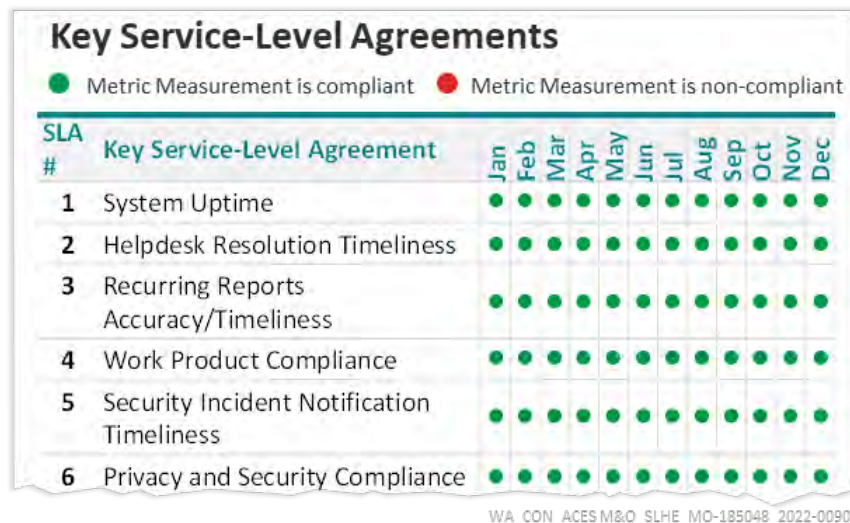


Figure 4.6- 24. Example of an SLA Report.






We have built automated “early warning” alerts that help our staff monitor those service levels at risk of not being met due to foreseen or unforeseen circumstances. We have implemented real-time, application and security monitoring dashboards using tools such as Splunk Enterprise, OEM, Java Virtual Machine (JVM) monitoring to trigger alerts in case of potential infrastructure outage, high response time, and performance degradation. For example, we leverage the OEM tool to give us continuous feedback on resource intensive SQLs and jobs. Our DBAs use this information to proactively tune these before any significant performance degradation occurs. Our production support team is promptly notified of any abnormalities and carries out immediate Root Cause Analysis (RCA) and takes

appropriate remediation actions. This helps avoid any system disruptions for residents and workers or impacts to SLAs.

Resolving Incidents that Impact Service Levels

We have established a process to prioritize, communicate, and address any failures to maintain Service Levels. Any time an SLA does not meet the established threshold in a month, a resolution process is implemented. This process involves documenting and assessing the impact of the incident and communicating with the State of Washington. We conduct an RCA and create output explaining the issue in detail, its impact on performance standards, and the remediation plan. We work with the State to obtain approval of the plan, implement it, and monitor it to see that it has had the expected results. We identify and implement processes to avoid similar issues from recurring.

The following figure defines how our SLM process guides us in resolving incidents that are contributing to a failure to maintain service levels.

Deloitte SLM Phase	Detailed Activities	Productivity Tools
 Monitor	<ul style="list-style-type: none"> Proactively Monitor IEDSS components to identify incidents Communicate to appropriate State and OV&V stakeholders based on approved Project Management and Incident Management Plan guidelines 	<ul style="list-style-type: none"> Splunk Enterprise OEM
 Measure and Report	<ul style="list-style-type: none"> Analyze and document incidents Analyze root cause and its effect on IEDSS operations Create an Action Plan to resolve the incident and submit to State for approval 	<ul style="list-style-type: none"> JIRA ALM
 Manage	<ul style="list-style-type: none"> Proactively review SLA metrics on a daily basis Proactively review incidents and trigger resolutions 	<ul style="list-style-type: none"> JIRA ALM MS Office MS Project
 Resolve	<ul style="list-style-type: none"> Upon State Approval, execute remediation plan, assess results and confirm with State that the incident is resolved Record impact of incident to SLA for future reporting 	<ul style="list-style-type: none"> JIRA ALM MS Office
 Review and Feedback	<ul style="list-style-type: none"> Implement processes, system changes and monitoring tool changes to identify similar incidences and prevent them from reoccurring 	<ul style="list-style-type: none"> Splunk Enterprise configuration changes OEM configuration changes

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Figure 4.6- 25. Key Service Level Management Activities.

It is also worth mentioning that there will be instances where the system would contain defects that were introduced prior to the Deloitte team assuming responsibilities for this contract. These defects could surface during subsequent incident resolution, enhancements, or occur when a certain business scenario or exception process occurs. We assume that SLRs in place will not be impacted by these existing defects present prior to transition-in.

