



California Statewide Automated Welfare System (CalSAWS) Quality Assurance (QA) Services

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VOL 1 – BUSINESS PROPOSAL, SECT 4: UNDERSTANDING AND APPROACH

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1 Section 4 – Understanding and Approach to QA Services [RFP §6.3.2, §6.3.3.6, §5.2.3]

NTT DATA's QA approach focuses on delivering excellence through a structured framework to confirm that project deliverables meet quality and compliance standards. Using our Enterprise Advantage (EA) QA framework and incorporating client requirements, we establish clear quality objectives aligned with industry best practices. Our QA team is highly experienced with this methodology, having applied it throughout our current engagements with New Hampshire, QA IES IVV, New York Enterprise MMIS/MDW and HIX projects, and across 15 Oregon projects.

We understand what CalSAWS requires of its dedicated QA vendor, and we have the experience and capability to deliver. The Consortium can expect sustained quality, strong security and privacy, and clear, decision-ready evidence at each release. This section describes how we approach staffing, how we coordinate across the multi-contractor ecosystem, the methodology that we employ to embed QA throughout the SDLC, and our approach to providing an independent test function that strengthens trust in outcomes while keeping State operations streamlined.

What you can expect from our approach:

- **Oversight across the entire spectrum of Software Development Lifecycle phases:** QA activities are integrated from requirements through deployment, bringing timely insight that supports predictable delivery and informed choices. “Pulling QC forward” is a core part of NTT DATA's methodology, ensuring risks and defects are identified early, as opposed to escalation of critical issues late in the process.
- **Solution Agnostic:** This puts our team in the best position of being an independent partner
- **Security, privacy, and accessibility by design:** Standards compliance is an integral part of design reviews, testing, and readiness gates. DevSecOps is a foundational principle for embedding security and compliance throughout QA activities.
- **Evidence you can act on:** Traceable artifacts and metrics—coverage, defect containment, performance/User Experience (UX) indicators—translate directly into clear governance decisions.
- **Coordinated execution:** Roles, cadences, and change-control touchpoints are aligned across contractors through shared playbooks and operating work documents.
- **Independent assurance that scales:** An independent test suite and test-data strategy continuously improve confidence release over release while maintaining steady State staffing levels.
- **Optional Artificial Intelligence (AI) QA accelerators:** Our baseline plan is complete; at the Consortium's direction we can activate **governance-aligned AI enhancements, with appropriate human oversight**, to responsibly increase speed and coverage (see approach later in this section).

What success looks like:

- Predictable, high first-pass readiness at release gates.
- Reduced rework and higher defect containment with clear root-cause insights.

- Well-orchestrated handoffs across contractors and State teams.
- Compliance, privacy, and accessibility validated early and consistently.
- Decision-ready dashboards that keep governance timely and transparent.

NTT DATA applies a disciplined and customizable approach to completing projects by leveraging our proprietary Enterprise Advantage (EA) Framework for all the work performed with modern technology and methodologies. EA allows our teams to deliver consistent services that meet and regularly exceed state agency performance expectations. Because EA is customizable, we have the flexibility to adapt to project changes easily and quickly. This flexibility is a key advantage to working with NTT DATA.

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Figure 4. QA Services Overview

The project scope includes the key project deliverables that ensure that all critical aspects of project management, quality assurance, risk mitigation, and training are addressed in a structured and comprehensive manner. Embedded within our approach is both Quality Assurance and Quality Control. Quality assurance is the process of reviewing the quality requirements and results from QC measurements to verify that the appropriate quality standards and operational definitions are consistently used throughout the project lifecycle. QA is proactive and focuses on prevention of

flaws in quality; it verifies that the approach, technique, processes, and methods designed are implemented correctly. Quality control is the process of monitoring and recording results of executing the quality activities to assess performance and recommending necessary changes that the Consortium with the QA Contractor enforce and monitor. QC is reactive and focuses on identifying flaws in quality; it verifies the approach, technique, processes, and methods are followed.

The formal projects deliverables are:

- **Project Management Plan:** A comprehensive plan outlining the project's scope, objectives, timelines, and resources required.
- **Transition-In Plan:** A detailed plan for transitioning QA Services from the current state to the new state, including timelines and key activities.
- **Quality Assurance Plan:** A plan that outlines the quality assurance processes and procedures to ensure the project's deliverables meet the required standards.
- **Independent Test Plan:** A plan for conducting independent testing of the project's deliverables to ensure they meet the specified requirements.
- **Monthly Status Reports:** Regular reports that provide updates on the project's progress, including any issues or risks encountered.
- **Risk Management Plan:** A plan that identifies potential risks to the project and outlines strategies for mitigating those risks.
- **Training Materials:** Documentation and resources to support the training of project team members and stakeholders.
- **Final Project Report:** A comprehensive report summarizing the project's outcomes, including lessons learned and recommendations for future projects.

1.1 Sub-Section 5.2.3.1 – Quality Assurance Staffing [RFP §5.2.3.1]

Figure 5. Understanding and Approach to Quality Assurance Staffing

1. Understanding and Approach to Quality Assurance Staffing	
Item #	Topic
UA1	• The Consortium expects the CalSAWS Infrastructure, M&E and BenefitsCal contractors to provide ongoing innovation to the CalSAWS system processes, tools, applications and infrastructure. • Describe how your staffing approach will uniquely prepare the QA team to adjust to future changes within the CalSAWS environment. • Provide demonstrated examples from previous QA projects as applicable.
UA2	• The CalSAWS project has historically required large, one-time system change initiatives due to legislative requirements or new technology requirements. • Describe how your staffing approach will provide the capability and flexibility within the QA team to adjust to significant increases and/or changes within the CalSAWS System to accommodate new business functions or technology. • Provide demonstrated examples from previous QA projects as applicable.

As discussed in our Staffing Approach narrative, our team has the right mix of experience and skills to support the Consortium in providing ongoing innovation to the CalSAWS system processes, tools, applications, and infrastructure. Our Key Staff collectively brings over 90 years of experience providing services, including QA to State governments. Additionally, as mentioned in our Executive Summary, NTT DATA partners

with AWS, and we are named an emerging leader in the emerging quadrant of the 2025 Gartner Innovation Guide for AI Consulting and Implementation Services. Our team has the ability to reach back to experts from our strategic partnerships, such as AWS, for questions that arise around new technology, tools, applications, and infrastructure.

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1.1.1 Response to Sub-Section 5.2.3.1, Item #UA1

Our team understands the Consortium's expectation that the CalSAWS Infrastructure, M&E, and BenefitsCal contractors provide innovation to the CalSAWS system processes, tools, applications, and infrastructure.

Our staffing approach for QA services is designed to ensure that the QA team is uniquely prepared to adjust to future changes within the project. Here are the key elements of our approach:

- **Collaboration with Stakeholders:** We emphasize collaboration with project stakeholders, including other contractors and system users, to ensure alignment with project goals and objectives. Regular communication and coordination with stakeholders help the QA team stay informed about upcoming changes and adjustments needed in the testing process.
- **Flexible Staffing Model:** Our staffing model allows for rapid adjustments in team composition based on project needs and changing requirements. This flexibility enables the QA team to quickly incorporate additional resources or specialized skills as the project evolves. Our team also has access to advisors and SMEs who are available, as needed throughout the project, on a wide range of topics, including AI, Security, Data Governance, as well as programmatic expertise for Medicaid, SNAP, TANF, Integrated Eligibility, etc. Additionally, we have included a Technical Architect in our staffing model, which will have subject matter expertise in benefits solutions developed by Deloitte, Accenture, and Gainwell to provide innovative guidance on future changes to those solutions.
- **Cross-Functional Expertise:** We encourage cross-functional expertise within the QA team. Team members are trained and mentored by subject matter experts in various aspects of quality assurance, from manual testing to automated testing and performance testing. This diverse skill set enables the team to adapt to different testing scenarios and methodologies as the project evolves. This also supports our efforts to always have a backup to each Key Staff member and no one person is single threaded and can be used across workstreams.
- **Proactive Risk Management:** Our staffing approach includes proactive risk management practices, where the QA team is involved in identifying and assessing potential risks early in the project lifecycle. This proactive stance enables the team to anticipate changes and prepare for them effectively.
- **Implementation of Agile Practices:** Our team incorporates agile practices into its QA processes, allowing for iterative testing and continuous feedback. This agile approach enables the QA team to respond quickly to changes in project scope or requirements, ensuring that quality assurance remains aligned with project objectives.
- **Security Assessment and Compliance:** Our staffing model includes expertise in DevSecOps, ensuring security and quality are considered from project initiation.

- Continuous Training and Development:** Our QA team participates in ongoing training and professional development programs that focus on emerging trends, tools, technology, and methodologies in quality assurance. This commitment to continuous learning ensures that team members are equipped with the latest knowledge and skills to address new challenges as they arise. For example, NTT DATA hosts Experience and Expertise Exchange (EX3) presentations for information sharing and learning. Recent EX3 topics ranged from AI, Penetration Testing, Security and compliance changes, and Fast Healthcare Interoperability Resources (FHIR), keeping learners current with changes within the evolving regulatory and compliance requirements.

NTT DATA also recognizes the strategic potential benefits of incorporating AI based solutions in both QA activities and potentially CalSAWS program offerings at a future point. At state discretion, we provide recommendations and guidance on how to most effectively prepare the organization to apply AI capabilities in Section 1.3.1, Sub-Section 5.2.3.3.

By implementing these strategies, NTT DATA ensures that the QA team is well-prepared to adapt to future changes within the project, maintaining a focus on delivering high-quality results.

Figure 6 below provides demonstrated examples of our experience on QA projects related to this section.

Figure 6. Demonstrated Examples from Previous QA Projects - Item #UA1

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
Oregon Department of Revenue ELVIS Project 	The purpose of the DOR ELVIS Project is to implement a modern property valuation system for DOR. NTT DATA provides Independent Quality Management Services (IQMS) for this project including risk assessment, quality assurance and quality control. Our Oregon IQMS Project Portfolio uses a flexible staffing approach involving experienced NTT DATA IQMS staff supplemented by experts across NTT DATA. For the Department of Revenue, the ELVIS	Based largely on feedback from NTT DATA Microsoft Dynamics experts, the ELVIS project pivoted to an in-house solution based upon a better known, proven technology and the contract with the solution vendor was terminated. The new direction is a much better fit for the State, a cheaper and less risky approach, and thus far is generally on track for successful implementation. Our experts provided valuable expertise to help the state make their determinations.

Demonstrated Examples from Previous QA Projects		
	project encountered implementation difficulties with the vendor's Microsoft Dynamics solution. The NTT DATA IQMS team reached out internally to a group of NTT DATA Microsoft Dynamics experts for opinions and advice for the path forward for the ELVIS project – these experts participated in several strategy meetings.	
State of Vermont Technical Advisory Services (TAS) 	Provided Integrated Eligibility & Enrollment (IE&E) market analysis and RFI development support. In addition to our ongoing technical advisory services, the State requested additional support to evaluate the potential IE&E system vendor market and to confirm if the State's envisioned direction was supportable by the market.	We were able to recommend and implement a comprehensive market analysis strategy. This approach included advisory services when crafting the I&E modernization strategy, guidance on developing the RFI, scheduling and coordination of multiple vendor interviews and States at the 2022 ISM Conference, and detailed market analysis and categorization of information gathered objectively from RFI and interview respondents.
NYS DOH MMIS/MDW QA 	Provide QA oversight activities and supplemental PM/BA resources to MMIS and MDW programs.	The team worked closely alongside the MMIS PMO to assess processes and applications to provide feedback for improvements. One of these improvements was the implementation of the IBM Collaborative Lifecycle Management (CLM) application where the QA team played a key role in implementing a new web-based tool with built-in project workflow tracking that replaced a 25+ year old Windows-based MMIS vendor home-grown system to manage project lifecycle status and documentation. Having firsthand experience with the old system and understanding its limitations, QA was able to provide constructive feedback to improve and enhance SDLC workflow.

1.1.2 Response to Sub-Section 5.2.3.1, Item #UA2

For more than 35 years, we have advised state Health and Human Services (HHS) agencies, as well as the Centers for Medicare and Medicaid Services (CMS), the Food and Nutrition Service (FNS), and HHS Administration for Children and Families (ACF) on the implementation of Medicaid and Integrated Eligibility Systems with a focus on strategic advisory and implementation oversight. In that time, we have developed significant experience with how to most effectively accommodate new business functions or technology which require significant staffing increase or changes in a highly responsive manner.

Based on this extensive experience with staffing flexibility to accommodate change, NTT DATA has long been at the forefront of advising states on the anticipated staffing impacts of both the CMS Interoperability & Patient Access Final Rule (CMS-9115-F) and the CMS Advancing Interoperability and Improving Prior Authorization Processes Final Rule (CMS-0057-F). We provide Interoperability Advisory and Oversight consulting and advisory services to our states that empower state agencies to successfully meet interoperability compliance requirements and to achieve their strategic goals for patient access. We leverage not only our extensive staffing experience to prepare states for compliance, but we also guide clients through the technical, business, and operational impacts of continuously evolving interoperability legislation.

