



**STATE OF RHODE
ISLAND
UNIFIED
INFRASTRUCTURE
PROJECT**

**MONTHLY IV&V ASSESSMENT
JUNE 2016**

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1. OVERVIEW

1.1 Purpose

The purpose of this report is to provide the Independent Verification and Validation (IV&V) Monthly Assessment for the Rhode Island Unified Health Infrastructure Project (RI UHIP). CSG Government Solutions' (CSG) IV&V services provide an independent perspective of project activities, plans, and processes to identify risks and make actionable recommendations on how those risks can be addressed or planned for and managed.

This Monthly IV&V Assessment is an end of the month assessment and establishes a baseline for ongoing monthly assessments. This assessment provides a snapshot of project health, observations, and actionable recommendations to address risks identified during the month.

The CSG IV&V team analyzed the governance practices, current activities, processes, procedures, project documents, completed deliverables, and other project artifacts, as well as conducted interviews with some of Deloitte's team members and observed project meetings. This document contains information collected from June 1, 2016 through June 30, 2016.

The Monthly IV&V Assessment for the RI UHIP is expected to provide the following benefits:

- A high-level management review of the RI UHIP processes and product risk
- Early identification, planning, and resolution of risks and issues
- Increased likelihood of project success
- Increased overall project quality

1.2 Background

The RI UHIP was launched on January 22, 2013. The goals of the RI UHIP focused on implementing an Affordable Care Act (ACA)-compliant health insurance marketplace and an integrated eligibility system solution via two phases.

- **Phase 1:** Implemented a fully compliant ACA health insurance marketplace by October 1, 2013. Phase 1 officially ended after the implementation of Enhancement Release 6.6 on February 1, 2016.
- **Phase 2:** Implement an integrated eligibility system that includes programs such as TANF, SNAP, and other human services programs in July 2016.
- ✓ The State announced an extension on June 21, 2016 to move Phase 2 Go-Live from July 12, 2016 to September 13, 2016.

CSG has been engaged to provide IV&V services to the RI UHIP. The CSG approach to IV&V for the RI UHIP is tailored to meet the specific requirements of this project. Currently, the RI UHIP is in Phase 2.

2. PROJECT HEALTH DASHBOARD: JUNE 2016

Below is a summary Dashboard of the RI UHIP as of June 30, 2016. Overall, Release 7 Risk is trending High Risk due to a growing number of key observations that can impact Go-Live. Continue to expedite corrective actions with a focus on key activities and functionality critical to Go-Live, as well as development of contingency plans as required. See Section 4.3 for supporting detailed observations and recommendations.

Table 1 – Project Health Dashboard

Rhode Island Unified Health Infrastructure Project											
Phase 2 – Release 7											
PROJECT STATUS INDICATORS											
SCOPE			COST			SCHEDULE/RESOURCES			QUALITY		
Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend
Moderate	Moderate	NA	Moderate	Moderate	-	High	High	NA	High	High	NA

3. KEY OBSERVATIONS AND RECOMMENDATIONS

Key observations and recommendations identify those areas that need immediate attention and focus to improve or maintain the health of the project. The following sections summarize our observations and recommendations for those categories that received a status of high risk and some key observations and recommendations for categories that received a status of medium risk during this assessment period.

The detailed observations in Section 4.3, for which the risk rank is rated as high risk or medium risk, should be carefully reviewed and risk response strategies and plans developed. For those observations rated with a low or none risk rank, the State should continue to monitor these areas to assure controls and processes remain effective.

The key observations and key recommendations are divided into the following Risk Assessment Areas of Focus from the Project Health Dashboard:

- Scope – Are project activities properly defined and managed throughout UHIP?
- Cost – Are budget/funding requirements defined and managed?
- Schedule/Resources – Is the schedule defined, managed, and properly resourced?
- Quality – Are quality processes (System Development Life Cycles and Project Management Processes) defined and followed resulting in quality deliverables?

As mentioned in the background, the State announced the extension to move Phase 2 Go-Live from July 12, 2016 and to September 13, 2016 toward the end of the June reporting period. During our initial assessment of available information and documentation related to the extension, the CSG IV&V team developed a number of Observations (reference Observations 198, 199, 200 and 201). While these observations address potential risks and provide recommendations for consideration, we anticipate IV&V services in July will provide more time to research specific observations and specific risks associated with the extension.

3.1 Scope

The scope category measures progress against requirements to assure existing requirements are delivered and new or changed requirements are addressed. Change Control impacting the project's schedule, resources requirements, and budget are considered.

3.1.1 Progress Since Last Report

The **Phase 2 scope remains a moderate risk**, but we are revising the risk trend to neutral (NA) from trending to high. While the extension allows more time for implementation readiness of the current scope, there may be considerations to add functionality previously deferred that could increase the risk. CSG recommends maintaining the current scope and continue implementation of corrective actions as well as applicable risk mitigation.

3.1.2 Observations and Recommendations

- **CMS Mandated Deliverables Related to Go-Live**
 - ✓ **Observation 177** (this observation is planned for closure in July)
 - CMS requires the State to submit updated documents drawn, per mutual agreement, from the Information Technology Enterprise Life Cycle (IT ELC) document. State is actively

working with Deloitte to complete the mandated deliverables. POA&M, ISRA, SSP were submitted on 06/01/2016.

✓ **Recommendation**

- The State should continue to work with Deloitte and assure the remaining documents are provided per mutually agreed upon schedule.