Managing Critical Service Level Requirements

Deloitte does not distinguish between SLRs in terms of priority. Meeting SLRs is critical for us to delivery excellent service to DSHS. However, there are SLRs that when not met can be significantly more disruptive than others (e.g., system availability issues and outages). Along with using automation to establish early warning signs for potential issues, we establish incident response processes and procedures so our team can rapidly respond to incidents that impact these types of SLRs.

Examples of Other Critical SLRs Previously Used

Deloitte recommends service levels for environment, system, application that align with technology and business objectives for ACES. In the following figure, we outline Deloitte’s reasoning for suggested SLAs to deliver optimal levels of service to the State. The metrics examine high availability, optimal system performance, and the functional integrity of the applications necessary to maintain technology goals. We are open to detailed discussion during contract negotiations to finalize SLAs and related aspects such as metrics and reasoning.

SLR Metric	Reasoning
Environment System Availability (components in Prod)	We understand System Availability is the key for staff to use the system and avail the benefits.
Worker Portal Availability in Prod	The Worker Portal is an important component of the ACES Complex and we have successfully managed this for other clients.
Applicant Portal Availability in Prod	The Application Portal is instrumental to accepting and approving benefits for clients in need. As a critical component, we have successfully managed this for other clients and have tracked availability in the past.
Batch Processing Performance – Inbound Files	We understand processing Inbound Batch files is of utmost important to processing benefits in ACES and have routinely seen this is a tracked metric based on previous experience.
Batch Processing Performance – Outbound Files	We understand processing outbound Batch files is of utmost important to processing benefits in ACES and have routinely seen this is a tracked metric based on previous experience.
Daily database Backup	We understand database backups are important to bring the system back from any unforeseen outages. We have routinely seen this is a tracked metric based on previous experience with other clients.

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	<p>the HHS landscape and innovative and creative solutions for modernizing HHS services. With our expansive resource pool, knowledgeable experts, and commitment to the public sector, we can provide the State with creative and innovative M&O services that will add value and allow the end user clients to have an easy and enjoyable experience with the HHS system in Washington.</p>												
<p>What risks and opportunities should DSHS be consider as we envision the next five years of this system? How can you help us mitigate these risks and take advantage of emerging opportunities?</p>	<p>The figure below provides our assessment of the key risks for ACES project over the next five years.</p> <table border="1"> <thead> <tr> <th>Risk</th> <th>Mitigation</th> </tr> </thead> <tbody> <tr> <td> <p>Accelerating increases of costs and less operational flexibility</p> </td> <td> <p>This risk is caused by working with a vendor who brings limited IE migration experience and is heavily invested in ACES complex thinking, to the extent that they are unable to see beyond and determine what is needed to transition to the new IE&E platform. Deloitte comes with extensive industry experience to manage the overall cost of operations and maintenance, even while the DSHS footprint continues to grow. To mitigate this risk, Deloitte’s robust planning and accurate estimation based on refined methodologies and tools offer the foundation for the right decisions regarding scope, schedule, resources, and project priorities.</p> </td> </tr> <tr> <td> <p>Dependency on external systems</p> </td> <td> <p>Early communications and collaboration lead to coordinated release plans and mutual buy-in to changes. 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This will significantly reduce the time taken to test the changes and result in far fewer production stability problems.</p> </td> </tr> <tr> <td> <p>Failure to achieve roadmap milestone</p> </td> <td> <p>Failure to achieve product roadmap milestones due to not defining clear scopes of work between vendors given the multi-product, multi-vendor approach planned. Deloitte’s collaborative approach to stakeholder engagement at each level of the vendor, DHS, and external agencies (Interagency Coordinator).</p> </td> </tr> </tbody> </table>	Risk	Mitigation	<p>Accelerating increases of costs and less operational flexibility</p>	<p>This risk is caused by working with a vendor who brings limited IE migration experience and is heavily invested in ACES complex thinking, to the extent that they are unable to see beyond and determine what is needed to transition to the new IE&E platform. 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Data security

Significant security breach in data given transition to cloud and significant amount of new code being developed in a multi-vendor environment. We have a **dedicated cyber practice** that helps improve **threat awareness** and visibility and strengthen the organization's ability to thrive in case of cyber incidents. Our cyber market offering includes a large group of resources skilled in cyber strategy, application security, cloud, infrastructure security, data, and privacy. We can also leverage these resources from our cyber practice to act as SMEs to participate in reviews or validate resilience of the application and embed security and controls, as necessary.