From an industry standpoint, NTT DATA hosts a State Forum on Interoperability, enabling states to collaborate and share knowledge on interoperability projects. We actively support industry workgroups, such as the CMS MITA Governance Board Interoperability Workgroup, to advance the MITA 4.0 framework and embed interoperability concepts into Information and Technical Architecture. Our collaboration services foster shared learning and drive successful interoperability outcomes across states and the industry.

We also recognize that the rapidity of AI and ML evolution and adoption is itself another new technology that has the potential to impose large system changes. As with interoperability, our teams are fully prepared to advise the State on all aspects of how AI, ML, and innovation in general may impact staffing or require availability of subject matter experts at critical points in the project lifecycle.

NTT DATA is fully prepared to meet all of the CalSAWS enhancement and innovation requirements, just as how our team in Idaho is providing equivalent services as demonstrated in the following table.

Figure 7. How NTT DATA's Idaho responsibilities equate to CalSAWS Enhancement and Innovation Requirements

CalSAWS Subtask 3.10 Requirement	Requirement Description	Corresponding Idaho Experience
QA-3.10-01	Support enhancement and innovation activities in cooperation with Consortium and other CalSAWS Contractors.	System Integration Technical Advisory (SITA) Project SITA provides technical leadership, strategic advisory, and technical oversight for MMIS modernization. SITA acts as technical liaison, maintains documentation,

CalSAWS Subtask 3.10 Requirement	Requirement Description	Corresponding Idaho Experience
		and coordinates with vendors and stakeholders to ensure innovation and enhancement activities are aligned with state and federal requirements.
QA-3.10-02	Review and recommend improvements to Consortium's approach to automation, AI, and ML for quality, automation, and user experience.	SITA advises on technical best practices, recommends compliance approaches, and educates on industry trends including AI-enabled modernization. SITA tracks national Medicaid modernization, leverages lessons learned, and suggests where AI can improve productivity, quality, and oversight.
QA-3.10-03	Review and document findings of other CalSAWS Contractor Innovation Deliverables, including automation, AI/ML, and architecture evolution.	SITA is currently working with Idaho leadership to incorporate new AI standards that were published by the State in August 2025 into the MMIS Modernization Project Technical Reference Architecture (TRA). With the TRA as a basis, SITA administers the project Architecture Governance Board (ARB) and ensures that contractor deliverables meet technical contractual obligations. SITA maintains documentation of technical findings and compliance and updates the TRA and other technical oversight documents on a quarterly basis.
QA-3.10-04	Contribute to CalSAWS Innovation initiatives, including evaluation of emerging technologies, POCs, pilots, and assessments of other contractors' tools.	SITA participates in technical oversight, reviews pilots and new tools, and supports innovation initiatives through ongoing technical advisory and education. SITA monitors and advises on emerging technologies and vendor agentic AI offerings.
QA-3.10-05	Review and recommend improvements to other CalSAWS Contractors' system key metrics reporting.	SITA collaborates with IDHW and vendors to plan technical monitoring and reporting, verify technical KPI and performance reporting, and supports change control and operational governance. SITA coordinates module production releases and post go-live reporting.

Just as with Idaho, our CalSAWS team brings together architecture experts across a wide range of domains. We are very proud and appreciative of our extensive and highly experienced team that includes Subject Matter Experts with extensive previous State or delivery vendor expertise across enterprise, technical, data, product, solution, and security disciplines. Rather than simply focusing on compliance, we leverage subject matter expertise to evaluate potential QA use cases for emerging technologies.

Our approach is designed to empower state SMEs, enabling more effective oversight of large-scale, complex systems with numerous stakeholders and rapidly evolving technologies.

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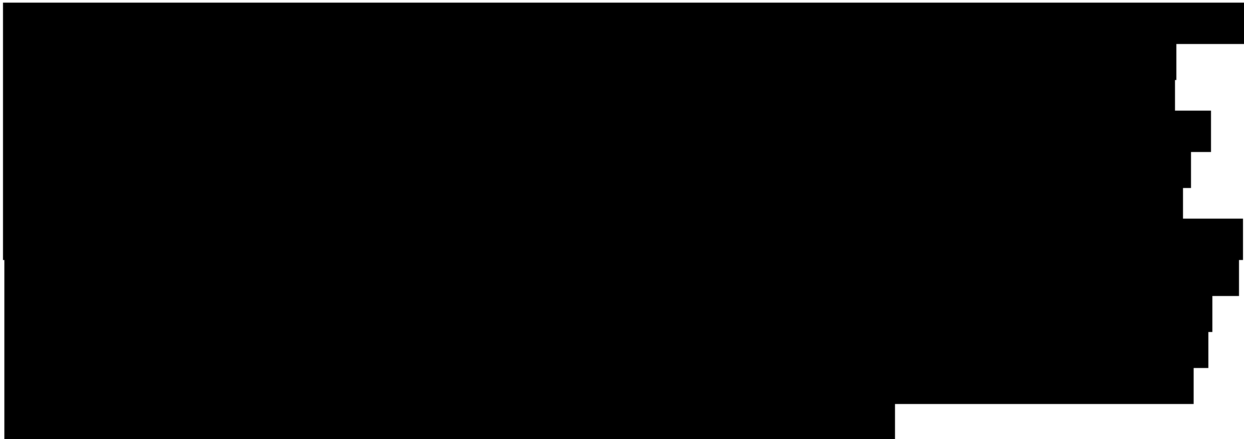


Figure 8 below provides demonstrated examples of our experience on QA projects related to this section.

Figure 8. Demonstrated Examples from Previous QA Projects - Item #UA2

Demonstrated Examples from Previous QA Projects			
State/Project Name	Project Description	Staffing Approach	Outcomes
New York State of Health (NYSOH) QA 	QA Services Supplemental Staff New York's Medicaid Managed Care Model (MECM) is a project where the non-MAGI population is moving from a legacy system to a cloud-based system.	NTT DATA created a QA program to conduct staff credentialing, deliverable and work product QA, and invoice/procurement reviews. NTT DATA hired 10 staff members for the project including project managers, business analysts, and testers.	The State previously had no QA program in place, with exclusive reliance on manual E-Mail based workflows to manage work product and invoice/procurement reviews. NTT DATA worked with the State to implement a formal and robust review process to ensure invoices were accurate and reviewed by the appropriate people which assist in future audits of the project.
Oregon Department of Justice (DOJ) Legal Tools Project 	The DOJ Legal Tools project is remaking the agency's internal systems over a multi-year effort. NTT DATA provides Independent Quality Management Services (IQMS) for this project including risk assessment, quality	Our Oregon IQMS Project Portfolio uses a flexible staffing approach involving experienced NTT DATA IQMS staff supplemented by experts across NTT DATA.	Although the Document Management System of this project was initially determined to be out of scope, as the project evolved it became clearer that it was necessary to implement this feature/functionality alongside other new system components.

Demonstrated Examples from Previous QA Projects			
State/Project Name	Project Description	Staffing Approach	Outcomes
	assurance and quality control.		The NTT DATA contract was amended to include a series of Quality Control reviews and other related changes (including providing additional support staffing), for this evolving engagement.

1.2 Sub-Section 5.2.3.2 – Integrated Multi-Contractor Environment [RFP §5.2.3.2]

Figure 9. Understanding and Approach to Quality Assurance Services – Integrated Multi-Contractor Environment

2. Understanding and Approach to Quality Assurance Services – Integrated Multi-Contractor Environment	
Item #	Topic
UA3	Describe your approach to managing your scope of work and how you will coordinate with the Consortium and other CalSAWS contractors to ensure understanding and collaborative agreement of the roles and responsibilities of the Consortium and each Contractor. Provide demonstrated examples from previous QA projects as applicable.
UA4	Describe your approach, tools, and/or techniques to detect high risk areas and/or high urgency areas to identify candidates for subsequent deeper QA analysis/risk assessment. Provide demonstrated examples from previous QA projects as applicable.
UA5	The Consortium has identified a number of key vision elements within its recent procurement documents. Describe the key factors within your QA approach that will support the evolution and advancement of the Customer Outreach and Communications approach within CalSAWS. Provide demonstrated examples from previous QA projects as applicable.

In the rapidly evolving technological and programmatic landscape, effective Quality Assurance (QA) is vital to the ongoing success and advancement of integrated systems. The following figure shows our general approach to QA with an overall picture of the system modernization and ongoing maintenance and operations. Our approach is rooted in collaboration, transparency, and measurable improvement, with a strong focus on compliance, stakeholder engagement, and seamless coordination of responsibilities within the entire implementation lifecycle and with alignment to selected project approach, either the waterfall, agile or hybrid forms. This method works within a Maintenance and Operations environment whether the vendor utilizes waterfall or agile/iterative approaches.

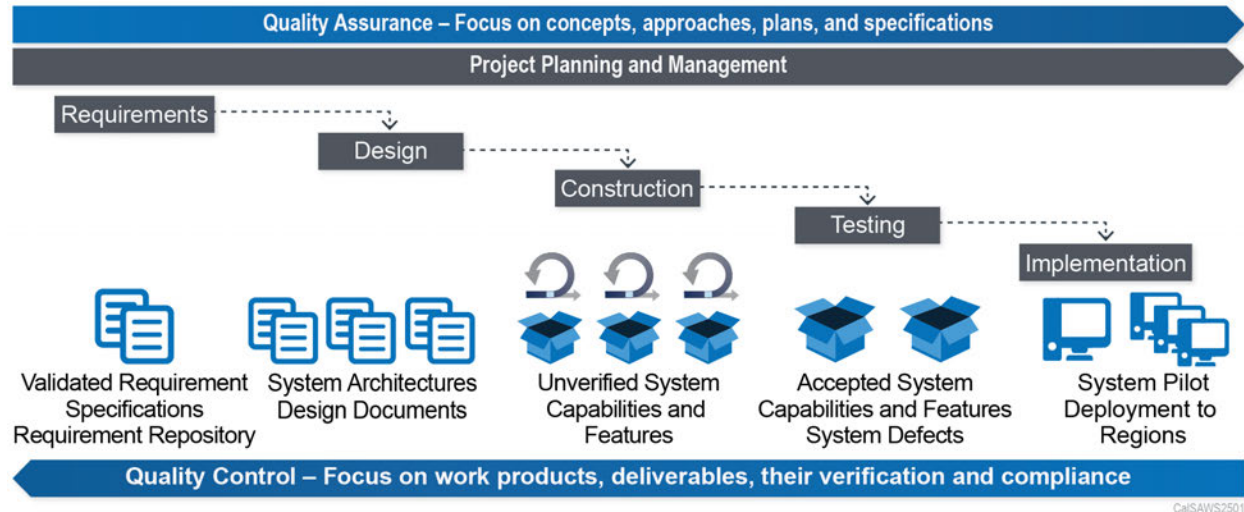


Figure 10. Tailored waterfall/iterative SDLC from a perspective of quality assurance and quality control

Our Enterprise Advantage methodology provides us with documented practices and rules aligned to industry best practices enriched by our extensive experience from real projects. Section 1.2 sets the stage by outlining our comprehensive approach designed to managing the scope of QA work in complex environments, collaboration with other vendors participating in the project, performing QA risk analysis and risk assessments, and supporting the continuous evolution of Customer Outreach and Communications strategies.

Our comprehensive approach addresses the full spectrum of project management, quality assurance, and independent testing requirements vital for CalSAWS' success. After a transition-in phase, we develop and maintain a robust Project Management Plan, conduct regular status meetings, and deliver detailed monthly status reports to ensure transparency and accountability. Our risk and issue management processes, coupled with diligent schedule maintenance, enable proactive mitigation and smooth project execution.

On the quality assurance front, we prepare a thorough QA Management Plan, perform systematic reviews and audits, and provide ongoing QA status reports, while effectively managing QA issues and defects throughout the project lifecycle—including formal QA closeout activities. Additionally, we execute an independent testing strategy by developing a tailored Independent Test Plan, conducting unbiased testing, issuing comprehensive test reports, managing any independent test-related issues and defects, and facilitating a structured test closeout process. Within our test plan, we talk to not only our NTT DATA resources but also CalSAWS resources ensuring we do not over allocate beyond their commitment to balance time and quality. This integrated framework ensures consistent project oversight, measurable quality outcomes, and objective validation of deliverables.