➤ **M&O Contract should be MARS-E 2.0 Compliant**

✓ **Observation 197**

- The State and Deloitte are in process of finalizing the contract for post Go-Live. However, MARS-E 2.0 controls have not completely been considered and incorporated within the contract. Several controls need to be closely reviewed before finalizing the M&O contract (e.g. SA-9 “External Information System Services,” that requires the provider to be subject to U.S. Federal Laws and regulations protecting PII).

✓ **Recommendation**

- Although all specifics related to MARS-E 2.0, especially External IS Services regarding PII, may not be finalized, the State should continue working with Deloitte to include language to address the applicable MARS-E 2.0 controls within the agreement.

➤ **Release 7 Extension Scope Control**

✓ **Observation 198**

- IV&V understands State Leadership is reconsidering the decisions to defer functionality from the initial implementation since there is a 60-day extension for Go-Live. This includes functionality and features determined to be non-critical to Go-Live when it was scheduled for July 12, 2016. Bringing back deferred functionality results in expanding the scope of the system implementation for the new Go-Live date and may increase the risk to meet the extended implementation schedule. The current scope considered for the July 12 Go-Live, with the deferred scope, was determined to be too high and required an extension. Adding scope back into the implementation with minimal time to analyze and evaluate the impact may result in additional delays or impact system operations.

✓ **Recommendation**

- It is recommended that the State avoid any scope increase beyond that planned for the July 12 Go-Live. The State should limit increases to the scope during the short extension period. The State is taking this into account and is reporting to only introduce minor functionality into the September release.

3.2 Cost

The cost category measures progress against approved and planned budget allocations.

3.2.1 Progress Since Last Report

Since the last reporting period, the **Phase 2 cost remains a moderate risk**. State should continue to consider actions to control cost and mitigate financial risk.

3.2.2 Observations and Recommendations

➤ Potential Increase in Project Expenditures

✓ **Observation 186** (this observation is planned for closure in July)

- Project expenditures are at risk to increase due to costs related to the extension (e.g. external contractors, internal staff, and stakeholder costs). However, potential costs related to observations previously identified considering the July Go-Live, may still be relevant and impact the project schedule, resources, quality, and scope. Mitigation factors being considered may also result in increased costs. Selected events and observations that raise this concern include:
 - Completion of UAT on schedule to support Go-Live is at risk.
 - Approximately 50% of the initially identified interfaces are behind schedule and considered High Risk as of 04/15/2016.
 - The Release 7 development schedule was previously revised and any further extension will significantly increase the risk to meet the Go-Live date. Mitigation being considered is to delay selected functionality into September.

To the IV&V Team's knowledge, there are no CRs pending that substantially impact the budget as this time. However, the CRs that may result from extending the schedule, adding resources, and adding scope to mitigate delays may result in increased expenditures.

✓ **Recommendation**

- The State should develop potential scenarios that may be required to mitigate delays and estimate resulting expenditures, evaluate the current project budget, and make plans for potential variance. If funding is not currently available, plans for additional funds should be considered.

3.3 Schedule/Resources

The schedule/resources category measures the quality and validity of the project schedule. It also measures progress against a valid, baselined work plan and verifies the project team is meeting the timeframes documented within that plan.

3.3.1 Progress Since Last Report

Although there has been an extension of Go-Live until September 13, 2016, the **Phase 2 schedule and resources remain a high risk** until IV&V has the opportunity to thoroughly review the updated plan and schedule. IV&V is considering the risk trend neutral (NA) at this time. This review will also include update of all the current observations and risks related to schedule impacts and resource availability for the new Go-Live date. Continue to focus on key activities, critical functionality, and requirements to support Go-Live.

3.3.2 Observations and Recommendations

➤ **UAT requires improved resources, test scripts, and Agency SME support** (this observation is planned for closure in July)

✓ **Observation 191**

- Test resources and agency SME Support were improved in June. While overall status has improved, quality of DHS scripts remained an issue. As such, IV&V continues to monitor the observation and it remains a high risk.

✓ **Recommendation**

- The State assigned resources with the required expertise and knowledge to review and develop quality scripts using the appropriate FDD. The State also assigned a dedicated team of testers with the skills, commitment, and qualifications for the positions as defined by UAT management. Agencies have provided SMEs onsite during UAT to support scriptwriters and testers.

➤ **Limited Production Window to Complete Final Conversion**

✓ **Observation 181**

- Mock Conversion prior to Go-Live is scheduled for completion in 5 days. However, the production window timeframe for the final conversion allows only 3 days. The timeline and number of days allocated to complete the final conversion appears to be at high risk and the Go-Live schedule may be impacted.

✓ **Recommendation**

- The State and Deloitte should plan to add a buffer period for the production conversion. If required, add CPU and RAM for the conversion. State should require Deloitte to finalize the infrastructure/ environment capacity topology. The mitigation plan to address this risk should be developed in conjunction with all agencies.

➤ **Release 7 Extension Planning and Communication**

✓ **Observation 199**

- On June 21, an announcement was made to extend Go-Live to September 13, 2016. However, no specific planning has been made available to the IV&V team nor apparently the implementation team members. During the UHIP Project Management Team (PMT) meeting on June 28, IV&V observed that State Leadership was meeting with CMS and FNS in the afternoon to discuss high level planning. Based on IV&V's understanding from the PMT meeting, the detailed scope, planning, and schedule is still pending approval. Project resources are considering actions for the extension, but without a well-defined scope and a specific plan and schedule, most of the activity seem to be based on word of mouth directions or assumptions. The new implementation date is approximately 10 weeks away and without a full definition of the scope and a detailed plan and schedule, the risk of meeting the new date is high.

