Office of Recovery Services (ORS)

ORS Data Analytics

Implementation Plan and Audit Response

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Executive Summary

In response to the recent review by the Office of the State Auditor (OSA), the Office of Recovery Services (ORS) has developed this comprehensive Data Analytics Implementation Plan. ORS concurs with the three primary findings related to database design, data governance, system documentation, and interagency role clarity.

This document details ORS's strategic plan to fully resolve all audit findings and, in doing so, modernize our analytical capabilities to better serve our constituents. The core of our solution is a two-phase implementation plan, beginning in the first quarter of calendar year 2026.

Phase 1: Foundational Infrastructure & Governance will establish a robust data governance framework, create a comprehensive data dictionary, formalize roles and responsibilities with DTS, and begin replicating all federally-required reports such as the OCSS 157 report in a new, modern analytical environment.

Phase 2: Data Warehouse & Full Analytics Enablement will build upon this foundation by developing a scalable Enterprise Data Warehouse (EDW). This EDW will integrate data with the ORSIS database and other sources, providing a single source of truth for all reporting and ad hoc analysis, and enabling advanced analytics and predictive modeling.

This plan includes a detailed breakdown of timelines, costs, and funding sources necessary for success. Upon full implementation, ORS will have resolved the identified audit findings, eliminated risks to federal funding, and established a data-driven culture supported by a modern, secure, and auditable analytics platform.

Introduction

The Office of the State Auditor (OSA) completed a limited review of the Office of Recovery Services' information systems, data, and processes to assess the information system used by ORS to process child support cases.

The OSA review identified three areas of weakness with the Office of Recovery Services Information System (ORSIS) for ORS management to address as follows:

> Finding 1: Outdated Database Design and Improper Data Governance Impair Reporting Accuracy and Auditability - which jeopardizes federal funding.
>
> Finding 2: ORS has committed substantial public funds modernizing ORSIS without addressing the issues identified in Finding 1.
>
> Finding 3: Lack of Internal Understanding and Ownership of System Codebase.

These areas and specific findings were shared during the ORS accountable base budget meeting with the Social Services Appropriations Subcommittee in June and restated in August. During the October meeting, intent language was introduced that reads:

> *The Legislature intends that the Department of Health and Human Services report to the Social Services Appropriations Subcommittee by January 13, 2026, on ORS's progress in implementing the recommendations outlined in the 2025 Utah State Auditor Limited Review of the Office of Recovery Services.*

This report serves to provide an update regarding each of the audit recommendations and a data analytics implementation plan, including an overview of the data analytics features to be developed and added to the ORSIS environment; implementation timeline and milestones; the infrastructure required to support data analytics; staffing requirements; expected costs; and funding sources.

Status of Audit Recommendations

ORS provided responses to the Office of the State Auditor for each of the audit recommendations following release of the audit report and findings in June 2025. The following provides a status update for each of the recommendations in alignment with those initial responses.

1-1. We recommend ORS BET and DTS prioritize a database redesign modernization effort to ensure analytics capacity is central to the information system functionality. This should happen before continuing to add new user interfaces.

Transactional databases are often designed to take queries from and return data to executing programs, while analytical databases are designed to store data in a temporary location while the results are incorporated into reports or other business visualization tools. ORS and DTS have determined that adding a parallel analytics component is the correct approach to take due to the demands on the ORSIS database.

Given the demands on the ORSIS database during the day when ORS employees are actively engaged in case work and responding to client inquiries, accounting staff are posting financial transactions, and at night when up to several thousand queries per second are running during batch processing, it has been determined that it would be best to follow the industry standard approach of using a transactional database to support high volume processing, an analytics database to support complex analysis and have a process that regularly keeps analytics database updated. Similar parallel database configurations are the industry standard in financial or commercial situations that require both rapid response time for live transactions while also providing the capability to provide deep analytics to their businesses.

The Data Analytics Implementation Plan section of this report provides additional detail about the ORS and DTS approach to data analytics in the ORSIS environment.