Figure 4.6- 29. Risk and Mitigation Approaches.**Opportunities**

One key opportunity for Washington is access to Deloitte's Health and Human Services & Labor Nerve Center ("Nerve Center") which connects our current IE clients across 26 states, and broader HHS community of clients, in solving problems.

The Nerve Center was established to drive Deloitte's mission to 1) bring innovative, emerging solutions to our clients that help solve their most complex challenges, 2) transform the delivery of services and benefits for our most vulnerable neighbors, and 3) elevate the human experience to strengthen our communities. The Nerve Center is structured to conduct deep analyses, environmental scans and outreach, policy and program research, and develop industry leading practices to drive innovation, human-centered design insights and support data-driven decision-making across our practice. We collect, analyze, and disseminate this information throughout our community, real-time, in support of our clients and practitioners. A dedicated team drives internal operational coordination across our HHS projects which encompasses more than 2,500 Deloitte practitioners across 26 active projects in more than 30 states and our federal HHS partners. We routinely meet as a collective group and share ideas on opportunities and investments that our clients have made in emerging technologies. Recent topics demonstrated within our nerve center include:

- **Operational Dashboarding and Analytics** for Enrollment and Eligibility that assists leadership in driving efficiencies in operational effectiveness, backlog reduction, and timely processing of applications.

- **SNAP Longitudinal Data Project** allows states to build databases using SNAP information. The databases will help support SNAP research.
- **Artificial Intelligence and “Bots”** for processing routine tasks and end-user task resolution for
- **Transfer Solutions** that can be delivered to improve operational effectiveness of systems and automate processing, task creation, and resolution
- **Ability to lower M&O costs** by retiring ACES and using automation in the interim, and the ability to fund better system support for workers and Washingtonians

In addition to the above examples of emerging opportunities that we have realized, the Nerve Center works to:

- Anticipate, track, and share information issues impacting HHS and Labor clients, projects and programs
- Facilitate client webinars on key topics
- Monitor and analyze new federal legislation, policies, and regulations coming from Congress, CMS, FNS, ACF, and USDOL
- Incubate new solutions and innovations addressing emerging trends, policy shifts, and the complex challenges our clients are facing
- Provide operational responsiveness strategies and best practices being employed by our teams

The Nerve Center drives innovation for our clients by rapidly creating and sharing new solutions based on identified client needs, lessons learned, best practices, and anticipated market changes (e.g., new food assistance programs, UI system stabilization, virtual case management, artificial intelligence, and advanced analytics).

We will work with DSHS to proactively and consult with our innovation leader to inject emerging opportunities, systems, and processes that will improve the posture of DSHS as an organization.

4.7 Executive Order 18-03

Pursuant to RCW 39.26.160(3) (best value criteria) and consistent with [Executive Order 18-03 – Supporting Workers’ Rights to Effectively Address Workplace Violations](#) (dated June 12, 2018), DSHS will evaluate bids for best value and provide a bid preference in the amount of 25 points, to any bidder who certifies that their firm does NOT require its employees, as a condition of employment, to sign or agree to mandatory individual arbitration clauses or class or collective action waivers. Successful bidders who certify that their employees are NOT required to sign these clauses and waivers as a condition of employment will have an EO 18-03 Section added to their contract incorporating this response and requiring notification to DSHS if they later require their employees to agree to these clauses or waivers during the term of the contract.

<p>Do you certify that your firm does NOT require its employees, as a condition of employment, to sign or agree to mandatory individual arbitration clauses or class or collective action waivers? Indicate your response in a narrative format in the space provided</p>	<p>No. Deloitte does not require arbitration clauses or waivers as a condition of employment.</p>

Proprietary Information

Proprietary information is part of our response and should be redacted if the response is shared beyond the agency. We have placed "PROPRIETARY" on the lower right-hand corner of the following pages throughout our response:

- Section 4.1 – Executive Summary
 - Pages 9, 10, 15, 17, 18, 19, 20, 24, 28
- Section 4.2 – Bidder Performance
 - Pages 34, 46, 58, 79, 81, 139, 166, 203, 206, 214, 234, 236, 239, 243, 261, 263, 268, 279, 355, 363, 364, 391, 396, 403, 410, 414, 420
- Section 4.3 – Key Personnel
 - Pages 425, 428, 429, 430, 431, 432
 - Resumes on pages 436-459
- Section 4.4 – Bidder Engagements
 - Pages 460-470
- Section 4.5 – Bidder References
 - Pages 473-477
- Section 4.6 – Bidder Questionnaire
 - Pages 479-484, 494, 510, 522-524
- Attachment 10 – Pricing Workbook
 - Worksheets: Summary, ACES M&O, Implement Enhancements, Replatforming Costs, Cost Assumptions