✓ **Recommendation**

- The State should develop a high-level plan, addressing scope and schedule, within the next week for communication to the entire project team. A detailed plan should follow within the next week including the specific planning, scope and schedule, and detailed activities for each agency. Required contract changes for all vendors should be implemented immediately to avoid delays or gaps in service.

➤ **Cycle 4 UAT Extended Schedule**

✓ **Observation 201**

- Due to the Release 7 extension, the date for completing all Cycle 4 UAT test cases and resolving all high and critical defects has been set for 7/8/2016. Regression testing is to be performed the following week and completed by 7/15/2016. A pilot is planned to begin 7/25/2016. In initial planning sessions to meet these deadlines, UAT managers stated concerns regarding the limited time to complete some of the long-term test cases (e.g. those requiring significant time-travel) and related risks associated with the identification of new defects and time for the vendor to implement the fixes. The three agencies are analyzing the required work requests and cases for retest to determine their capability to meet the 7/8 date. Each agency has expressed initial concerns and cited specific cases that will significantly impact the completion of all the test cases by 7/8.

✓ **Recommendation**

- It is recommended that the State develop alternative plans to mitigate the risk of completing UAT and to support the start of the Pilot. Suggested considerations include focused UAT retesting in dedicated UAT environments and resources, performing selected regression testing on the pilot during non-conflicting timeframes (e.g. weekends or after hours), and establishing additional UAT environments and resources to allow increased testing capacity. The State has implemented the applicable recommendations.

3.4 Quality

The quality category measures compliance with design including defect levels identified during testing, production defect identification, and the ability to quickly resolve quality issues. It also serves to evaluate the adherence to project management processes outlined within the project management plan, system development life cycle processes, and via the quality of all deliverables.

3.4.1 Progress Since Last Report

The project quality for **Phase 2 quality remains a high risk** since the last reporting period. Quality related observations and risks continued to be identified in June that may impact Go-Live even with the extension. Until further assessment is performed on the extension, IV&V will consider the risk trend neutral (NA). Consider corrective actions to monitor and continuously improve quality.

3.4.2 Observations and Recommendations

➤ **UHIP-HIX/IE Security Audit**

✓ **Observation 117**

- Grant Thornton is appointed to conduct the security audit on UHIP- HIX/IE. The State and Deloitte agreed upon having a SOC 2 Type II audit completed. During weekly security meeting, Deloitte stated that the SOC 2 Type II test has been postponed for after go-live. IV&V have changed the priority level from Medium to High.

✓ **Recommendation**

- The State should require Deloitte to provide detailed information on the specific reason for the delay to conduct the SOC II Type 2 audit. The State should require the audit to be conducted prior to Go-Live.

➤ **System Resource Allocations**

✓ **Observation 189**

- The production topology has not been finalized. Based on the draft production topology, significantly more application servers have been added. Based on the draft production topology, significantly more Mule Enterprise Service Bus (ESB) servers, application servers, etc. have been added.

✓ **Recommendation**

- Phase 2 production environment has not been created and finalized to date. During infrastructure meeting, Deloitte stated that the production environment would not be ready before 7/15. The State should require Deloitte to finalize the infrastructure topology. The capacity plan should be updated and published to the State. All required VMs for performance testing environment should be created for the Release 7 performance/load test. Identify any concerns over points of failure, performance bottlenecks, hardware and software initial purchasing/licensing costs plus corresponding annual budgetary impact for maintenance fees.

➤ **Preliminary IV&V Security Assessment Report (SAR) Revealed Several Findings**

✓ **Observation 194**

- The preliminary SAR, performed by the IV&V Team and based on MARS-E 1.0 controls and vulnerability testing on application code and the network/servers, revealed several findings. The SAR findings were sorted and entered into POA&M as 16 Highs and 6 Moderates. Per CMS/FNS guidance, Go-Live is not allowed with more than 5 High findings.

✓ **Recommendation**

- The State should require Deloitte to provide State and IV&V with their remediation plan. A plan to address all findings should be submitted for review. Assure all highs are being addressed prior to Go-Live. Resolution of High findings should be scheduled prior to Go-Live and the priority levels should be determined by the State technology leads or CISO.

➤ **Mock Pilot 4 Plan needs improvement** (Mock Pilot 4 was cancelled in June and this observation is planned for closure in July)

✓ **Observation 195**

- The IV&V team had concerns regarding the draft Mock Pilot (MP) 4 plan. These concerns included:
 - There is minimal planning to date, to execute each program in MP 4 before go-live.
 - Number of cases to be executed during Pilot have not been finalized.
 - The interface testing and connectivity plan with the trading partners for the pilot is not documented.
 - OHHS plans to test only one program (OMR) out of six plus programs in pilot.
 - FNS/CMS may not be aware that a number of programs will be excluded from the final Pilot.
 - Lesson learned or challenges faced during Pilot 3 have not been documented or discussed with the State.