1-2. We recommend ORS establish formal responsibility and procedures for maintaining up-to-date documentation and standardization reporting queries.

By July 1, 2026, ORS will have a policy and associated procedures drafted and published that establishes ORS's responsibility for developing and maintaining up-to-date documentation related to system enhancements and change requests, which includes the development of ad hoc queries and reports.

ORS has determined that the policy and procedures will specify standard development processes, including drafting business requirements, system requirements, functional programming specifications, integration testing, user acceptance testing, and data validation as needed by the ORS Data Governance team.

1-3. We recommend ORS create an integrated data governance team, comprising both ORS business and DTS technical staff, tasked with proactively identifying and resolving data quality problems and enhancing business intelligence capabilities.

A data governance team has been assembled that includes members of ORS administration, ORS senior business analysts, and DTS technology and application managers. This team began meeting monthly in November.

ORS has drafted a policy and procedure document that outlines the roles and responsibilities of the ORS Data Governance team. This document is currently in draft mode and being refined, but will be published by January 1, 2026.

1-4. We recommend ORS implement robust data validation protocols to detect and flag anomalies at the point of entry.

As stated in ORS' formal response to the audit shared with the Office of the State Auditor, a resolution for this finding is due July 1, 2027.

Instances of specific anomalies were not provided, so ORS and DTS are working to implement a consolidated framework. This is dependent in large part on work the ORS data governance team will define as thorough reviews are conducted for possible discrepancies. The data governance team was recently assembled and is meeting monthly to develop and implement this consolidated framework that will result in data validation protocols and the ability to detect and flag anomalies.

The due date for this recommendation was established based on the need to assemble and convene a data governance team, develop a consolidated framework, and it also gives consideration to staffing constraints; the same individuals implementing the data analytics environment and responding to statutorily mandated deadlines are also responsible for this framework.

2-1. We recommend that ORS should re-evaluate the current modernization strategy, including its contract with external vendors such as Deloitte, to ensure that the scope of the work reflects the system's business needs. Future modernization phases must go beyond infrastructure and interface design to include substantial reform of the database architecture, coding logic, and data validation frameworks. BET should be more strategically deployed and supplemented with personnel who possess advanced data engineering and systems architecture skills. Without this recalibration ORS risks continued inefficiency, despite spending millions in public funds on modernization efforts that do little to improve functionality, accuracy, or effectiveness.

ORS leadership is currently in the process of reviewing and analyzing information regarding modernization strategies and vendors used by other Title IV-D child support programs to evaluate our approach against. This review and analysis will be complete by mid-January.

ORS is also in communication with the federal Office of Child Support Services (OCSS) regarding their approval and support in determining the most effective path forward. To assist with this determination, ORS has provided the costs incurred to-date, and will be providing our return on investment (ROI) to OCSS for further analysis. ORS intends to submit information substantiating the ROI for our modernization approach to OCSS by December 31, 2025 for their review and response.

OCSS has provided a white paper that demonstrates the costs associated with undertaking additional modernization efforts after refactoring and replatforming. National Landscape: Modernization of State Child Support Systems is available for review in Appendix A.

OCSS has directly communicated with us that at this time they are not approving modernization projects based on SAP, Salesforce or similar platforms given the challenges experienced in other states such as Indiana and Virginia. OCSS indicated that they view our replatform and refactor approach as a strong, forward-looking model, and our continued incremental modernization effort reflects a measured, cost-effective, risk-mitigating strategy that aligns well with best practices in state system modernization.

Regarding the database architecture, coding logic and data validation frameworks, the approach for each is as follows:

The database architecture will remain transactional in nature with an analytics component added to it as detailed in recommendation 1-1 and in the Data Analytics Implementation Plan section in this document.

It is agreed that the existing code base was written and optimized for a mainframe environment. The current code needs to be redesigned and optimized around the current cloud framework and made more maintainable. It also needs to incorporate modern development practices and follow current industry standards. To address this, ORS and DTS are looking at a couple of different approaches to include in future work orders that provide more detail and exact requirements related to the reform of coding logic.