1.2.1 Response to Sub-Section 5.2.3.2, Item #UA3

NTT DATA understands that the Consortium is operating within the CalSAWS ecosystem and that a collaborative and integrated approach is central to the successful

execution of services. The Consortium aims to create a fully integrated enterprise organization where multiple contractors work together harmoniously, emphasizing the importance of cooperative relationships and collective efforts for the benefit of the entire operation. This vision acknowledges the complexity of managing an Integrated Multi-Contractor Environment and highlights the need for structured guidelines, practices, and tools to facilitate effective coordination and oversight among all parties involved. For instance, in our work with the Arkansas Department of Human Services, NTT DATA successfully navigated a highly multi-vendor environment to implement a comprehensive benefits management system. By fostering strong partnerships among various contractors and establishing clear communication protocols, we ensured seamless integration of services and enhanced operational efficiency. This experience underscores our commitment to collaborative success and our ability to manage complex, multi-faceted projects effectively within a diverse contractor landscape. Our teams have also provided industry thought leadership and presented the model of Vendor Collaboration with our client in Tennessee. We foster the "leave your badges" at the door, open communication, clear roles and responsibilities to help ensure collaboration and a respectful environment for this large project to continue its success. We bring this forward to the Consortium to foster that same success.

We understand that the success of the Consortium depends on more than collaboration and effective project management – it requires navigating the complexities of a 58-county Joint Powers Authority, aligning diverse priorities, and coordinating across multiple contractors.

Our approach is grounded in disciplined governance, robust systems engineering, and active participation in the established delivery integration frameworks to ensure that roles, responsibilities, and interfaces are clear and effective.

We also recognize the operational realities of a statewide program, including the influence of budget cycles and the need to proactively manage risks such as change-control bottlenecks or shared environment conflicts. By embedding structured mechanisms for escalation, transparency, and risk mitigation, we turn potential issues into opportunities for alignment and synergy. This approach supports CalSAWS in continuous delivery of a unified, reliable, and efficient system for counties and the clients they serve.

To address the needs of such an environment, the NTT DATA's QA team adopts a proactive and collaborative approach to managing our scope of work within the Consortium framework. Our strategy begins with establishing clear communication channels among all stakeholders, ensuring that roles and responsibilities are well-defined and understood. We facilitate regular coordination meetings with the Consortium and other CalSAWS contractors to align project objectives, share updates, and address any emerging issues collaboratively.

To enhance understanding and agreement on our responsibilities, we develop a comprehensive Quality Assurance Services Plan that outlines key deliverables, timelines, and expectations for all parties involved. This plan incorporates the guidelines set forth

in the CalSAWS Governance Plan, ensuring compliance with established processes and practices.

Additionally, we implement a structured approach to monitor and evaluate the effectiveness of contractor interactions, utilizing performance metrics and feedback mechanisms to identify areas for improvement. By serving as an escalation point for resolving disputes and facilitating constructive dialogue among contractors, NTT DATA helps to maintain a cohesive working environment that supports the successful execution of the project.

As a part of our QA projects, NTT DATA delivers thorough reviews and assessments of the business and technology deliverables associated with Contractor system implementations and upgrades. To do so, we collaborate and meet with Contractor's teams regularly, provide feedback, and give recommendations for improvements as required. Our approach encompasses several critical tasks designed to support system performance and alignment with project goals. Our NTT DATA Team, starts out with comprehensive checklists that have been utilized on both small and large projects. The are reviewed and provided to the Consortium ahead of our reviews for transparency and to ensure there are no other areas they wish to have us assess. Figure 19 provides a snapshot of just one of our checklists. Our project scopes include:

- **Review and Assess Business Requirement Documentation:** We examine Contractor business requirement documentation to confirm that it accurately reflects the desired system functionality based on a department's requirements. This review ensures that all functional and non-functional requirements are captured, providing a solid foundation for testing and implementation. Through our analysis of the information you provided in the RFP, we identified some possible risks for which our approach helps to minimize. For example, there is a risk of multiple vendor dependencies which can diffuse vendor accountability. Based on experience working across large and small projects with multiple vendors, we will quickly and consistently review the RACI and provide recommendations on how to ensure accountability.
- **Review and Assess Technical Documentation:** Our team evaluates the technical specifications provided by Contractors for completeness, accuracy, and feasibility. We check for consistency with business requirements and adherence to established technical standards, ensuring that all documentation supports effective system development and integration.
- **Process Evaluation:** We analyze Contractors' development and implementation processes to ensure adherence to industry best practices. By identifying areas for improvement, we recommend optimizations that enhance efficiency and effectiveness, ultimately contributing to smoother project execution.
- **Code Review:** NTT DATA conducts code reviews for selected applications in accordance with the established Code Review Plan. This process involves assessing code quality and adherence to best practices, ensuring that identified defects are addressed before deployment.
- **Support Continuous Improvement Initiatives:** Our team actively identifies opportunities for continuous improvement in both business and technology deliverables. We provide guidance and support to Contractors, helping them refine their processes and enhance overall project quality.

With extensive experience delivering these services to a diverse portfolio of public sector and industry-leading clients, NTT DATA has established a reputation for excellence in above-listed services and project initiatives. Utilizing our experience across large-scale, complex projects, our team consistently provides strategic guidance and practical support that drives measurable results for our clients.

Figure 11. Demonstrated Examples from Previous QA Projects, UA3

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
Oregon Provider Time Capture Project 	The purpose of the Provider Time Capture (PTC) Project is to implement Oregon's Electronic Visit Verification solution. NTT DATA provides Independent Quality Management Services (IQMS) for this project including risk assessment, quality assurance and quality control. The PTC Project marked NTT DATA's first IQMS project for Oregon, and it was important that it be conducted flawlessly. In doing so, NTT DATA used a series of planning deliverables, ongoing status reports, and recurring meetings to ensure effective project execution.	NTT DATA's planning deliverables clearly specify roles and responsibilities of NTT DATA, the State and all vendors. Recurring weekly status meetings between NTT DATA and the State as well as a separate recurring status meeting between NTT DATA, the State and all vendors have both continued to shared understanding of scope, schedule and responsibilities. Finally, detailed status reporting and tracking by NTT DATA has reinforced the common understanding.
NY MMIS/MDW QA and NY NYSOH QA 	Each NYS system has a Project Manager to oversee QA functions and supplemental staff. NTT PMs also meet weekly with the NYS Division of Systems CIO to provide support for both individual bureaus and the overall Department.	NTT DATA collaborated with the State to implement a Junior BA program, inspired by an internal NTT DATA internship program. The program is funded 50% by NYS and 50% by NTT DATA. Since its inception, it has produced three junior BAs who now work within the Division of Systems. NTT DATA has also performed a systematic review of System/Data Integrator efforts nationwide to assist the CIO in determining whether to keep System Integration and Data Integration efforts internal to the Department or outsource them.

1.2.2 Response to Sub-Section 5.2.3.2, Item #UA4

NTT DATA employs a proactive and structured approach to detect high-risk and high-urgency areas that may require subsequent deeper quality assurance (QA) analysis and risk assessment. Our methodology involves several key steps and utilizes a combination of tools and techniques to ensure comprehensive identification of potential issues.

- **Expert Consultation:** Once project staffing is finalized, we engage with subject matter experts (SMEs) across various domains, including program management, technology, and specific business areas per project's topic. These discussions are critical for gaining insights into the unique challenges and risks associated with each project task group, as experts can provide valuable context regarding potential vulnerabilities and operational concerns.
- **Schedule Review and Forward Planning:** We analyze upcoming project schedules to identify critical milestones and deadlines. By reviewing the timelines, we can anticipate areas that may pose higher risks due to tight deadlines, resource constraints, or complex interdependencies. This forward-looking approach allows us to proactively address potential issues before they escalate.
- **Risk Assessment Framework:** NTT DATA employs a risk assessment framework that categorizes risks based on their likelihood and potential impact. This framework helps prioritize areas that require immediate attention and deeper analysis. High-risk areas are flagged for further investigation, allowing our QA teams to focus their efforts where they are needed most.
- **Data Analysis Tools:** We utilize data analysis tools to monitor project metrics and performance indicators continuously. By analyzing historical data, defect trends, and testing results, we can identify patterns that may indicate underlying issues. This data-driven approach enhances our ability to detect high-risk areas and informs our decision-making process.
- **Regular Risk Review Meetings:** We facilitate regular risk review meetings with project stakeholders to discuss identified risks, potential impacts, and mitigation strategies. These collaborative sessions ensure that all team members are aware of current risks and can contribute to developing effective solutions.
- **Continuous Monitoring:** After identifying high-risk areas, we implement continuous monitoring processes to track the effectiveness of mitigation strategies and assess any changes in risk levels over time. This ongoing vigilance allows us to adapt our QA analysis and risk assessments as needed.

Our QA Team has already been reviewing the documentation provided as mentioned above. Our team has identified some initial risks that we work with you on during our transition in period to go over the likelihood, probability, recommendations and for those that are applicable, will include analysis and recommendations on upcoming reports. We have provided those risks in the following table.

Figure 12. Initial NTT DATA QA Risk Analysis

Category	Description	Root Cause / Driver	Phase Affected	Likelihood	Impact	Risk Score	Early Warning Indicators	Proposed QA Controls
Data	EBT account data (card numbers, replacement) not synchronized with CalSAWS.	Out-of-band card issuance and manual updates.	Operations	2	4	8	Increase in failed EBT transactions; client complaints on card linkage.	Reconciliation with EBT vendor; controls on manual card entry; periodic sampling
Staffing	State is unable to recruit and/or retain resources with specialized technical skillsets.	Highly competitive job market for equivalent skills across multiple industries.	Plan/Design/Build/Test				Lack of position acceptance; difficulty of retention after training existing resources.	Use subcontractors or partner resources as a stopgap for specialized roles; maintain a qualified vendor pool with ability to provision resources with requisite skillsets.
Program	Legislative/Policy-driven scope changes compress testing windows for baseline releases.	Late-breaking ACLs, policy memos, and federal/state rule changes ripple into requirements and release scope.	Plan/ Design/ Build/ Test	4	5	20	Frequent SCRs tied to new ACLs; CCB agendas show late adds; shortened county test cycles.	Governance gating of SCRs; traceability to policy; risk-based test selection; release analytics to track late-scope defect density.

Category	Description	Root Cause / Driver	Phase Affected	Likelihood	Impact	Risk Score	Early Warning Indicators	Proposed QA Controls
Operations	County outage communications inconsistent during maintenance.	Varied local processes and contact lists.	Operations	2	3	6	Late notices; uneven county readiness for freezes	Standard communication templates; contact validation; maintenance runbooks.
Technical	API versioning drift between BenefitsCal and CalSAWS (Application Transfer API)	Rapid SSP enhancements outpace API change coordination.	Build / Test / UAT	3	4	12	Increase in transfer endpoints; schema mismatches.	Contract tests in CI; schema validation; backward compatibility gates.
Technical	Cloud WAF / rate limiting rules inadvertently block legitimate traffic	Aggressive security posture not tuned to business peaks	Operations	2	4	8	WAF rule hits correlate with failed transactions; region specific spikes.	Chaos tests for WAF; negative testing; blue/green rule rollout with canary.

Our approach to detecting high-risk and high-urgency areas for deeper QA analysis is grounded in proactive collaboration with subject matter experts, ongoing schedule review, and the use of advanced analytics and monitoring tools. By engaging experts across each program and technology domain, we identify potential vulnerabilities and operational concerns early in the project lifecycle. We continuously monitor legislative changes, technology upgrades, vendor coordination, and other critical factors. The table below provides examples of how our teams have successfully detected and mitigated such risks in previous QA projects:

Figure 13. Risk Categories – Examples from Previous QA Projects.

State/Project Name	Risk Category	Example Risk	Detection Approach / Tool	Demonstrated Project Example
Illinois IES	Legislative/Policy Change	Sudden changes in eligibility rules or program requirements	Legislative monitoring, stakeholder review	Detected risk from new Medicaid policy, adjusted test cases
New Hampshire MMIS	Vendor Coordination	Misalignment between multiple contractors/vendors	Coordination meetings, governance plan	Detected risk in vendor deliverable handoff, increased integration testing
Oregon DOJ Origin IQMS	Data Security	Vulnerability in data handling or storage	Static code analysis, penetration testing	Detected risk in legacy code, performed targeted security testing
Illinois IES	Regulatory Compliance	New or updated federal/state certification requirements	Compliance team review, monthly updates	Detected risk from new CMS certification, updated QA protocols
Oregon Child Support	High Defect Density	Spike in defects in a particular module or release	Defect analytics, automated test reports	Detected risk in payment module, focused regression suite
Utah Medicaid	User Experience	Negative feedback from users or stakeholders	Usability testing, persona workshops	Detected risk from user feedback, redesigned interface and retested
New Hampshire MMIS	Resource Constraints	Limited availability of key staff or SMEs	Resource planning, cross-training	Detected risk from SME absence, cross-trained QA team

Figure 14. Demonstrated Examples from Previous QA Projects, UA4

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
NYS DOH MMIS/MDW QA	The QA team evaluates and provides recommendations on the TAS vendor's facility plans quarterly, in alignment with the vendor's SLAs. These reviews	Our team identified crucial risk areas that were not being addressed and were able to quickly bring on staff to mitigate the risks before they became

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
	contribute to the TAS Monthly QA SLA reporting completed by the QA team.	critical issues. We have developed a way to track Service Level Agreements (SLAs) for greater transparency.
Oregon Provider Time Capture Project 	As stated in the above response, the purpose of the Provider Time Capture (PTC) Project is to implement Oregon's Electronic Visit Verification solution. NTT DATA provides Independent Quality Management Services (IQMS) for this project including risk assessment, quality assurance and quality control. To gain an early understanding of key project risk areas, our NTT DATA team conducted an initial project risk assessment to flush out more critical risks and establish NTT DATA's foundation for understanding of the project.	NTT DATA'S risk assessment approach includes reviewing project artifacts (e.g., Project Charter, Business Case, Schedule, Staffing Plan), interviewing key stakeholders as well as attending project meetings. The results of these findings are documented in a formal Risk Assessment Report deliverable. Over the years, our team has called out a number of significant areas in need of additional focus and attention. Examples include: • Lack of procurement expertise (which can result in the wrong vendor or an ineffective contract) • Staffing deficiencies (these can delay a project or if significant enough, cause it to pause) • Ineffective Organizational Change Management which can significantly impact the effectiveness of a rollout.