- No communications are planned on lessons learned from MP 4 before Mock conversion 14 execution.
- Feedback/comments from FNS/CMS have not been explicitly reviewed and discussed for inclusion into the MP 4 plan.
- Training for all workers/testers prior to MP 4 will not be complete.
- To complete or retest potential work requests within two weeks will be a challenge before Go-Live.

Since MP 4 is only scheduled for 2 weeks, planning and contingencies must be thoroughly considered prior to the pilot start to minimize the risk of delays.

✓ **Recommendation**

- The State should require Deloitte to schedule a meeting with all agencies, including Pilot leads, to address the concerns listed in the observation. Additionally, the plan should be reviewed to confirm all programs are successfully tested with production data in MP 4 before Go-Live. The MP 4 plan should be submitted to FNS/CMS for approval.

➤ **Mock Pilot 3 Key Risks and Issues**

✓ **Observation 193**

- Approximately 282 defects were logged and 81 critical/high have not been resolved (118 total are unresolved). Major concerns include:
 - All programs and interfaces planned for Mock Pilot 3 have not been executed and tested to date.
 - Eight interfaces were initially identified for end-to-end testing with the trading partners for Mock Pilot 3.
 - A number of incorrect or incomplete data conversion errors were observed in pilot environment.
 - Application error page issues occurred that result in halting the application. Application error page is an indication that the code is not stable.
 - User roles and permissions are not set up correctly (e.g., workers did not have the appropriate privileges).

Other issues being monitored include system performance, EBT card number format, scanning and printing, and testing and certification of notices. The occurrence of these problems during operations could impact operations.

✓ **Recommendation**

- The State should require Deloitte to evaluate and fix all high and critical defects prior to starting Mock Pilot 4. All unresolved defects should be planned for resolution prior to Mock Pilot 4 exit.

➤ **Software Release Process Quality**

✓ **Observation 196**

- Recent releases of software builds released into UAT continue to have defects and have shown that the software processes on the project may not be following best practices.

IV&V has continued to monitor this observation since it was originally opened based on the code released into UAT on 5/2/2016. The Build 5 Code had many defects, including the reoccurrence of defects that were resolved and tested in the previous software.

✓ **Recommendation**

- The State should assure Deloitte's software release policies and processes follow best practices and include acceptable development and schedule management, SIT processes and regression testing.

➤ **Replication of Production Data at Disaster Recovery Site**

✓ **Observation 178**

- The plan and schedule for production data replication at the Go-Live disaster recovery site is not finalized. There is a limited time to replicate the data at the site and the current process, taking up to 7 days, is too long.

✓ **Recommendation**

- The State should require Deloitte to provide a plan with details for the go-live data replication approach, process and schedule. This should include a plan for verifying the data replicated is consistent with the source data.

➤ **Pilot Activities/Plan Not Well Defined** (this observation is planned for closure in July)

✓ **Observation 200**

- Mock Pilot 4 has been cancelled and is being replaced with a Hybrid Pilot. As of late June, planning for the Hybrid Pilot was started and discussed, but documentation of the plan and scope was not available for IV&V review. The detailed planning for the Hybrid Pilot should be completed and communicated in early July to ensure readiness prior to pilot start on 7/25.

✓ **Recommendation**

- Mock Pilot 4 planning should be revised as applicable to reflect the status and plan with Hybrid Pilot. The State should assure the plan is updated with all the programs and interfaces which will be executed or tested during the pilot activities. Upon revising the plan, State should submit the revised copy to FNS/CMS for their review.

➤ **Roll Back Plan Not Technically Defined**

✓ **Observation 202**

- Roll Back Plan based on federal agencies has been created and published to the State and federal agencies. Per current plan, there is only one-day window to roll up after going live on 09/13. Additionally, there is no technical information included within the Roll Back Plan. There is no information documented on how the interfaces can be rolled back, how the data will be backed up. To support roll back in one day could be challenging for the external sources as they could fail to support the configuration, IP or SFTP folder location changes. Batches will not be thoroughly tested; data consumption from external sources will not be appropriately tested within one-day period.

✓ **Recommendation**

- The State should revisit the Roll Back Plan to increase the 24 hours' window post Go-Live to rollback. Detailed plan should be established and activities like batch run, critical interfaces, eligibility determination using federal and State sources (DOH, DOC, VLP, SAVE, RIDP, etc.) should be included in the plan to be validated before the final checkpoint for rollback. All the processes and manual work around which will be required to rollback should be documented in the detailed plan. Communication plan should be updated with POC for each agency. Workers from across the agencies should plan to train in preparation to operate the RI Bridges application from 9/13. Deloitte onsite support should be a put in place for at least first few weeks' post go-live. The State is considering the applicable recommendations.

4. DETAILED MONTHLY IV&V ASSESSMENT

4.1 Approach

The CSG IV&V team's approach to the Monthly IV&V Assessment is to assess the RI UHIP to understand the environment, project goals and objectives, and the critical project success factors so project risks and actionable recommendations are documented. In areas of the assessment where the project has minimal activity (due to the current phase of the project), we offer proactive advice where appropriate. For items in which we gain early insight, the team has taken an approach to err on the side of caution and to raise any perceived risk in this Monthly IV&V Assessment. This enables those risks to be reviewed and addressed in a timely manner, if needed.

All information received by June 30, 2016 is included in this report. Information received after this date will be included in the next monthly assessment scheduled for July 2016. The Monthly IV&V Assessment documents current observations and recommendations and establishes the baseline for future Monthly IV&V Assessments.