There will be a comprehensive review of data validation framework and data integrity as part of the ORS Data Governance team's work. If urgent problems are identified, additional or more comprehensive data validation rules will be applied. The data governance team will be tasked with conducting thorough reviews to determine where the existing data validation framework has weak points and if a new data validation framework can be incorporated or if the existing data validation framework can be redesigned to remedy problems.

ORS intends to more strategically deploy existing BET staffing to support data analytics. This will be approached through filling a Senior Business Analyst (SBA) position when a vacancy occurs with an individual possessing a highly specialized skillset, or through identifying an existing SBA who possesses a base level of knowledge, interest, and motivation to develop the required skill set. ORS does not currently have a vacancy that we can fill for this skill set, so efforts are currently underway to augment the role of existing staff members. An ORS SBA has been assigned to work with the data governance team and will begin receiving specific training related to data governance, data analytics, and system design, review and architecture.

2-2. We recommend that ORS should invest in hiring and retaining experienced and skilled developers that can maintain and develop key components of ORSIS. While experienced and qualified staff are costly, ORS should compare that against the costs of paying millions to Deloitte to provide equivalent expertise.

ORS and DTS will continue its ongoing collaboration on hiring and retaining skilled developers to maintain and develop key components of ORSIS and other systems in the ORS technical environment. ORS supports DTS hiring additional developers on a time-limited basis to this end.

At this time, it is suggested that four developers are needed: one to maintain ORSIS as it currently exists, and three to support modernization and data analytics efforts. It must be noted that the addition of four DTS developers at a rate of $107.94 per hour would supplement existing efforts allowing existing timeframes to be met and would not reduce or replace the role of the contracted vendor.

Appendix B includes a letter prepared by Alan Fuller, Chief Information Office, Division of Technology Services (DTS), stating that DTS believes it is critical to maintain the centralization of technology services to meet the needs within ORS and all state agencies.

3-1. ORS and BET must be more involved in the code development and code review process of ORSIS. While certain employees of each division may specialize in relevant expertise, the working relationship between DTS and ORS' business analyst team must be regular, and responsibility for data accuracy should be jointly shared.

The responses for recommendations 3-1, 3-2 and 3-3 are related. Please see the response applicable to all three of these recommendations under 3-3.

3-2. ORS should require that at least one experienced technical developer engages in the code development process with Deloitte and DTS.

The responses for recommendations 3-1, 3-2 and 3-3 are related. Please see the response applicable to all three of these recommendations under 3-3.

3-3. ORS should require that at least one experienced technical developer engages in the code review process with Deloitte and DTS. The reviewer must be a different employee than the employee who developed the code.

The responses for recommendations 3-1, 3-2 and 3-3 are related. The following response is applicable to all three of these recommendations.

The working relationship between DTS and ORS SBAs currently consists of routine, regularly scheduled meetings to identify, review and prioritize projects, engage in project planning, develop business and system requirements, provide project statuses, and engage in demonstrations of system enhancements. The responsibility for data accuracy is jointly shared and will be formalized with the ORS Data Governance team and associated policy and procedure per recommendation 1-3.

ORS and DTS are actively discussing how existing ORS SBAs can effectively engage in code review and development processes with DTS developers given their skill set and knowledge base in alignment with the response received from the DTS CIO regarding recommendation 2-2.

3-4. ORS should maintain ownership and responsibility of all ORSIS documentation, codebase changes, and Functional Program Specification (FPS) documents - NOT DTS or an external vendor.

ORS does currently maintain ownership and responsibility of all ORSIS documentation, codebase changes and FPS documents. This responsibility will be formally addressed through a written policy and procedure to be drafted and published by July 1, 2026.

3-5. ORS, specifically BET, should conduct a thorough review and inventory of how modernization changes have interacted with legacy system flaws. Since BET is primarily staffed by former caseworkers trained in basic programming - a workforce with strong institutional knowledge but often lacking the specialized technical expertise required to architect and implement systemic database reforms, it will require mutual training and knowledge sharing between DTS and ORS employees.

A resolution for this finding is due January 1, 2027. Work on this recommendation has not yet started.