1.2.3 Response to Sub-Section 5.2.3.2, Item #UA5

CalSAWS's strategy focuses on consolidating and enhancing California's welfare systems into a single, unified statewide platform. This aims to ensure consistency, cost-efficiency, scalability, and an improved experience for users such as clients, eligibility workers, and stakeholders.

CalSAWS is seeking a partner to achieve these strategic goals that include a greater degree of transparency and information dissemination through improved communication with the public and with the BenefitsCal stakeholders. The initiatives will focus on strengthening communication and marketing to effectively share stakeholder priorities, raise public awareness, and encourage greater use of BenefitsCal services. Efforts will also include expanding education and outreach, managing event publicity, creating customized marketing materials, and fostering increased stakeholder involvement in user-centered design and user experience testing.

CalSAWS aims to foster a collaborative environment with stakeholders, including state agencies, counties, and community-based organizations, to ensure transparency, effective communication, and informed decision-making. Technological innovation will embrace leveraging advanced technologies such as AWS cloud architecture, Service Oriented Architecture (SOA), and microservices to enhance system performance, security, and adaptability.

CalSAWS intends to implement rigorous Quality Assurance (QA) processes to increase reliability and effectiveness of the future system, including independent testing and continuous improvement. This understanding serves as a starting point for our proposed services, where we aim to align our expertise and resources. We will work collaboratively with CalSAWS to address and remedy these identified gaps through our defined methods and QA approach, as detailed below.

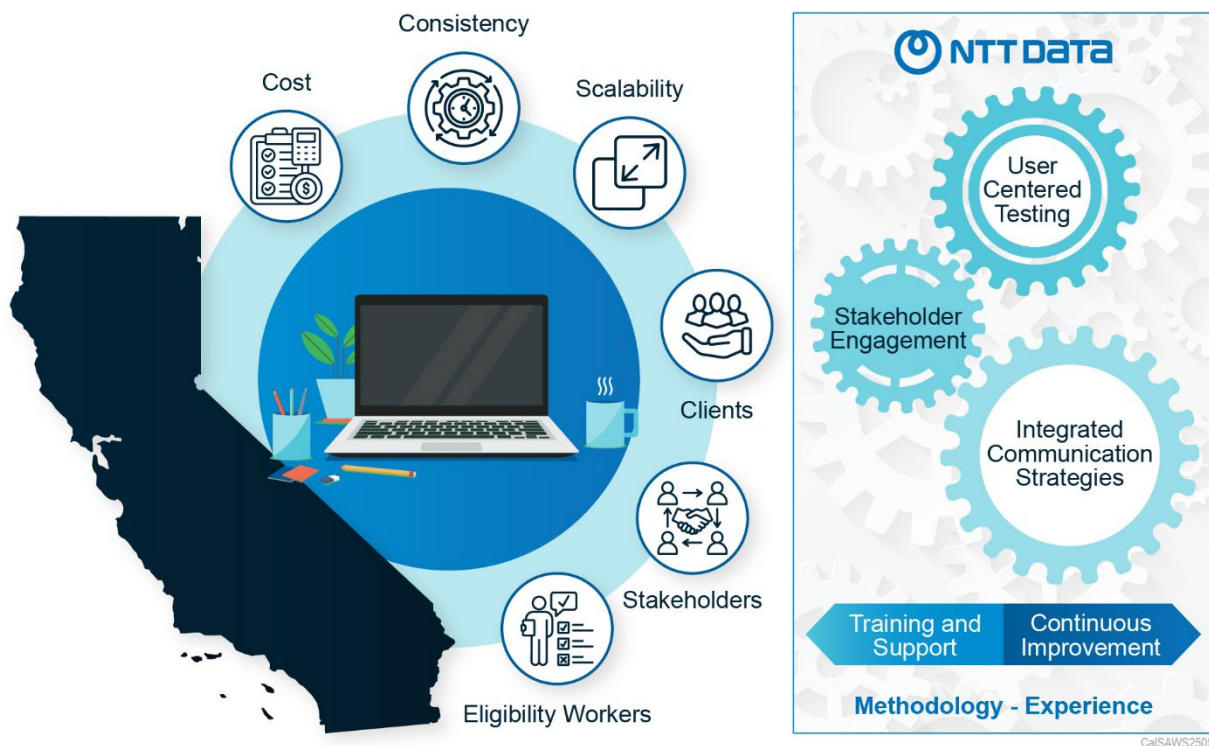


Figure 15. Our approach is designed to support Customer Outreach and Communication

NTT DATA's QA approach is strategically designed to support the evolution and advancement of the customer outreach and communication that is sought by CalSAWS. Our methodology emphasizes several key factors and creates a unified, efficient, and user-friendly system for delivering public assistance services:

- **Stakeholder Engagement:** Central to our QA approach is the active engagement of stakeholders, including users, community organizations, and service providers. By involving these groups in the QA process, we ensure that their feedback and insights are integrated into the development and refinement of outreach and

communication strategies. This collaboration fosters a sense of ownership and ensures that the services are responsive to the needs of the community.

- **User Centered Testing:** Our QA processes incorporate user centered design methodologies by ensuring traceability between user needs, pain points, and preferences and desired testing outcomes. This is an iterative process that involves conducting usability testing and gathering user feedback to confirm that systems, communication materials, and outreach are successful in achieving the intended outcomes and objectives.
- **Continuous Improvement:** NTT DATA is committed to a culture of continuous improvement. We regularly analyze performance metrics, user feedback, and communication outcomes to identify areas for enhancement. This iterative process allows us to adapt outreach strategies in response to changing community needs and emerging best practices, ensuring that the communication approach remains effective and relevant.
- **Integrated Communication Strategies:** Our QA approach supports the development of integrated communication strategies that leverage various channels and platforms to reach diverse populations. By assessing the effectiveness of different communication methods, we recommend tailored strategies that enhance engagement and accessibility, ensuring that all eligible individuals and families are informed about available services.
- **Training and Support:** We recognize the importance of equipping staff with the necessary skills and knowledge to effectively communicate with the community. Our QA initiatives include the evaluation of training programs and resources that empower staff to engage with customers confidently and compassionately, reinforcing the values of dignity and respect in service delivery. Based on our findings, we can recommend additional training and their curriculum and further support CalSAWS for the training delivery.
- **Monitoring and Evaluation:** NTT DATA implements robust monitoring and evaluation processes to assess the impact of outreach and communication efforts. By establishing key performance indicators (KPIs) and regularly reviewing outcomes, we ensure that the outreach strategy is achieving its intended goals and making a positive impact on the community.

Through these key factors, NTT DATA's QA approach not only supports the ongoing evolution of the Customer Outreach and Communications approach but also contributes to the overall vision of enhancing the accessibility and effectiveness of public assistance services.

Kelly Micka, our Functional Lead, brings over 30 years of experience in public assistance programs, including child support, Medicaid, Integrated Eligibility and Health Information Technology, especially in regulatory compliance and optimized workflows, and more than 25 years managing IT projects for government system modernization. Her expertise in regulatory compliance, quality assurance, and workflow optimization drives innovation and continuous improvement. Kelly excels in stakeholder engagement, governance development, feasibility studies, and organizational change management, all of which align with NTT DATA's QA approach and commitment to enhancing public assistance services for evolving community needs.

Figure 16. Demonstrated Examples from Previous QA Projects, UA5

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
Oregon Provider Enrollment System (PEMS) 	The Oregon Health Authority (OHA) is implementing a provider enrollment System to enroll, maintain credentials, and enable communication with a union-based 50,000-member workforce and over 6,000 agency providers. NTT DATA provides Independent Quality Management Services (IQMS) for this project including risk assessment, quality assurance and quality control.	The project identified effective outreach and communications as critical factors to their success. Throughout the project, NTT DATA continually advised the project about their communication practices. We validated that the project's outreach program, communication plans, and communication messages were effectively guiding their customers through the "Awareness," "Desire," "Knowledge," "Ability," and "Reinforce" stages of user acceptance describing in PROSCI's ADKAR methodology. This also included measuring the effectiveness of the project's outreach efforts and making associated improvement recommendations. NTT DATA's efforts were especially valuable when the project had to reprocure their implementation vendor make major adjustments to their overall implementation approach.

These examples illustrate how NTT DATA's QA approach effectively supports the evolution of customer outreach and communications within various state projects. By prioritizing stakeholder engagement and tailoring communication strategies to meet the specific needs of diverse audiences, NTT DATA enhances the overall effectiveness of outreach efforts and contributes to successful project outcomes.

1.3 Sub-Section 5.2.3.3 – Software Development Lifecycle [RFP §5.2.3.3]

Figure 17. Understanding and Approach to Quality Assurance Services – Software Development Lifecycle

3. Understanding and Approach to Quality Assurance Services – Software Development Lifecycle	
Item #	Topic
UA6	The Consortium is seeking world-class contractors that can provide innovative solutions to more efficient and effective software development techniques and tools. Quality Assurance has historically been applied on the "back end" of Software Development lifecycles. Describe how your approach can enhance the overall impact of QA services on the full lifecycle timeline of software development by "pulling forward" the identification of risk areas.

	Provide demonstrated examples from previous QA projects as applicable.
UA7	The Consortium has identified a number of key vision elements within its recent procurement documents. Describe the key factors within your QA approach that will support the adoption and evolution of User Centered Design and the User Experience within CalSAWS. Provide demonstrated examples from previous QA projects as applicable.
UA8	The Consortium has identified a number of key vision elements within its recent procurement documents. Describe the key factors within your QA approach that will support the evolution and advancement of Automated Regression Testing within CalSAWS. Provide demonstrated examples from previous QA projects as applicable.
UA9	The Consortium has identified a number of key vision elements within its recent procurement documents. Describe the key factors within your QA approach that will support the evolution and advancement of DevSecOps within CalSAWS. Provide demonstrated examples from previous QA projects as applicable.

NTT DATA's QA methodology begins on "day one" of a project and extends across the Software Development Lifecycle to identify and mitigate risks, shorten feedback loops, and improve delivery quality. Our approach emphasizes collaboration, transparent governance, and measurable outcomes tailored to CalSAWS' delivery model (waterfall, agile, or hybrid) and coordinated with Consortium partners.

We "pull forward" risk identification by participating in SCRs and design reviews to prevent defects upstream. Our QA practice champions User-Centered Design and the overall User Experience (including accessibility), with concrete examples of methods and results. We evolve and advance Automated Regression Testing within the approved tool chain to increase coverage and speed while maintaining evidence-based reporting.

We strengthen DevSecOps practices across environments and releases, integrating security considerations throughout the lifecycle and illustrating the approach with proven examples.

Our proposed Software Development Lifecycle services are complete and executable without reliance on AI. If or when approved by CalSAWS, our team can activate optional, human-in-the-loop AI enhancements for QA to responsibly accelerate select activities. Please refer to Section 1.3.1, subsection 5.2.3.3 for additional information.

1.3.1 Response to Sub-Section 5.2.3.3, Item #UA6

NTT DATA is recognized as a market leader in proactive QA for large-scale public sector technology projects. Our leadership is demonstrated through our ability to embed QA activities early and consistently throughout the software development lifecycle (SDLC), setting the standard for risk identification, mitigation, and continuous improvement.

Unlike traditional QA approaches that focus on post-development inspection, NTT DATA's methodology is built on the principle that quality must be engineered into every phase of the SDLC. We leverage our proprietary Quality Advantage framework, which

combines industry best practices, lessons learned from decades of state and federal engagements, and a robust set of assessment tools and checklists. This enables us to anticipate and address risks before they impact project outcomes, ensuring that our clients benefit from reduced rework, accelerated timelines, and higher stakeholder satisfaction.

Our leadership is further evidenced by our track record of success across multiple states including New York, Illinois, New Hampshire, and where our proactive QA approach has resulted in measurable improvements in project delivery, compliance, and system adoption. We routinely serve as both QA and IV&V partners, providing services that go beyond standard QA to include risk register management, lessons learned documentation, and continuous process improvement initiatives.