4.1.1 Interviews

The IV&V team schedules interviews with key personnel. Follow up interviews are conducted as needed so that the IV&V team maintains a complete understanding of the project risks.

4.1.2 Project Meetings

IV&V team members attend project meetings and review formal meeting minutes produced from these meetings to assure that summaries are complete and accurate and all decisions, action items, risks, and issues are appropriately noted. Observing project meetings enables the IV&V team to maintain a full understanding of project processes, current activities, and status and to gain additional insight and understanding of project risks.

4.1.3 Document Review

Formal deliverable reviews are a fundamental validation activity provided by the IV&V team. For each deliverable, the IV&V team conducts a review that is tailored to the subject matter presented. Since the content and purpose of each deliverable varies, the type of review also varies. The IV&V team uses the appropriate industry standards and guidelines in the review of the deliverables. In some cases, the standard may have been specified via contractual documents, while in other cases it may be a best practice for the specific subject matter. In any event, prior to its review, we determine what standards are applicable to the deliverable and whether or not compliance is required. For every deliverable, we verify its correctness, accuracy, completeness, and readability. We also participate in a walkthrough of the deliverable, as appropriate. This walkthrough allows the IV&V team to become familiar with the deliverable and ask specific questions about the deliverable's content.

For subsequent resubmission of DDI vendor deliverables, the IV&V team conducts a review and provides the UHIP stakeholders with a relevant observation of the changes found between the last and most current submission of the deliverable. Any relevant observations are logged in the TeamCSG™ tool and then reported in the next Weekly Status Report.

4.2 Tools

4.2.1 TeamCSGSM Tracker: Risk Assessment Model

TeamCSGSM Tracker: Risk Assessment Model guides the IV&V team through identifying and evaluating the type and level of risk (low, medium, high) a project may encounter. This allows for a snapshot of level of risk in the project. The risk level helps the RI UHIP and vendor project teams focus their efforts on planning for and responding to key risk areas. The Risk Assessment Model encompasses industry standards for project management and system engineering, such as PMBOK and IEEE standards.

The Risk Assessment Model is used to prioritize and assess the impact of items according to business functions and specific risks. These risk assessment items can be tracked from one review period to the next to determine increasing or decreasing risk levels and project health, not only at an item level but also within a category or subcategory.

The Risk Assessment Model is broken down into three major risk domains: 1) Project Management, 2) IT (information technology) Infrastructure, and 3) SDLC - System Development Life Cycle.

4.3 Detailed Observations and Recommendations

Below is a detailed listing of the observations and recommendations completed by the CSG IV&V team. The table is developed from the information captured in the *TeamCSGSM Risk Assessment Tracking* tool and *TeamCSGSM Risk Assessment Model* categories for reporting, tracking, and follow-up. The CSG IV&V team migrated from a legacy observation tracking tool to the *TeamCSGSM Risk Assessment Tracking* tool in February 2016. As required for tracking legacy observations, an identification number (ID) referenced within the title of an observation, under the Title column, denote the original ID assigned by the legacy observation tracking tool.

It must be noted that the observations herein are based on the status ending June 30, 2016. While the extension of the Go-Live date to September 13, 2016 is addressed in the new observations, due to the timing of the announcement being late in the reporting period, a number of the existing observations need to be updated. A complete review and update of all observations will be conducted in July considering the new Go-Live date.