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202212-PRR-44

2	Company Name	State of Wyoming, Department of Health (WDH)
	Contact Name	Ruth Jo Friess
	Contact Job Title	Wyoming Eligibility System (WES) & Customer Service Center (CSC) Contracts Manager
	Address	122 W 25th St. Cheyenne WY 82002
	Telephone Number	+1 (307) 777-3648
	Email Address	ruth.jo.friess@wyo.gov
	Describe if, and in what ways, this engagement was similar in scope and complexity to this RFP.	<p>Deloitte transitioned in as the maintenance and operations vendor for the Wyoming Department of Health's Eligibility System (WES) in October 2016 after three months of working with the incumbent vendor. WES supports Medicaid and CHIP programs, along with document management support for SNAP and CASH programs. WES supports about 200 active workers and assists close to 130K active clients on these benefits. We understand the caseload volume of this system is smaller than Washington, but the program complexity in relation to Medicaid and CHIP is very similar to Washington State.</p> <p>Deloitte is currently working with the State to transition from private-cloud hosting of the system to the Amazon Web Services (AWS) cloud service, with a planned go-live date of March 2023.</p> <p>Wyoming Eligibility System (WES) is another example where Deloitte was able to maintain and operate a system which was developed by another incumbent vendor.</p>
3	Company Name	State of California Office of Systems Integration (OSI)
	Contact Name	James Duckens
	Contact Job Title	CalHEERS Project Director
	Address	PROPRIETARY [REDACTED], CA 95835

Telephone Number	916-999-3214
Email Address	james.duckens@calheers.ca.gov
Describe if, and in what ways, this engagement was similar in scope and complexity to this RFP.	<p>The State of California’s Healthcare Eligibility, Enrollment, and Retention System (CalHEERS) is a large, complex state-based health insurance exchange delivering high quality, affordable health insurance to millions of Californians. It has an open data lake architecture utilizing Databricks and Snowflake. It consists of over 450-terabyte production databases and six petabytes of federally mandated archived data. CalHEERS supports more than 20,000 internal staff accounts and 7.7 million user accounts. It also exchanges data through 140+ interface services across 43 interface partners at the state, federal, and commercial levels in production and non-production environments.</p> <p>Deloitte has been the Maintenance and Operations (M&O) vendor since September 2019 when it executed transition-in activities to take over the system from another vendor. Deloitte provides enhancements, security, maintenance, subcontractor management, product vendor management, helpdesk support, and ongoing operations of CalHEERS.</p> <p>Deloitte has also been tasked with implementation of accelerated modernization programs, including migration to and optimization within an AWS Cloud environment, delivery model transformation (Agile/DevOps), and workforce transformation.</p> <p>Our experience and knowledge from the CalHEERS project positions us to successfully support the maintenance and operations for the ACES system in the State of Washington.</p>

Company Name	State of Maine, Maine Office for Family Independence (OFI)
Contact Name	Dan Cohen
4 Contact Job Title	Chief Operating Officer
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Telephone Number	+1 (207) 624-4101

Email Address	dan.cohen@maine.gov
Describe if, and in what ways, this engagement was similar in scope and complexity to this RFP.	<p>Deloitte transitioned in as the maintenance and operations (M&O) vendor of Maine’s Automated Client Eligibility System (ACES) in January 2022. Like Washington State, Maine’s ACES system is a suite of legacy systems that provide application processing and case management support functions across multiple health and human services programs, including Medicaid, SNAP and TANF.</p> <p>Maine’s Office for Family Independence (OFI) has recently started an initiative to consolidate and modernize the systems while establishing an enterprise architecture. Deloitte has supported OFI through a multi-step roadmap planning exercise that involved correlating strategic opportunities to OFI goals and challenges to produce a preliminary operational future roadmap that advances OFI objectives. In April 2022, Deloitte delivered a final roadmap that positions OFI to achieve its business and technology transformation of the ACES suite of systems. The initiatives on the roadmap advance the experience for workers and customers through innovative solutions such as nudging/messaging, call center modernization, robotic process automation, user interface enhancements, cloud migration, visual analytics, etc.</p> <p>Deloitte is currently working with OFI to design, develop, and implement initiatives on its transformation roadmap.</p>
Company Name	State of Alabama Department of Human Resources
Contact Name	Lisa Townsend
Contact Job Title	Director, Information Services Division State of Alabama
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