Key Differentiators:

- **Early Risk Identification:** We “pull forward” risk detection to the earliest possible point in the SDLC, leveraging structured checklists and collaborative planning to minimize costly late-stage corrections.
- **Established Methodologies:** Our Quality Advantage framework is recognized for its repeatability, scalability, and alignment with state and federal standards.
- **Continuous Communication:** We foster open stakeholder engagement, ensuring that expectations are clear and risks are addressed collaboratively.
- **Comprehensive Assessment Tools:** Our QA checklists and templates are tailored for each client, supporting rigorous monitoring and compliance.
- **Demonstrated Success:** Real-world examples from New York, Illinois, and New Hampshire showcase our ability to deliver high-quality outcomes and support federal certification.

We agree with the Consortium that there is a historic tendency of QA being implemented at the end of the development process, leading to the identification of defects and risks too late to mitigate effectively. As W. Edwards Deming famously wrote, “Quality comes not from inspection, but from improvement of the production process.” NTT DATA emphasizes a proactive QA strategy that is based on identifying potential risks as early as possible, identifying recommendations to mitigate such risks through process improvement, training, or other methods, and thus avoiding the escalation of such risks into costly issues that delay or prevent meeting key milestones to the ultimate detriment of Californians.

NTT DATA's Quality Advantage methodology provides a robust and current set of processes, checklists, and tools for quality management that align with industry standards and best practices. It identifies lessons learned and risk mitigations for issues that are commonly encountered in State projects, necessitating the establishment of proactive QA activities in all SDLC phases. A key component of this proactive QA approach is continuous monitoring and feedback, which fosters an environment where risks can be identified and addressed swiftly. This not only enhances product quality but also streamlines the development process, reducing time and costs associated with late-stage corrections.

NTT DATA implements various Quality Advantage assessment checklists that provide a structured approach to monitoring and assessing the various phases of the SDLC. These checklists are tailored by our QA teams to meet the specific requirements and expectations of each State client, enabling teams to analyze and identify deficiencies, risks, and issues early in the process in a way that is fully aligned with that State. NTT DATA has utilized Quality Advantage checklists across all of our HHS QA projects to perform QA reviews of vendor deliverables and to ensure compliance with specific contract and business requirements.

The Quality Advantage checklists also provide projects with consistent benchmarks to apply industry accepted standards and best practices, making it possible to monitor and assess processes and deliverables through the various phases of the system development life cycle. By placing an emphasis on instilling quality into planning and assessment documents, the entire project will benefit because issues and discrepancies are addressed early in the project when the cost of clarification and correction is minimized. Following is our approach to “pull forward” risk identification. This has been successful in new projects just starting the DDI project or with projects in M&O. Figure 18 provides an overview of our risk identification and mitigation process.

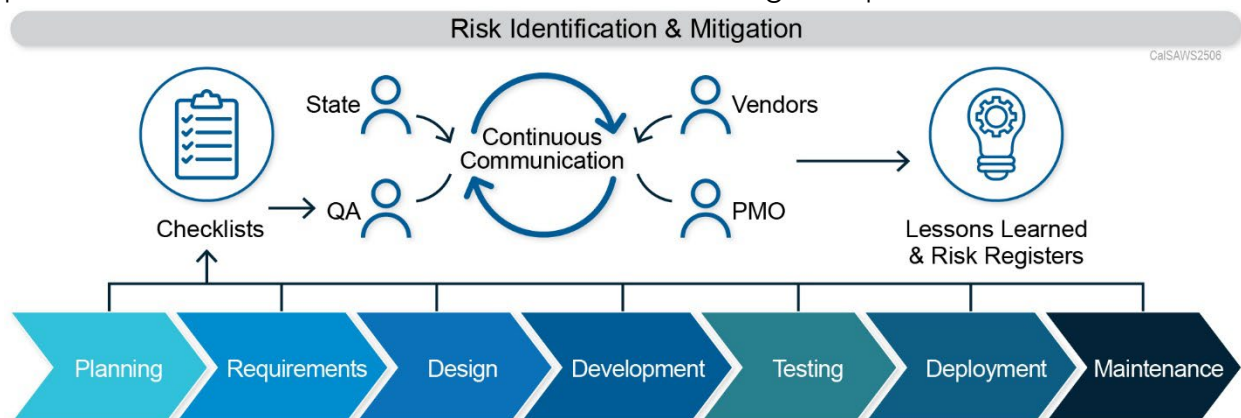
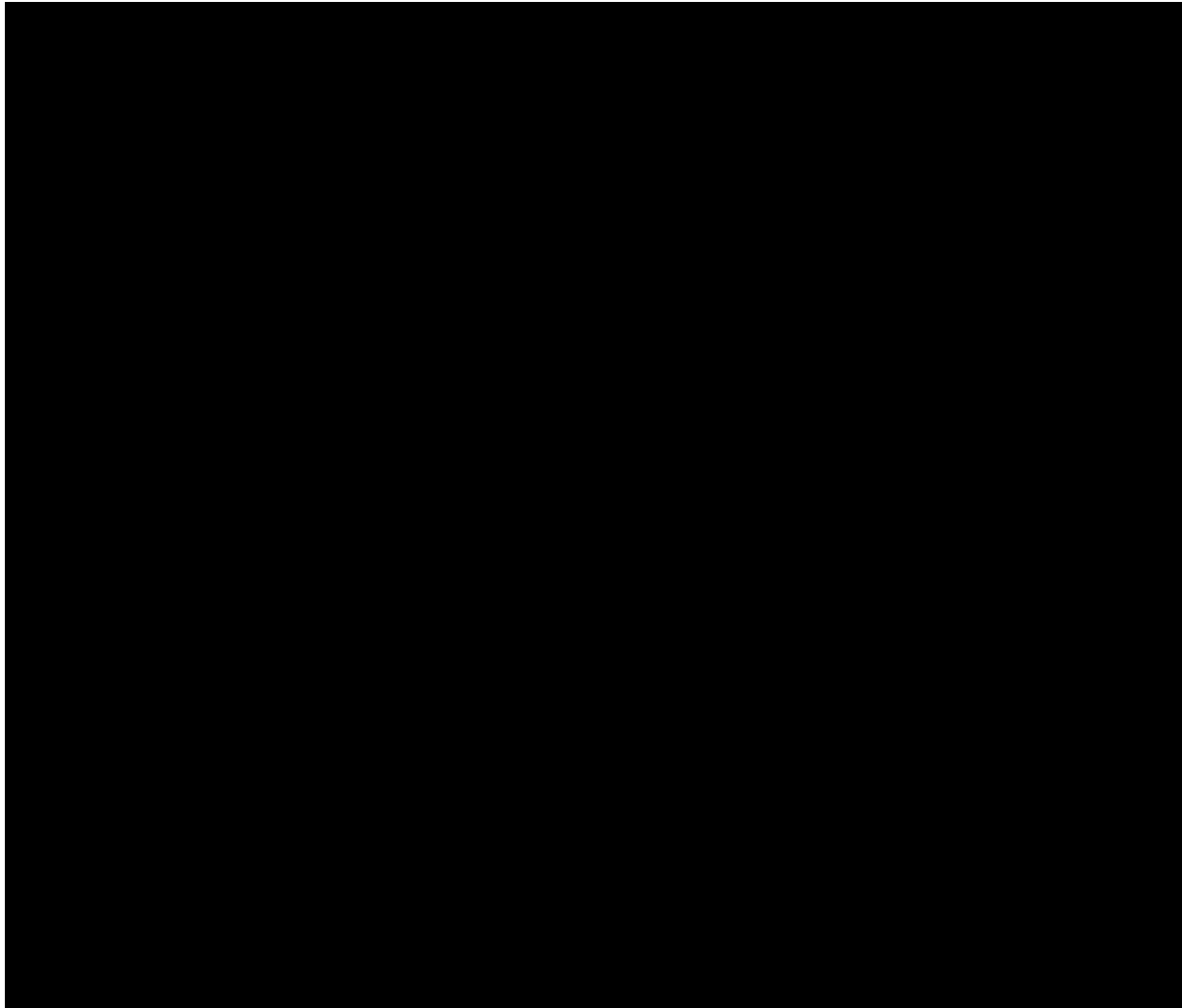
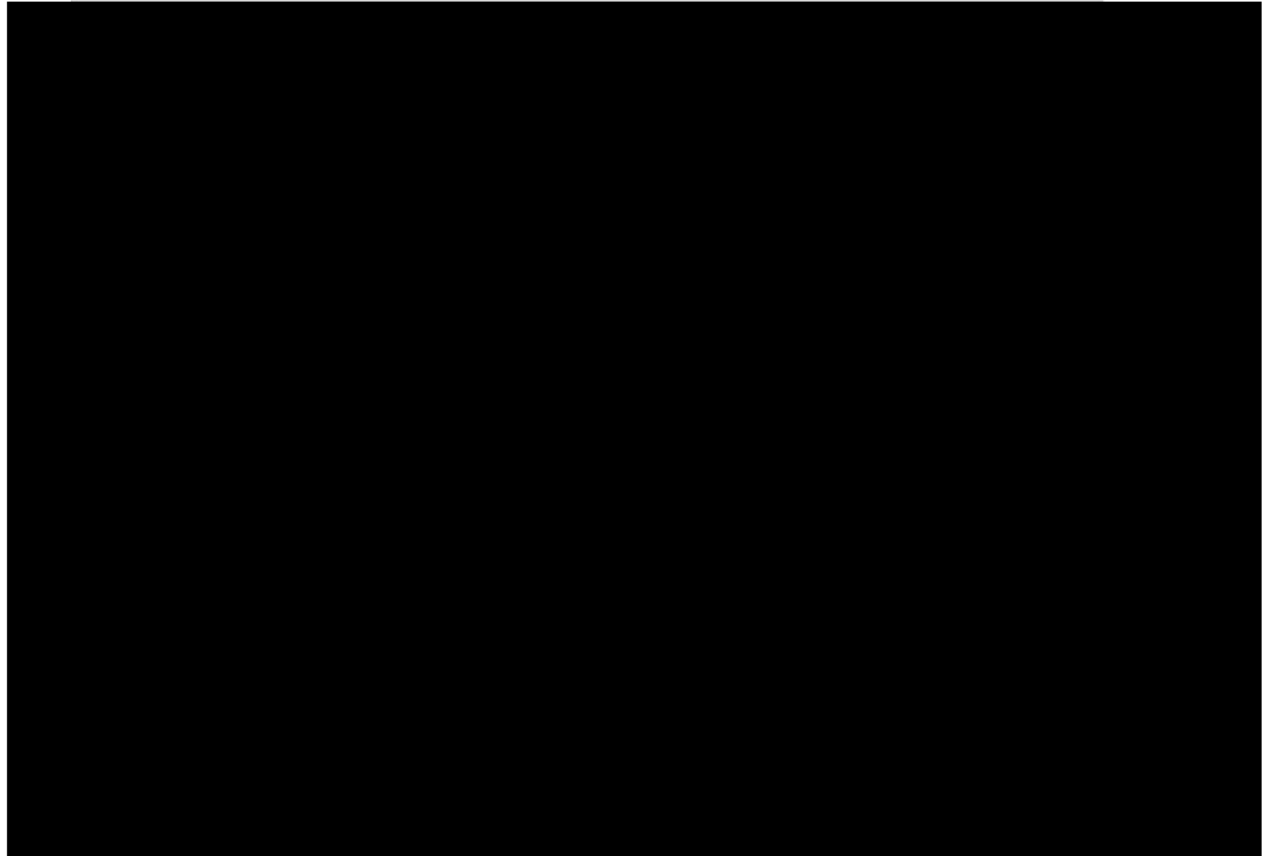


Figure 18. Our recommended approach to “pulling forward” SDLC risk identification

Checklists address a broad range of project elements including resource management, tasks, deliverables, deliverable acceptance criteria, issues and risks, communication, systems management, scope and requirements management, user acceptance testing (UAT), training, system acceptance and quality management. Our NTT DATA Team has access to a repository of checklists that align to Integrated Eligibility projects and are already in compliance with any industry and federal standards. These checklists are shared with the Consortium to first gain an understanding of what our teams will be reviewing, but to ensure there are not other areas that need to be included. Following is an example Disaster Recovery checklist.





Additionally, NTT DATA emphasizes the importance of continuous communication among all project stakeholders. By maintaining open lines of communication, the QA team works collaboratively with project staff, vendors, and state officials to ensure that expectations are clearly understood and that any emerging risks are promptly addressed. This collaborative approach is critical in maintaining project momentum and fostering a culture of accountability and quality across all phases of the project.

Moreover, NTT DATA's experience across various state projects showcases the effectiveness of this proactive QA approach. In engagements such as Illinois, the integration of QA practices at the outset of the projects led to successful outcomes and helped achieve federal certification. These projects demonstrated how early risk identification and mitigation strategies could significantly enhance the quality of deliverables while ensuring alignment with stakeholder objectives and regulatory requirements.