Table 2 – New Observations and Recommendations

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
197	Bobby Malhotra	Plan	Cost	M&O Contract should be MARS-E 2.0 Compliant		The State and Deloitte are in process to finalize contract for post Go-Live. However, MARS-E 2.0 controls have not completely been considered and incorporated within the contract. Several controls need to be closely reviewed before finalizing the M&O contract (e.g. SA-9 “External Information System Services” that requires the provider to be subject to U.S Federal Laws and regulations protecting PII). Additionally, offshore services and resources now require CMS CIO approval. This approval is dependent upon the implementation of CIO recommended controls.	The State should review and understand the MARS-E 2.0 controls and make the necessary updates before signing the M&O contract with Deloitte. Consider outreach to other states to find out how their M&O contracts are handled. Discuss the contract scope and plan with CMS. Additionally, the explicit language that the CIO of CMS requires on any information system services contract outside the continental U.S. must be included as applicable.	High
198	Bill Riippi	Plan	Scope	Release 7 Extension Scope Control		IV&V understands State Leadership is reconsidering the decisions to defer functionality from the initial implementation since there is a 60-day extension for Go-Live. This includes functionality and features determined to be non-critical to Go-Live when it was scheduled for July 12, 2016. IV&V also understands that CMS and FNS are adding testing and pilot requirements prior to the September 13 Go-Live that is a mandatory increase in the scope. Bringing back deferred functionality results in expanding the scope of the system implementation for the new Go-Live date will increase the risk to meet the extended implementation schedule. The current scope considered for the July 12 Go-Live, with the deferred scope, was determined to be too high, and required an extension. Adding scope	It is recommended that the State avoid any scope increase beyond that planned for the July 12 Go-Live. The State should focus on the new scope mandated by CMS and FNS and not try to increase other scope during the short extension period.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						back into the implementation with minimal time to analyze and evaluate the impact may result in additional delays or impact system operations.		
199	Bill Riippi	Plan	Schedule/Resource	Release 7 Extension Planning and Communication		On June 21, an announcement was made to extend Go-Live to September 13, 2016. However, no specific planning has been made available to the IV&V team nor apparently the implementation team members. During the UHIP Project Management Team (PMT) meeting on June 28, IV&V observed that State Leadership was meeting with CMS and FNS on in the afternoon to discuss high level planning. Based on IV&V's understanding from the PMT meeting, the detailed scope, planning, and schedule is still pending approval. Project resources are considering actions for the extension, but without a well-defined scope and a specific plan and schedule, most of the activity seem to be based on word of mouth directions or assumptions. The new implementation date is approximately 10 weeks away and without a full definition of the scope and a detailed plan and schedule, the risk of meeting the new date is high. The lack of clear communication of the scope and plan can lead to inefficiencies and the lack of constructive coordination between the project team(s), increasing risks and potentially leading to additional delays.	The PMT should quickly develop a high-level plan, addressing scope and schedule, within the next week for communication to the entire project team. A detailed plan should follow within the next week including the specific planning, scope and schedule, and detailed activities for each agency. Required contract changes for all vendors should be implemented immediately to avoid delays or gaps in service. State and project teams should ensure resources are available and control vacation and other leave for critical resources where possible.	High
200	Bobby Malhotra	Plan	Scope	Pilot Activities/Plan Not Well Defined	Update Bill R - This observation is being planned for closure in July.	Pilot 4 has been cancelled and integrated health and social service eligibility and enrollment system has been extended to September 13.	Mock Pilot 4 should be revised to reflect the status and plan with Hybrid Pilot. The State should ensure the plan is updated with all	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						There has been minimal planning and communication all around on Pilot activities which is expected to start on 7/25. The purpose of the pilot is to test all the HIX/IE programs before going live on September 13th. Pilot being mandated by State and Federal partners could be jeopardized if all the parties involved continues to keep minimal understanding and transparency of the plan.	the programs and interfaces which will be executed or tested during the pilot activities. Upon revising the plan, State should ensure submitting the revised copy to FNS/CMS for their review.	
201	Bill Riippi	Testing	Schedule/Resource	Release 7 Extension UAT Schedule		The new date for completing all Cycle 4 UAT test cases and resolving all high and critical defects has been set for 7/8/2016. Regression testing will be performed the following week and completed by 7/15/2016. A pilot is planned to begin 7/25/2016 that has apparently been mandated by CMS and FNS prior to gaining their approval for Go-Live. In initial planning sessions to meet these deadlines, UAT managers stated concerns regarding the limited time to complete some of the long-term test cases (e.g. those requiring significant time-travel) and related risks associated with the identification of new defects and time for the vendor to implement the fixes. The three agencies are analyzing the required work requests and cases for retest to determine their capability to meet the 7/8 date. Each agency has expressed initial concerns and cited specific cases that will significantly impact the completion of all the test cases by 7/8. Failure to complete UAT exit per the schedule may impact the Pilot schedule	It is recommended that the State develop alternative plans to mitigate the risk of completing UAT and to support the start of the Pilot. Suggested considerations include focused UAT retesting in dedicated UAT environments and resources, performing selected regression testing on the pilot during non-conflicting timeframes (e.g. weekends or after hours), and establishing additional UAT environments and resources to allow increased testing capacity.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						and further impact CMS and FNS approval for Go-Live on 9/13/2016.		
202	Bobby Malhotra	Plan	Quality	Roll Back Plan Not Technically Defined		Roll back plan based on federal agencies has been created and published to the State and federal agencies. Per current plan, there is only one-day window to roll up after going live on 09/13. Additionally, there is no technical information included within the Roll Back Plan. There is no information documented on how the interfaces can be rolled back, how the data will be backed up. To support roll back in one day could be challenging for the external sources as they could fail to support the configuration, IP or SFTP folder location changes. Batches will not be thoroughly tested and data consumption from external sources will not be appropriately tested within one-day period.	The State should revisit the Roll Back Plan to increase the 24 hours' window post Go-Live to rollback. Detailed plan should be established and activities like batch run, critical interfaces, eligibility determination using federal and State sources (DOH, DOC, VLP, SAVE, RIDP, etc.) should be included in the plan to be validated before the final checkpoint for rollback. All the processes and manual work around which will be required to rollback should be documented in the detailed plan. Communication plan should be updated with POC for each agencies. Workers across the agencies should plan to be fully trained for the initial weeks to operate the RI Bridges application from 9/13. Deloitte onsite support should be a put in place for at least first few weeks' post go-live.	High