Data Analytics Implementation Plan

Analytical Features

The ORSIS team, composed of ORS and DTS staff, are taking a two-phase approach to adding analytics and business intelligence to the ORS technical environment. Phase one is focused on setting up infrastructure to store ORSIS data in an analytics environment, starting with the data to replicate selected federal reports, e.g., the OCSS 157 report, on an ad hoc basis. This phase allows for proof-of-concept testing, validation, and a review of the analytics environment.

Phase one implementation is currently under way with the initial design completed. It is proposed that we extract the data from the transactional database and store the data in a data lake consisting of AWS S3 buckets. The data can then be edited, curated and moved via an Extract Transform and Load (ETL) process to a segregated portion of the DHHS Redshift database. The data will then undergo an additional ETL process and be loaded to specific analytic schemas for analysis and reporting. The reporting tool will be AWS Quicksight. A proof-of-concept test is scheduled to complete by the end of December. This proof of concept will include time to investigate issues identified, and refinement of the plan. The rest of phase one will focus on building a long-term storage environment, i.e., data lake, building the pipelines that will export data from the operational database, and building the tools to recreate specific federal reports.

Phase two will focus on the generation of regular analytics reports against the data; initial reports will be primarily focused on federal performance measures that can be evaluated at the statewide, regional, team or individual caseworker level. This will consist of a dedicated instance of AWS redshift which will allow data to be extracted from the data lake developed in phase one. Various schemas will be built from this data to support different queries and reports. By the end of phase two, data will be extracted from the operational database on a daily basis to the data lake, where data governance and curation will take place. From there, data will be imported into the data warehouse and the population of various analytical reporting schemas will take place on a regular basis.

This two-pronged approach allows ORS to concentrate on responding to the items that are well defined and understood in a short period of time (phase one) while building up the skill set and expertise needed to fully leverage a truly analytical approach over a longer period of time (phase two). The way that phase two is structured, ORS can also begin to roll out analytical tools and reports as they are defined and as they become available. At the end of phase two, a fully built and enabled analytical environment will be available. The development, maintenance, and operation of the analytics environment will be fully integrated into the ORS data environment, managed by standard ORSIS processes. It is expected that phase two will take 18 - 36 months to complete after the completion of phase one. This will largely depend on staff resources and the number and complexity of analytical reports and analysis to be developed.

Timeline and Milestones

Note that due to the number of uncertainties, this will be run as an agile project. The following is a projected timeline based on what we know now.

Phase 1: Foundational Infrastructure & Report Replication

This phase is a rapid response to the audit finding, establishing the data lake and OCSS 157 replication capability.

Date Range	Deliverable	Key Actions / Scope
Sep 2025 - Oct 2025	Design and Initial Analysis	Finalize draft technical design and security architecture for the new AWS VPC environment.
Nov 2025 - Dec 2026	Proof of Concept and Revised Design	Proof of Concept. Analysis and review of results
Dec 2025 - Jan 2026	Data In Temporary Data Lake	Initial extract of end of quarter data to temporary data lake
Feb 2026 – Mar 2026	Data Lake Design	Build and validate the initial data lake (S3 buckets); finalize data extract specifications.

Mar 2026	Data Lake Go-Live	Completion of the AWS S3 data lake build.
Mar 2026	Data Lake Population Start	Begin populating the data lake with data from the Dec 2025 quarter-end extracts.
Mar 2026 - Jan 2027	OCSS 157 Report Capability	Produce programs and reports to generate the OCSS 157 report (based on data in data lake schema) (Note: A one-year period is required to gather all necessary intermediate data in the analytical environment for full historical report recreation).
Mar 2026 - Ongoing	Additional Federal Reports	Begin incorporating the capability to replicate other mandated federal reports on an ad-hoc basis.
Apr 2026 - Ongoing	Report Granularity Enhancement	Begin increasing the level of detail and granularity in existing reports as data availability permits.