NTT DATA's differentiators in enhancing QA services throughout the software development lifecycle include:

- **Proactive Risk Identification:** The approach emphasizes early detection of potential quality issues, allowing for timely interventions and risk mitigation.
- **Established Methodologies:** The Quality Advantage framework provides a structured and repeatable process for managing QA activities, ensuring consistency and alignment with industry standards.

- **Continuous Communication:** Maintaining open lines of communication among all stakeholders fosters collaboration and accountability, crucial for identifying and addressing risks promptly.
- **Comprehensive Assessment Tools:** Utilization of quality assessment checklists facilitates rigorous monitoring and evaluation of project deliverables, ensuring compliance with expectations.
- **Demonstrated Successes:** NTT DATA's extensive experience in identifying risks across all phases of SDLC is demonstrated in the following real-world examples from our NYSDOH MMIS and MDW QA, and Maryland MMT PMO projects:

Figure 21. Examples of Successfully Identified and Mitigated Risk

Risks/Issues	Mitigation Strategies & Outcomes
Project Management Plans and Processes Risk NTT DATA identified poor stakeholder engagement occurs when there is insufficient communication and involvement of stakeholders throughout the project, leading to misaligned expectations and project objectives.	Mitigations: • Established regular communication channels, such as meetings and updates, to keep stakeholders informed and engaged. • Involved stakeholders early in the project planning process to gather input and align project objectives with their expectations and ensuring that expectations were documented within project planning documentation. • Confirmed the project manager maintains communication with stakeholders, to confirm engagement when communication is naturally at a lower volume (for projects on-hold or in development). Outcomes: The PMO implemented NTT DATA recommendations and stakeholders remain engaged and informed because expectations were clearly laid out and documented early. Continued project manager engagement fostered enhanced communication channels.
SDLC Risk NTT DATA identified that if access, connectivity, and test data are not provisioned in the UAT environment before the scheduled start date, then the test duration will be shortened, reducing departmental confidence and potentially delaying the implementation date, which may impact dependent projects.	Mitigations: • Created a UAT readiness checklist and conducting a formal go/no-go review with project leadership at least two weeks prior to the scheduled UAT start date. • Assigned clear ownership for provisioning user access, connectivity, and test data to ensure the UAT environment is fully prepared on time. Outcomes: By establishing clear ownership, defined tasks, and objective entrance criteria through a UAT readiness checklist as recommended by NTT DATA, the Department was able to initiate UAT with greater confidence and preparedness. This approach allowed testers to know what data was available and ready for test best utilizing the limited UAT testing window.
Project Estimation Process Risk NTT DATA identified that detailed tasks for custom queries and reports were not	Mitigations: • Updated the integrated project schedule to include detailed tasks for both data querying and reporting requirements.

Risks/Issues	Mitigation Strategies & Outcomes
accounted for in the integrated project schedule, impacting the ability to accurately estimate the end date, creating significant rework to ensure proper functionality following implementation.	- Planned power-user training and report development activities, incorporating them directly into the project schedule. - Coordinated with departmental leadership to validate the scope of work and confirm resource availability. Outcomes: By implementing these mitigation steps as recommended by NTT DATA, NYSDOH gained clear visibility into the revised project timeline once all new tasks were incorporated. This transparency enabled more effective planning and communication of rework activities to users and stakeholders.
Project Deliverables Risk NTT DATA identified misaligned vendor deliverables not meeting departmental stakeholder expectations or aligning with project requirements, leading to dissatisfaction and potential revisions.	Mitigations: - Recommended vendors submit more comprehensive Deliverable Expectation Documents (DEDs) to allow departmental stakeholders visibility into the deliverable final product prior to formal submission. - Implemented checklists to capture all project requirements and review those with stakeholders to ensure vendor deliverables are aligned with contractual requirements. Outcomes: As recommended by NTT DATA, NYSDOH requested that vendor documents comply with stakeholder expectations, project objectives, and requirements, which resulted in decreased deliverables rejection rates, revisions and rework across vendor, departmental and QA staff.

Such demonstrated successes in previous QA projects highlights how our approach successfully “pulls forward” risk identification to as early as possible in the SDLC lifecycle.

In coordination with State clients, we also work closely with vendors to perform continuous risk assessments. During the New Hampshire Department of Health and Human Services MMIS replacement project, NTT DATA’s QA team worked closely with the implementation vendor to conduct such assessments, ensuring that all deliverables met the required quality standards. This collaboration allowed for timely identification of issues, ultimately supporting a successful system go-live.

Additionally, NTT DATA’s work with the Illinois Integrated Eligibility System (IES) project exemplifies the impact of integrating QA services with risk management practices. The QA team collaborated with the IES PMO to embed quality checks and assessments into the development process, ensuring that any emerging risks were addressed swiftly and effectively.

In summary, NTT DATA’s innovative approach to QA not only enhances the overall impact of QA services on the full lifecycle timeline of software development but also contributes to the delivery of high-quality software solutions that meet the dynamic needs of clients.

Figure 22. Demonstrated Examples from Previous QA Projects, UA6

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
NYS MDW, NYSOH/Health Information Exchange (HIX) New York MMIS/MDW QA, New York NYSOH QA 	During NTT DATA's first year at the MDW, our team identified that the system vendor was not leveraging documentation templates that had been created by the previous vendor. These were subsequently adopted and used going forward. More significantly, it was identified by our team that no formal QA analysis or workflow process existed. NTT DATA worked with the State to create a robust and comprehensive QA program that remains in place.	NYS does not have an IV&V vendor in place. NTT DATA, in its QA role, provides services that would typically be supported by a dedicated IV&V vendor reporting both to the client and to CMS. NTT DATA was able to leverage its expertise working within other NYS bureaus to provide these crucial missing QA functions.
New Hampshire DHHS 	NTT DATA provides QA services to New Hampshire DHHS by reviewing and evaluating each system release on a five-week cycle, including change orders and post-deployment verification. Our team performs user acceptance and regression testing, including test case design, execution, results reporting, defect logging, and artifact documentation.	We review and approve change orders, including system documentation, mapping, business rules, and flow charts, and lead process improvement initiatives for the change order and scoping process. The implementation of this process helped in making sure testers and testing assignments are created, distributed, and managed for each release, covering all change orders and defects so that nothing was missed.
Oregon Department of Revenue ELVIS Project 	The purpose of the DOR ELVIS Project is to implement a modern property valuation system for DOR. NTT DATA is providing Independent Quality	From the beginning, there were a myriad of problems identified with development: • The Agile Hybrid process was not documented resulting in real misunderstandings • Agile Scrum roles and responsibilities were unclear

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
	Management Services (IQMS) for this project including risk assessment, quality assurance and quality control. For the Department of Revenue ELVIS project, early on NTT DATA via its initial risk assessment, staff expertise (in this case with Agile development), and ongoing meeting attendance and monitoring, NTT DATA identified several development-related problems early in the project.	Sprint progress reporting was insufficient On top of all this, overall solution vendor status reporting was “buried in the ADOS tool” and not available for general consumption by key project stakeholders – limiting the ability of the State and others to understand and respond. NTT DATA's initial and ongoing reporting was critical to the outcome of the project. After several months of NTT DATA feedback and reporting, the ELVIS project terminated its relationship with the solution vendor and pivoted to an in house solution.
Illinois IV&V/QA 	NTT DATA's IL MES IV&V/QA team includes two dedicated security SMEs who validate vendor and module security and privacy plans across the enterprise.	Our team developed a crosswalk checklist document that integrates the NIST 800-53, MARS-E, SSA, and IRS 1075 frameworks to enable state tailoring of security controls. This crosswalk checklist is used to assess System Security and Privacy Plans across all modules, ensuring alignment with federal and state security standards and reducing audit risk

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

In summary, NTT DATA's QA methodologies are fully capable of supporting the adoption of User Centered Design principles, thereby contributing directly to realization of the California State Digital Strategy. This approach will also contribute to ensuring that the overall user experience provided by CalSAWS project capabilities will be effective, efficient, and user-friendly.

Figure 24. Demonstrated Examples from Previous QA Projects, UA7

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
CMS Cloud Navigator Services	At CMS, we created and maintained an operational environment that focused on the business owner and customer experience, based on a Human Centered Design approach. Our team carefully monitored the UCD process to ensure that the methodology was being applied in a way that would fully align with user needs and address identified pain points. NTT DATA implemented multi-factor authentication (MFA) to function equivalently in all supported user interface environments. We also developed an online marketplace hosted in the CMS cloud environment	NTT DATA ensured a consistent and secure user experience regardless of access point. This outcome reflects successful alignment of security protocols with usability principles. The development of an online marketplace hosted in the CMS cloud environment provided users with a centralized, accessible platform for services and tools. This outcome demonstrates how UCD principles translated into functional system design that met user needs and supported CMS's digital transformation goals. Our oversight of the UCD process ensured that clear traceability existed between gathered user experience insights and the implemented solution. This traceability is essential as a basis for identifying iterative refinements and enhancements.
NYS DOH MMIS/MDW QA 	The MMIS QA team works closely alongside the MMIS PMO to assess and participate in the implementation of a Medicaid provider portal application for the NYS DOH MMIS modularization and modernization initiative. The NTT DATA QA team worked closely with the MMIS DOH PMO during	QA participated in an agile implementation of a new MMIS vendor developed web-based provider portal tool with built-in workflow and provider self-service processes to replace a department of staff who performed manual data entry into a system to enroll and manage providers. The QA team was engaged in all aspects of iterative requirements definition, user interface design through UAT and implementation.

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
	the second of two modernization efforts to implement a new Medicaid provider portal. While provider data was available in the MMIS claims processing system, new enrollment, re-validation, and re-enrollment of providers were primarily done via paper applications. DOH recognized that it was critical that a new, modern and more efficient method for provider management be implemented.	The QA team was able to provide constructive feedback and to identify risks throughout the process, highlighting areas where the vendor needed to improve from the lack of a well-defined project plan and schedule, adequate and qualified resource allocation, requirements documentation, development process, UAT test case development, and effective communication. These were called out in status meetings and sprint retrospectives, and in the end, this project was eventually suspended, only to be replaced by another application that was more mature and better met the needs of the MMIS program. Much of the QA feedback collected as lessons learned were applied to the new system, ensuring that documented user needs and pain points were fully considered.
Oregon Department of Human Services Benefits Management System (BMS) 	The purpose of the Benefits Management System Project is to replace two existing aging systems with a single solution – enabling State of Oregon employees to select and manage their benefits. NTT DATA is providing Independent Quality Management Services (IQMS) for this project including risk assessment, quality assurance and quality control. For the BMS Project, NTT DATA staff validated the requirements as well as the functional and technical design of the solution.	In its Quality Control review of Requirements, the Functional Design as well as the Technical Design, NTT DATA staff identified a large number of findings that the State and vendor incorporated into the solution, improving overall usability. In addition, NTT DATA reviews of the traceability of requirements to design to the solution identified real gaps that were causing solution “misses”. NTT DATA’s findings in this area were important to the State and vendor tightening up related ADOS controls and associated system problems.

1.3.3 Response to Sub-Section 5.2.3.3, Item #UA8

NTT DATA's Quality Assurance (QA) approach to supporting the evolution and advancement of Automated Regression Testing within the CalSAWS project is based in our Quality Advantage methodology. The adoption of automated testing techniques is critical for enhancing the efficiency and reliability of software development processes, and NTT DATA is committed to integrating these practices effectively. For example, our PMO Team for the Illinois Integrated Eligibility System (IES) employed our methodologies to provide valuable oversight and guidance to the State in the implementation of Automated Regression Testing solutions.

A key factor in NTT DATA's QA approach is the use of established automated testing tools that facilitate comprehensive test coverage across all phases of the software development lifecycle. NTT DATA employs a tailored approach where our Subject Matter Experts evaluate the State's SDLC documentation, technology stack compatibility, and client specific requirements as key inputs on making recommendations for tool selection. While we have deep experience with industry-standard tools such as UFT, Selenium, and Cucumber, we do not apply a one-size-fits-all model. Instead, we conduct tool feasibility assessments and proof-of-concept exercises to determine the most effective solution for each engagement.

For example, in the Illinois IES project, multiple automation frameworks were evaluated before settling on a Cucumber/Selenium combination, which aligned best with the client's UAT success criteria and agile development practices. Similarly, our QA teams regularly collaborate with oversight and PMO teams to align tool usage with evolving testing strategies and CI/CD integration needs.

Our recommendations are informed by:

- Project maturity and methodology (Agile vs. Waterfall)
- System architecture (transactional vs. non-transactional)
- Tool compatibility with existing SDLC and test management platforms
- Tester skill levels and automation experience spectrum
- Long-term maintainability and scalability of the automation framework

Specific to the selection of potential regression tests to automate, we recommend based on either the depth and breadth of the progressive testing effort, or in the case of a solution migration, we recommend based on an analysis of the legacy testing strategy, depending on the quality of the legacy test bed.