Table 3 – Observations and Recommendations Monitored

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
189	Bobby Malhotra	Technical	Quality	System Resource Allocations	Update - Phase 2 production environment has not been created and finalized to date. Deloitte during infrastructure meeting informed that production environment would not be ready before 7/15. The delay in phase 2 production environment has impacted SAR 2 Network scanning significantly. 06/16/16 Bob M-Production environment had been pended since long (~2 months) VM servers for R7 that are planned has not been provisioned to date which poses a risk as the go-live date gets closer.	The production topology has not been finalized. Based on the draft production topology, significantly more application servers have been added. Based on the draft production topology, significantly more Mule Enterprise Service Bus (ESB) servers, application servers, etc. have been added.	The State should require Deloitte to finalize the infrastructure topology. The capacity plan should be updated and published to the State. All required VMs for performance testing environment should be created for the Release 7 performance/load test. Identify any concerns over points of failure, performance bottlenecks, hardware and software initial purchasing/licensing costs plus corresponding annual budgetary impact for maintenance fees	High
170	Bobby Malhotra	Technical	Quality	Performance Testing for Release 7	Update - Cycle 2 performance results has been accomplished and results were	Deloitte has initiated Release 7 performance testing without the submission and approval of a performance-testing plan. A plan must be reviewed and approved	The batches should be tested/examined utilizing a database identical in size to Production in order to gauge performance and evaluate its	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					published upon completion of the test. Testing revealed several findings. Per Deloitte "Team is in process to fix the issues found during cycle 2 and preparation for cycle 3 testing has been started. The Cycle 3 test will include major batch test performance."	by the State is required before the results can be validated. Performance tests scheduled (April, May and June) to reevaluate the production capacity should consistently monitored to make sure the results mimics the production behavior.	efficiency and stability. Consider simulating a production level of activity and load to observe the system performance under heavy load, in a scaled-down environment. Conduct sessions with the State technical team to ensure environment capabilities.	
107	Bobby Malhotra	Technical	Quality	Production Data Access for Phase 2 Interface Testing - #384	Update - IV&V to monitor this observation until go-live. Per Deloitte Security lead - the security controls for safeguarding protected information will be shared with Hybrid Pilot group. 05/27/16 Bob M- Security controls were violated during Mock Pilot 3 by entering PII information into JIRA. Immediate steps were taken to remove or safeguard the PII information. IV&V will continue to monitor this	To test interfaces and batches, Deloitte requested testing with converted data in UAT CV for SSA interfaces, SSP Payrolls, mid-certification notices, etc. The approval was granted for two Deloitte individuals to access Production data. The State CISO firmly stated that Deloitte could not access Production data without masking when testing.	Production data use for UAT should be eliminated, if required the necessary State leadership approval should be taken and hence CMS should be informed. Deloitte and the State should work with external sources (interfaces) to find an alternate. Otherwise, this will hamper the UAT E2E testing for Cycle 3. Also, no batch should run to process files from Prod SFTP server for SIT or UAT	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					observation to ensure the controls being followed throughout the pilot activities.			
178	Bobby Malhotra	Technical	Quality	HIX/IE Data Replication to the Disaster Recovery (DR) Site	05/27/16 Bob M - Deloitte/NTT Data have failed to execute DR test where data replication between sites have to be tested prior to go-live. Additionally, Deloitte indicated that data and/or VM replication to Sacramento site has been recently failed which resulted in cancelling the scheduled formal contractual UHIP DR test.	Data replication plan, schedule, and quantity of data from HIX/IE to Sacramento site not yet finalized. NTT Data, sub-contractor for Deloitte, replaced their data replication software with Zerto Virtual Replication software (Zerto). The HSRI data replication between San Jose and Sacramento took longer than expected. It took one day to replicate 100 GB of data. Data replication, if not appropriately planned, could delay the completion of data replication before Go-live on July 12, 2016.	1. Require Deloitte to provide a plan with details for the go-live data replication process, schedule, and quantity of data. 2. Verify the data replicated is consistent with the source data. 3. Evaluate the Zerto tool to assure that it is robust and capable of efficiently replicating the HIX/IE data.	High
182	Gloria Darby	Testing	Schedule/Resource	Risk of Completing UAT On Time	04/20/16 GD - Additional NG/DHS staff has been made available to support UAT. The State is also considering adding weekend testing.	Deloitte is providing defect fixes and/or placing defects in a ready for test status at a pace that cannot be supported by UAT. With the number of test scripts and the limited number of resources, retesting the defects and verifying the validity of the fix is not possible without further putting the schedule of new case execution at risk.	The State should consider adding additional staff to focus on the retest efforts. This could minimize the impact of pushing actual execution off track.	High
183	Bobby Malhotra	Testing	Quality	Safeguarding Sensitive Personally Identifiable Information	04/15/16 Bob M - Action is being taken to remove PII from JIRA and to ensure an approved process is followed	PII information was included in a screen print as part of the problem description entered in the defect management tool (JIRA) with the active username and passwords for supporting Mock Pilot activities. Deloitte USI/Offshore is	Use of production data used in Mock Pilot #3 and for other M&O testing activities, as well as potentially offshore for support, should be mutually agreed upon between State and Deloitte.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
				(PII) During Testing	to avoid future incidents. IV&V will continue to monitor.	accessing JIRA and has access to the PII data while fixing and/or addressing the defect/ticket logged during Pilot. Disclosing PII in such a manner is against the security guidelines set up by federal partners. Lost or compromised PII could result in substantial harm to an individual.	Security controls compliant and guidance with NIST and CMS/MARS-E 2.0 should be put in place to ensure adequate accessing and handling of PII while testing or debugging work requests. Ensure appropriate HIPAA training is provided to the implementation/testing group before accessing the production data.	