Phase 2: Data Warehouse & Full Analytics Enablement

This phase leverages the Phase 1 infrastructure to build a robust, daily-refreshed analytical environment. This will provide a source of data for reporting and analysis. And enable advanced analytics and eventually predictive modeling.

Date Range	Deliverable	Key Actions / Scope
Nov 2025	Governance	Governance committee formed and in place. The governance process begins.
Mar 2026	Governance & Initial Import	Begin initial data imports from Data Lake to Data Warehouse.
Mar 2026 - Sep 2026	ETL Implementation	Develop and implement data pipelines (ETL pipelines) to automate the daily movement of data from the Data Lake to the AWS Redshift Data Warehouse.
Mar 2026 - Ongoing	Governance Processes	Full data governance and curation processes are formalized and operationalized for the analytical environment.

Date Range	Deliverable	Key Actions / Scope
Nov 2025	Governance	Governance committee formed and in place. The governance process begins.
Apr 2026 - Jun 2026	Analyst Training	Technical training for analysts on the usage of the new environment.
Jun 2026	First Analytical Schema	Implement the first specialized query schema in AWS Redshift to enable specific analytical reporting.
Jun 2026	Automated Schema Population	Implement automated ETL processes to populate the first specialized query schema on a regular basis.
Jul 2026 - Ongoing	Support Analytic Environment	Ongoing support occurs as additional reports, and enhancements take place.

Cost to Implement Data Analytics

The projected annual costs, including hardware, software and personnel are shown in Table 1 with an assumed increase of approximately 10% per year:

Table 1

Projected annual costs						
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
$ 321,781.56	$ 361,173.91	$ 405,226.92	$ 445,749.61	$ 509,528.76	$ 571,043.94	$ 625,332.40

Table 2 provides a detailed estimated cost view for years 1-5. AWS services, data storage and auditing, logging and miscellaneous software are new costs that would be incurred to implement data analytics.

Table 2

	Monthly Base Cost		Annual Costs					
				Year 1	Year 2	Year 3	Year 4	Year 5
AWS Services	$2,809.23			$2,809.23	$3,090.15	$3,399.17	$3,739.09	$4,112.99
Data Storage	$546.53			$546.53	$1,202.37	$1,983.90	$2,182.29	$4,000.87
DTS Personnel: 1/4 DBA 1/4 Cloud Architect	$11,172.92			$11,172.92	$12,290.21	$13,519.23	$14,871.16	$16,358.27
ORS Personnel: Senior Business Analyst	$11,615.00			$11,615.00	$12,776.50	$14,054.15	$15,459.57	$17,005.52
Auditing, Logging, and other software	$671.45			$671.45	$738.60	$812.45	$893.70	$983.07
Monthly Total	$26,815.13		Annual Total	$321,781.56	$361,173.91	$405,226.92	$445,749.61	$509,528.76

Funding Sources

ORS will incur additional ongoing costs of approximately $49,000 in Year 1 for AWS services, data storage, and auditing, logging and other software. This assumes analytics implementation proceeds with existing ORS and DTS staff.

ORS will make the initial one-time investment in Year 1 using federal performance incentive funds. However, because this will be an ongoing cost, an additional ongoing general fund appropriation may be required in future fiscal years.

If additional staff is added as outlined in recommendation 2-2, this may also require an additional general fund appropriation.

Appendix A: System Modernization White Paper from OCSS

National Landscape: Modernization of State Child Support Systems

Across the United States, many states are undertaking modernization initiatives to replace or upgrade decades-old child support enforcement systems. These modernization efforts aim to improve case management efficiency, reporting accuracy, and compliance with federal Office of Child Support Services (OCSS) standards. States are pursuing varying strategies depending on budget, technical capacity, and risk tolerance. Broadly, four modernization approaches have emerged, each with distinct cost profiles, success rates, and long-term return on investment (ROI).

1. Transfer System

This approach involves transferring an existing, federally certified system from another state and customizing it to meet the recipient state's needs. It is often considered the low-risk path.

Estimated Cost: Approximately $75–$80 million.
Several states have successfully implemented system transfers, achieving 100% success rates and demonstrating strong ROI due to proven architectures and reduced development time.