Collaboration with stakeholders, including the IES PMO team, plays a crucial role in the successful implementation of automated testing. Regular communication and alignment with project objectives enable NTT DATA to recommend a fully tailored automated testing strategy that will meet the specific needs of the CalSAWS initiative. This includes recommendations for best practices and approaches that allow for real-time feedback and immediate identification of issues.

These engagements included integration of automated regression testing into CI/CD pipelines, use of behavior-driven development frameworks, and deployment of

scalable automation tools. Furthermore, NTT DATA's experience in utilizing a range of automated testing tools has proven beneficial in enhancing testing accuracy and efficiency. By employing our Quality Advantage methodology's standardized checklists and templates, NTT DATA ensures that automated tests are executed consistently and that any defects are logged and prioritized effectively.

NTT DATA's key differentiators in advancing Automated Regression Testing within CalSAWS include:

- **Integration with CI/CD Pipelines:** Automated testing scripts are designed to be seamlessly integrated into CI/CD pipelines, facilitating continuous testing and rapid feedback on code changes.
- **Comprehensive Test Coverage:** The approach ensures that all functional, system, and regression testing requirements are addressed, minimizing the risk of defects in production.
- **Collaboration with Oversight Teams:** Regular engagement with the IES PMO team that allows for alignment on testing strategies and objectives, enhancing the effectiveness of automated testing efforts and ensuring flexibility as priorities or testing requirements change.
- **Utilization of Established Tools:** NTT DATA's tailored approach to recommending the most appropriate industry-standard automated testing tools enhances testing efficiency and improves overall quality management practices.
- **Proven Track Record:** Previous success stories, such as the Illinois IES project, demonstrate NTT DATA's capability to implement effective automated testing solutions that meet project objectives and stakeholder expectations.
- **Continuous Improvement and Optimization:** On an ongoing basis, NTT DATA incorporates refinements based on lessons learned from other State QA engagements, emerging proven capabilities and innovative best practices.

In conclusion, NTT DATA's QA approach is specifically tailored to support the evolution of Automated Regression Testing within the CalSAWS initiative, ensuring that the solutions developed are reliable, efficient, and aligned with the needs of all stakeholders involved. Our team is ready to provide ongoing assessment and recommendations in this area.

Figure 25. Demonstrated Examples from Previous QA Projects, UA8

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
Oregon Department of Human Services HIV-E Project 	The HIV-E Project is a technology refresh and feature enhancement project for the HIV Care and Treatment Program that is part of the Oregon Health Authority's (OHA) Public Health Division. NTT DATA is providing Independent Quality	At the beginning of the HIV-E project, NTT DATA defined a series of Quality Standards that would be assessed throughout the project. An example of a Quality Standard is "Effectiveness of UAT Status Reporting". This set of Quality Standards has been revised and refined over time based on the evolution of the project. Initially, NTT defined 52 Quality Standards, but the

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
	Management Services (IQMS) for this project including risk assessment, quality assurance and quality control. For the HIV-E Project, extensive use of Quality Standards has been instrumental in assessing and improving the quality of testing throughout the project, including Automated Regression Testing.	list has been expanded over time to 78 Quality Standards, all to ensure appropriate focus and attention on important project areas, like testing. Of the 78 Quality Standards, 9 are dedicated to various aspects of testing (one of which is "Efficacy of Automated Regression Testing". These 9 testing Quality Standards, reviewed and assessed by NTT DATA every month, have enabled NTT DATA to make specific improvement recommendations to testing and testing processes for the last year. As a result, testing efforts and processes have improved significantly, test status reporting is now clear and delivered with confidence, and the project is now scheduled to "go live" in early 2026.

1.3.4 Response to Sub-Section 5.2.3.3, Item #UA9

NTT DATA's QA approach is strategically aligned to directly support the Consortium's key vision elements including advancing innovation, strengthening multi-contractor collaboration, and ensuring continuous improvement in CalSAWS processes.

We apply recognized frameworks such as Scaled Agile Framework (SAFe) and DevSecOps principles to guide our QA oversight. With recognition that we will not serve as the development contractor, we ensure that security requirements are built into every stage of the development lifecycle by reviewing and validating other CalSAWS contractor deliverables. This includes confirming compliance with NIST, FedRAMP, and Section 508/ADA accessibility standards.

Key factors in our approach include:

- **Independent assessment** of design documents, test results, and system modifications to confirm alignment with DevSecOps practices.
- **Structured escalation** of identified risks or deviations to ensure timely resolution.
- **Repeatable reporting** processes embedded in our QA Services Plan and OWDs (see Section 4), which ensure consistency across contractors.
- **Collaboration in a multi-contractor environment**, reinforcing the Consortium's vision for integration and shared accountability.

As a key success factor in our ability to fully realize the goals and objectives of DevSecOps, our Security/Compliance Advisor, Margaret Folts, our QA Technical Manager and Technical analysts, participate actively with project teams in the day-to-day fulfillment of project obligations. Rather than operating solely as auditors or

reviewers, our security experts are embedded within delivery teams, collaborating directly with developers, testers, and business analysts throughout each sprint and release cycle. This hands-on involvement means security considerations are addressed proactively, from design and architecture through implementation and deployment, rather than being retrofitted or reviewed after the fact or out of context.

Our experience demonstrates the value of this approach. For example, in our technical QA oversight of the Idaho MMIS Modernization Project, we developed and implemented processes and checklists for assessing vendor compliance with secure coding and NIST standards from the onset of the project. This served to report and escalate any identified gaps to ensure remediation before work progressed to a subsequent phase. The Illinois Integrated Eligibility System (IES) project serves as a prime example of NTT DATA's successful implementation of DevSecOps principles. In this project, NTT DATA worked closely with the IES State team to integrate security assessments into the development process, utilizing automated tools for continuous security testing.

This proactive stance helped identify vulnerabilities early, allowing for timely remediation and ensuring compliance with federal and state security standards. These engagements illustrate how our QA methods advance DevSecOps practices while providing the client with independent, actionable assurance.

A fundamental aspect of NTT DATA's approach is the effective and ongoing collaboration between development, security, and operations teams. This collaboration fosters a culture of shared responsibility for security across all project participants. NTT DATA employs methodologies such as the Scaled Agile Framework (SAFe), which incorporates built-in quality processes that enhance transparency and break down silos between teams. This integrated approach allows for continuous feedback and iterative improvements, enabling teams to quickly adapt to changing requirements and security threats.

Continuous monitoring and risk assessment are central to NTT DATA's QA approach in DevSecOps. Regular risk assessments, coupled with the use of automated security tools, help maintain a robust security posture throughout the project lifecycle. NTT DATA employs exception-based assessment reports that provide actionable insights and recommendations for continual improvement, ensuring that the security measures evolve alongside the project.

NTT DATA's key differentiators in advancing DevSecOps within CalSAWS include:

- **Integrated Security Practices:** Security is embedded throughout the development lifecycle, ensuring vulnerabilities are identified and addressed early.
- **Collaboration Across Teams:** Promoting a culture of shared responsibility for security among development, security, and operations teams enhances project outcomes.
- **Proven Methodologies:** Utilization of frameworks like SAFe ensures transparency and fosters collaboration, breaking down silos between teams.
- **Automated Testing and Monitoring:** Implementation of automated tools for continuous integration and security testing streamlines processes and enhances overall security.

- **Demonstrated Successes:** NTT DATA's extensive experience in successfully implementing DevSecOps principles in various state projects highlights its capability to deliver secure, high-quality software solutions.

In conclusion, NTT DATA's QA approach is tailored to support the evolution of DevSecOps within the CalSAWS initiative, ensuring that security is a foundational element of software development and that the solutions delivered are both secure and efficient.

Figure 26 below provides demonstrated examples of our experience on QA projects related to this section.

Figure 26. Demonstrated Examples from Previous QA Projects - Item #UA9

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
Idaho System Integration Technical Advisory (SITA) project 	The Idaho System Integration Technical Advisory (SITA) project supports the modernization of the Idaho Department of Health and Welfare's (IDHW) Medicaid Management Information System (MMIS). The project aims to enhance technical oversight, vendor coordination, and governance across multiple modules. Our team provides Technical Oversight and QA.	Through rigorous security oversight, the SITA project ensured HIPAA-compliant architecture, mitigated vendor risks, and strengthened Idaho's MMIS modernization. This included post-implementation evaluations, audit support, and continuous monitoring of system integrity, resulting in improved data protection, reduced vulnerabilities, and effective risk mitigation.
Oregon Department of Justice Origin Project 	The DOJ Origin Project is a refactoring of a Child Protective Services system originally implemented by Deloitte in 2016. NTT DATA provides Independent Quality Management Services (IQMS) for this project including risk assessment, quality assurance and quality control. For this project, our team played a significant role	Both our static code analysis as well as penetration and vulnerability testing identified numerous critical findings that the State and its solution vendor (Deloitte) resolved. NTT DATA's enhanced security Quality Standards added additional focus on security in general, by reviewing and reporting on these important standards monthly.

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
	in security in 2 separate ways: - enhanced our list of security Quality Standards to reflect the new environment of security technology - conducted static code analysis as well as penetration and vulnerability testing.	

1.4 Sub-Section 5.2.3.4 – Approach to Independent Test [RFP §5.2.3.4]

Figure 27. Understanding and Approach to Independent Test

4. Understanding and Approach to Independent Test	
Item #	Topic
UA10	Describe your approach and operational method(s) to establish the initial set of independent test cases and the requisite test Data. Provide demonstrated examples from previous QA projects as applicable.
UA11	Describe your approach to ensuring a continuously more effective set of independent tests without expanding the required CalSAWS resources. Describe, in detail, the tools and techniques within your approach that will illustrate ongoing improved confidence in the independent test results. Provide demonstrated examples from previous QA projects as applicable.

NTT DATA's approach to Independent Testing provides CalSAWS with an objective lens that is organizationally separate and yet synchronized with the delivery cadence. We preserve independence through distinct roles, environments, and workflows while using Consortium-approved tools, masked production data, and evidence-based reporting to keep results auditable and actionable.

We establish the initial independent test set and requisite test data by standing up a traceable, risk-based suite anchored to critical user journeys and regulatory controls. We apply proven design techniques (equivalence classes, boundary values, decision tables, pairwise) and define environment parity, entry/exit criteria, and versioning. A Test Data Management plan provisions masked production extracts alongside purpose-built synthetic datasets, with refresh schedules that keep scenarios repeatable; demonstrated examples follow in the UA10 subsection.

Our approach will ensure that Independent Test effectiveness increases release over release, without expanding additional CalSAWS resources, by incrementally curating the test suite. Confidence grows through clear indicators (coverage, defect-containment, failure density, mutation score) and concise dashboards that translate results into decisions for governance. Our team absorbs the optimization effort so State

staffing remains steady.

As with previous proposed services in this section, if or when approved by CalSAWS, our team can activate optional, human-in-the-loop AI enhancements for QA to responsibly accelerate select activities. Please refer to Section 1.3.1, subsection 5.2.3.3 for additional information.

1.4.1 Response to Sub-Section 5.2.3.4, Item #UA10

UA10	- Describe your approach and operational method(s) to establish the initial set of independent test cases and the requisite test Data. - Provide demonstrated examples from previous QA projects as applicable.
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NTT DATA employs a systematic approach to establish the initial set of independent test cases and the requisite test data, ensuring comprehensive coverage and alignment with project requirements. Our methodology incorporates several key operational methods that facilitate effective testing and validation of the system.

- Requirements Analysis:** We begin by conducting a thorough analysis of the business and technical requirements, including user stories and functional specifications. This analysis helps identify critical functionalities and expected outcomes, forming the foundation for developing relevant test cases.

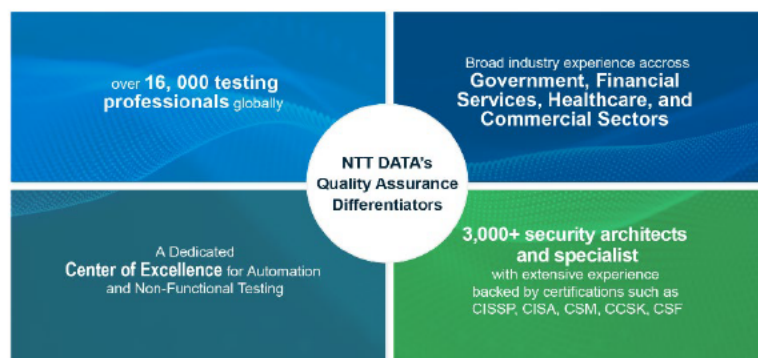


Figure 28. NTT DATA Quality Assurance Differentiators

- Test Case Development:** Based on the requirements analysis, our team creates detailed test cases that encompass both positive and negative scenarios. Each test case is designed to validate specific functionalities, ensuring that they operate as intended under various conditions. We prioritize traceability between test cases and requirements through a requirements traceability matrix to guarantee comprehensive coverage and facilitate easy tracking during testing.
- Collaboration with Stakeholders:** To enhance the quality and relevance of the test cases, we engage with stakeholders, including business analysts, developers, and end-users. This collaboration ensures that the test cases reflect real-world usage scenarios and meet user expectations, thereby increasing the likelihood of successful outcomes during testing.
- Test Data Identification:** Once the test cases are established, we identify the necessary test data required for execution. This includes creating realistic data sets that reflect various user profiles and scenarios. We ensure that the test data covers a wide range of conditions, including edge cases, to thoroughly evaluate system performance and functionality.

- **Data Management and Security:** NTT DATA implements best practices for test data management to ensure that data is appropriately secured and compliant with relevant regulations. This includes anonymizing sensitive information and maintaining a controlled environment for test data usage.
- **Review and Validation:** Before executing the tests, we conduct a review of the test cases and test data with key stakeholders to ensure accuracy and completeness. This validation step helps identify any gaps or inconsistencies that may need to be addressed prior to testing.
- **Execution and Iteration:** After validation, we execute the test cases using the identified test data. We monitor the outcomes closely, document results and identify any defects or issues that arise. Our iterative approach allows for continuous refinement of test cases and data based on findings, ensuring that testing remains aligned with project goals.

By implementing these operational methods, NTT DATA ensures that the initial set of independent test cases and requisite test data are effectively established, contributing to the overall success of the QA process. Our SMEs will advise CalSAWS on best practices for testing and data management, supporting enhanced efficiency, accuracy, comprehensive testing data security and compliance with relevant regulations.

Figure 29. Demonstrated Examples from Previous QA Projects, UA10

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
NH QA contract	• Preparation for testing system projects begins prior to the deployment to UAT. This includes the following activities: • Attend Scoping and Release Planning Meetings. • Attending requirement development and JAD sessions. • Review/approval of Change Requests • Preparation of test scripts/scenarios • Participation in testing preparation, project status and requirement meetings. • For each system release, NTT has the following responsibilities: – Creates and distributes Testing	This approach to testing allows SME/Testers to fully understand the requirements from the beginning of the project and gain an understanding of all the business areas impacted so that testing plans developed include the appropriate level of testing to assure a high level of confidence in testing efforts.

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
	Assignments for CRs/Defects for each release. – Regression Testing. – UAT/Enhancement Testing. • Defect identification, submission and artifact documentation. • After testing is completed, test result review meetings are scheduled with state business users to walk them through the results. • NTT performs validation of all System Documentation changes.	

1.4.2 Response to Sub-Section 5.2.3.4, Item #UA11

- | | |
|------|---|
| UA11 | <ul style="list-style-type: none"> ▪ Describe your approach to ensuring a continuously more effective set of independent tests without expanding the required CalSAWS resources. ▪ Describe, in detail, the tools and techniques within your approach that will illustrate ongoing improved confidence in the independent test results. ▪ Provide demonstrated examples from previous QA projects as applicable. |
|------|---|

NTT DATA adopts a multifaceted approach to implementing and performing a continuously more effective set of independent tests while optimizing the utilization of resources. We continuously analyze test results and actively collect feedback from stakeholders to drive iterative improvements and increase the effectiveness of our independent test set. This process allows us to identify areas for enhancement, promptly address gaps or issues, and adapt our approach to evolving project needs while further strengthening confidence in test outcomes.

Our strategy focuses on enhancing testing processes, leveraging technology, and fostering collaboration to achieve high-quality outcomes efficiently and to work within the resources of our team and the Consortium. Our approaches include:

- **Test Automation:** We have advised several states such as Arizona on best practices for employing automated testing tools to streamline the testing process. Automating repetitive and regression tests reduces manual effort, enabling the QA team to concentrate on complex scenarios and enhance efficiency without increasing resources. Our approaches include:
 - **Selection of Automated Testing Tools:** We select industry-leading automated testing tools that align with the specific needs of the project. Tools such as Selenium, QTP,

and TestComplete are commonly used to facilitate automated functional, regression, and performance testing and support various programming languages and frameworks, ensuring compatibility with the existing technology stack.

- **Automation Framework Development:** We develop a comprehensive automation framework that provides a structured approach to test automation. This framework includes guidelines for test script development, execution, and maintenance, ensuring consistency and reusability across test cases.
- **Automating Repetitive and Regression Tests:** We focus on automating repetitive test cases, particularly regression tests that need to be executed frequently throughout the development lifecycle. By automating these tests, we significantly reduce manual effort and the potential for human error. This allows the QA team to run extensive test suites quickly, ensuring that new code changes do not adversely affect existing functionality.
- **Integration with CI/CD Pipelines:** Our teams have advised several states on best practices for automation and for integration with Continuous Integration/Continuous Deployment (CI/CD) pipelines, most recently in Arizona. CI/CD integrations enable automated tests to run automatically whenever new code is committed. This integration allows identification and resolution of issues early in the development process. We most recently advised the State of Arizona.
- **Focus on Complex Scenarios:** With the reduction of manual testing efforts through automation, the QA team can concentrate on more complex testing scenarios that require critical thinking and analysis. This includes exploratory testing, performance testing, and security testing, which are essential for reliability of the application.
- **Risk-Based Testing:** Our testing approach is guided by risk assessment and prioritizing test cases based on their potential impact on system functionality and user experience. This enables our NTT DATA Teams and Consortium Resources to have a strategy for focusing on the right test cases at the right time. Concentrating on high-risk areas allows us to thoroughly test critical components and enhance the overall effectiveness of the testing process while conserving resources. Our approach includes:
 - **Risk Assessment Framework:** We begin by conducting a thorough risk assessment to identify and evaluate potential risks associated with the application under test, including the complexity of features, historical defect data, user feedback, and the criticality of different components to overall system performance. By categorizing risks, we can prioritize our testing efforts accordingly.
 - **Prioritization of Test Cases:** Based on Risk Assessment, we prioritize test cases that address high-risk areas and cover critical functionalities, such as core business processes, user authentication, data integrity, and system integrations. This allows us to focus on the most crucial components of the application and reducing the likelihood of significant issues arising in production.
 - **Test Case Design and Development:** Our test case design process incorporates risk-based testing principles. We develop detailed test cases that not only validate expected outcomes but also explore edge cases and potential failure scenarios to uncover defects that may not be identified through standard testing practices.
 - **Dynamic Test Execution:** During the testing phase, we employ dynamic test execution strategies that adapt to the findings from ongoing risk assessments. If new

risks are identified or if changes are made to the application, we can quickly adjust our testing priorities and focus on areas that require immediate attention.

- **Continuous Integration and Continuous Testing:** We integrate continuous testing practices within the development lifecycle, conducting tests concurrently with development efforts. This proactive approach enables early identification of defects, reducing the risk of costly rework and ensuring that testing remains aligned with development timelines, all without necessitating additional resource allocation.
- **Data-Driven Decision Making:** The QA team systematically collects and integrates data from various sources throughout the testing lifecycle, including test execution results, defect logs, performance metrics, and user feedback, into a centralized repository for comprehensive analysis and reporting. Utilizing advanced analytics tools, we analyze test results to identify patterns and anomalies, helping us understand the effectiveness of our testing efforts and the severity of defects. We closely monitor defect trends over time, examining factors such as defect density and recurrence rates to focus our testing on high-risk components, thereby mitigating potential issues. Additionally, we assess performance metrics related to test execution, such as cycle time and resource utilization, to identify bottlenecks and improve efficiency. By analyzing historical testing data, we refine our testing strategies based on past experiences, ensuring that we learn from previous projects. The insights gained from this data-driven approach are a base for our continuous improvement initiatives, allowing us to regularly update our testing processes, cases, tools, and techniques to enhance overall effectiveness.
- **User Acceptance Testing (UAT) Involvement:** We actively engage in User Acceptance Testing (UAT) and monitor its completion, gathering valuable insights from end-users to ensure the system fulfills their needs and expectations.
- **Collaboration and Knowledge Sharing through Communication and Good Reporting:** We foster a collaborative environment among project teams, promoting knowledge sharing and best practices. We implement **peer reviews** of test cases and results within our QA team to include multiple perspectives and increase the likelihood of identifying gaps or issues in the testing process. By engaging with developers, business analysts, and stakeholders, we gain valuable insights that inform and improve our testing methodologies. We gather **feedback from stakeholders**, including developers and product owners, to assess the impact of our testing efforts on system functionality and user experience. This

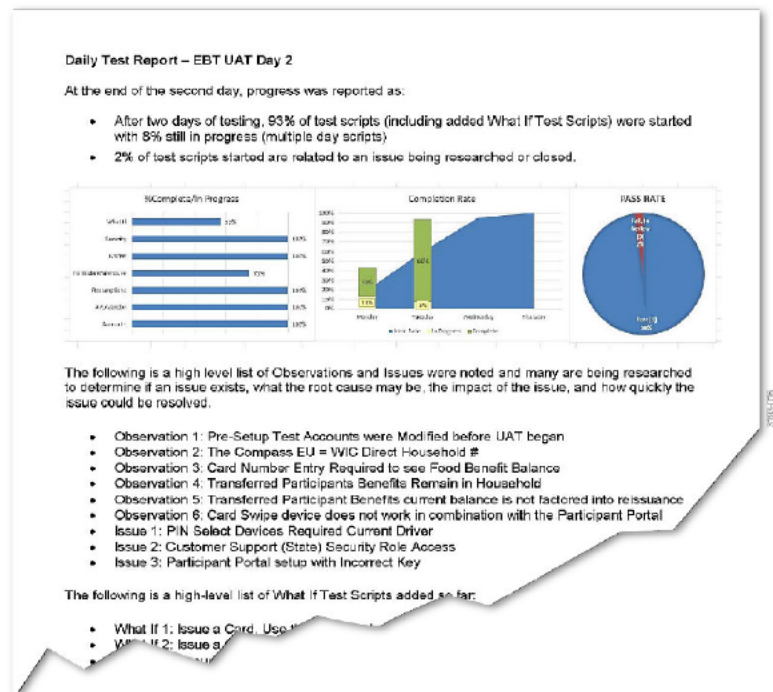


Figure 30. Sample report provides insights into completed testing results

feedback loop allows us to refine our risk assessment criteria and testing strategies for future testing cycles. Another aspect of this feedback loop is good, consistent and accurate reporting to the Consortium so the teams trust the results and can see the benefits of their work or where there are opportunities for improvement.

As mentioned above, NTT DATA embraces a robust approach to **Continuous Improvement** in independent testing by adopting an iterative process that leverages insights gained from each testing cycle to inform and refine our strategies. After each testing phase, we conduct thorough reviews to analyze test outcomes, defect patterns, and overall performance metrics. This analysis allows us to identify areas for enhancement, such as optimizing test case design, improving test execution processes, and adjusting resource allocation. By systematically incorporating feedback and lessons learned into subsequent testing cycles, we ensure that our testing methodologies evolve continuously, leading to higher test quality and effectiveness. This proactive approach not only enhances the reliability of our testing outcomes but also fosters a culture of accountability and excellence within the QA team.

In addition, NTT DATA prioritizes continuous **Training and Development** for all our QA personnel. This ensures that our team members are fully informed of the latest best practices, methodologies, and compliance updates. We invest in ongoing training programs that cover the latest testing tools, techniques, and methodologies, including automation frameworks, performance testing, and security testing. These training initiatives are tailored to meet the specific needs of our team and the projects we undertake, ensuring that our QA professionals are equipped with the skills necessary to tackle complex testing challenges. We encourage participation in industry conferences, workshops, and certification programs to promote continuous learning and professional growth to maximize their potential to deliver high-quality testing outcomes and enhance overall software quality.

Demonstrated examples from previous QA projects highlight the effectiveness of our methods and processes. These examples illustrate how NTT DATA's approach to independent testing not only enhances the effectiveness of QA services but also ensures that high-quality results are achieved without expanding the required CalSAWS resources. By integrating advanced tools and fostering collaboration, NTT DATA consistently delivers reliable and effective testing solutions across various projects.

Figure 31. Demonstrated Examples from Previous QA Projects, UA11

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
 NH QA Contract	New Hampshire relies exclusively on manual tools for testing. NTT DATA's recommended and implemented approach for testing includes preparing for testing system projects prior to	In part due to NTT DATA's QA oversight, New Hampshire has enjoyed a very high success rate in the implementation of projects within the established release schedule.

Demonstrated Examples from Previous QA Projects		
State/Project Name	Project Description	Outcomes
	the deployment to UAT. This includes the following activities: • Attend Scoping and Release Planning Meetings. • Attending requirement development and JAD sessions. • Review/approval of Change Requests • Preparation of test scripts/scenarios • Participation in testing preparation, project status and requirement meetings. For each system release, NTT is responsible for the following activities: • Creates and distributes Testing Assignments for CRs/Defects for each release. • Performs Regression Testing • UAT/Enhancement Testing • Defect identification, submission and artifact documentation • After testing is completed, test result review meetings are scheduled with state business users to walk them through the results. • NTT performs validation of all System Documentation changes.	