2. Replatforming and Refactoring

Replatforming focuses on modernizing the technology stack while retaining core business logic and data structures. Refactoring enhances code efficiency and introduces modular components, making future enhancements easier and more cost-effective.

Estimated Cost: Typically $10–$20 million. Ohio completed a replatforming and refactoring project for $14 million, achieving full functionality and high satisfaction among users.
ROI: States report 100% return on investment, given the significant cost savings, maintainability, and improved performance of replatformed systems.

3. Commercial Off-The-Shelf (COTS) Solutions

COTS systems utilize pre-built software products tailored for government case management and child support services. While these systems accelerate deployment, they often require extensive customization to align with complex state and federal rules.

Estimated Cost: Approximately $40–$50 million.
Outcomes: COTS implementations have shown mixed success due to customization challenges and long integration timelines.

4. Platform-Based (Salesforce or SAP) Systems

Salesforce-based systems were explored by several states (e.g., Indiana and Virginia) but failed to deliver viable solutions due to scalability, customization, and compliance issues.
Cost Range: $70–$90 million.
Outcome: 0% success rate—Indiana and Virginia both failed. OCSS has paused approval for new Salesforce-based projects until demonstrable success is achieved (e.g., in Texas).

SAP systems are complex enterprise platforms with higher implementation and maintenance costs but potential long-term scalability benefits.
Cost Range: $150–$170 million.
Examples: Illinois ($170M), Florida ($350M). Maintenance costs remain high due to proprietary licensing and support.

Return on Investment Comparison

Modernization Option	Estimated Cost	Success Rate	Notes
Transfer	$75–$80M	100%	Proven, federally certified models
Replatform/Refactor	$10–$20M	100%	Cost-effective, minimal disruption
COTS Product	$40–$50M	Moderate	Varies by customization needs
Salesforce Platform	$70–$90M	0%	Rejected due to repeated failures
SAP System	$150–$170M+	Variable	High cost, high maintenance

Conclusion

For most states, replatforming and refactoring represent the most cost-effective and reliable modernization path, balancing fiscal responsibility, technical sustainability, and ROI. Transfer systems also remain attractive where functional alignment exists. Given recent failures, Salesforce-based systems are currently non-viable, while SAP platforms carry prohibitive costs for many states. Modernization success depends on aligning state objectives with proven technologies and ensuring close coordination with OCSS guidelines.

Appendix B: DTS CIO Response for Recommendation 2-2

Department of Government Operations
Division of Technology Services

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

MARVIN DODGE
Executive Director

ALAN FULLER
Chief Information Officer

November 5, 2025

State Auditor Tina Cannon
Office of the State Auditor
Utah State Capitol, Suite 260
Salt Lake City, Utah 84114

Dear Auditor Cannon,

Recommendation 2-2 of the Limited Review of the Office of Recovery Services suggests, "ORS should invest in hiring and retaining experienced and skilled developers that can maintain and develop key components of ORSIS." Per Utah Code 63A-16-207, this requires the Chief Information Officer to delegate this function to ORS.

The Division of Technology Services does not agree with this recommendation.

Some of the primary reasons the Utah Legislature created DTS as a centralized agency in 2006 was to ensure increased accountability and to keep technology costs low. This is achieved, in part, by assuring that all state systems managed by DTS conform to a minimum set of best practices and standards, including the use of code repositories to store baselined code and manage code enhancements, peer review, system security and the implementation of DevSecOps practices.

While Utah Code 63A-16-207 allows for the delegation of DTS functions to another executive branch agency, we do not believe that delegating the hiring of developers to DHHS/ORS is sufficiently justified, nor will it result in a net cost savings or improved service delivery. DTS and ORS collaborate on hiring and retaining necessary developers and can expand this function as needed, to cover requirements in this situation.

Delegating development functionality outside of DTS to DHHS/ORS would likely increase the risk of code being developed without the best practices, standards, and controls that DTS currently has in place.

Sincerely,

Alan S Fuller

Alan Fuller
Chief Information Officer

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