169	Bill Riippi	Schedule	Schedule/Resource	Release 7 Code Merge Schedule/Plan Revised		Deloitte is adding two code merges (one on 4/15 and an optional one on 6/15) to the four initially planned (2/1, 4/1, 5/1, and 6/1). It is our understanding that one reason for the code merges is to allow for an incremental delivery of functionality to support UAT. However, additional testing is required to assure that the new functionality does not affect previously tested functionality. The unintended consequences is additional defects, limited test coverage, limited regression testing, extended UAT (potentially delaying UAT exit), and jeopardizing the Go-Live schedule.	The State should: a. Require Deloitte to provide clarification on the specific functionality included in each code merge. Share this information with UAT to support test case development, test case execution, and resource needs. b. Require Deloitte to assure there is a plan to expedite defect resolution that supports UAT and allows for timely UAT exit before the scheduled Go Live date.	High
185	Bobby Malhotra	Technical	Scope	Several Interfaces not Initially Identified		Deloitte conducted the interfaces reconciliation with the State to determine if there are any gaps, or any existing interfaces, that have been missed during initial period of the project. To date, significant number of gaps have been identified. There is a high risk pertaining to such interfaces, as most of them identified during reconciliation will not be ready by Go-live.	The reconciliation process should be completed at earliest possible to determine the interface gaps, involvement of all the agencies is critical. The State should require Deloitte to compile the list of gaps and accelerate the development, testing process so it can be successfully tested in UAT before deploying in production.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
177	Bobby Malhotra	Technical	Scope	CMS Mandated Deliverable Related to Go-Live	<p>Update Bill R - This observation is being planned for closure in July.</p> <p>06/16/16 Bob M- This observation can be closed as all necessary mandated deliverables has been submitted to the CMS. IV&V to confirm the status and approval for the closure of this observation.</p> <p>05/27/16 Bob M - State is actively working with Deloitte to complete the mandated deliverables to CMS per mutually agreed upon time. POAM, ISRA, SSP will be submitted on 06/1 to CMS.</p>	CMS requires the State of Rhode Island (State) to submit updated documents drawn, per mutual agreement, from the Information Technology Enterprise Life Cycle (IT ELC) document.	The State shall provide the documents per mutually agreed upon schedule. The list of documents include, but not limited to, the concept of operation (ConOps), architecture diagrams, technical architecture diagrams, system security plans, IV&V reports, etc. The State shall upload all relevant documents in CALT for CMS review per completion.	High
158	Bobby Malhotra	Technical	Scope	Consolidated Database Design – Security Assessment	<p>05/27/16 Bob M - Per MARS-E 1.0 Data at rest has to be encrypted or proper isolation needs to be in place. IV&V logged this as a finding in preliminary SAR deliverable. 3/18/16 Bob M- CSG to</p>	During the development of the Database Consolidation Readiness Assessment Report, four of the security areas evaluated in the database implementation had the following issues identified. This detailed list was noted in the original report issued on 01/29/16. #129/412 (High/High) – Although the Oracle databases are using transparent data encryption for data at rest, other application layers including application	<p>The State should ask Deloitte to identify all infrastructure platforms and locations where sensitive data is ever at rest on disk and what options are in place or available to ensure this data is encrypted.</p> <p>The State should request Deloitte's finalized session management design including how the risk of timeout and</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					review MARS-E V-1.0 controls to validate if the data “at rest” is required to be encrypted #132- Per Deloitte “Session management is being tested in lower environment. #142 –Per Deloitte “This is consolidated in the single database approach. The observation can be closed 3/4/16 Bob M- #129 State asked Deloitte to ensure that the data at rest UHIP mechanism is documented in System Security Plan.	<p>servers, ETL tools, and secure FTP landing zones need to be reviewed for any storage of sensitive data. #132/415 (Medium/Medium) – The HIX/IES single sign-on session management design is not finalized and tested.</p> <p>#141/425 (Low/Low) – Access control policies and procedures for direct database access are not formalized in writing.</p> <p>Based on current information, the overall Probability and Impact ratings are both High.</p> <p>Implications: Sensitive data stored on disk (at rest) in unencrypted format is at risk for access from remote access over the network, at the operating system level, or physical access to the drives themselves.</p> <p>Session timeout within one application (e.g., IES) while user actions are focused in the other (e.g., HIX) could potentially result in data loss.</p> <p>Lack of formalized access controls may result in improper authorization or incomplete audit trails for access to the database.</p>	<p>potential data loss will be mitigated.</p> <p>The State should evaluate the roles and responsibilities where direct database access is required and formalize processes and procedures to authorize and request additions, changes, and deletions of database access for staff.</p> <p>The State should consider the long-term support model and projected separation of roles and responsibilities that may be desired or needed down the road, if any.</p> <p>Technological alternatives exist to encrypt data at rest via disk partition encryption, encrypted file systems, and third-party secure FTP packages that transparently encrypt individual files before storing them on disk.</p> <p>The State security team should collaborate with Deloitte to ensure all data at rest is properly protected.</p> <p>The State should incorporate database access controls with the established controls for application-specific security already in place.</p>	
168	Bobby Malhotra	Technical	Quality	Data Conflicts found during the InRhodes and HIX data conversion to RIBridges.	05/27/16 Bob M - Changed to Mitigation. Deloitte has been actively working with State to resolve and/or	During the conversion process, a significant number of data conflicts (e.g. different employment, income, address, etc.) have been found in the records of individuals during the InRhodes and HIX data conversion to RIBridges. The	State should require Deloitte to provide status reports, including results of specific conversion conflicts identified (e.g. the number and types of conflicts). A plan should be developed that	High

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					provide the content around conflicts to the State to help address remaining data conflicts prior to go-live. 4/22/16 Bob M - The process and plan for how to resolve these conflicts have not been developed.	number of conflicts reported to date is already large and conversion is not complete. The exact plan for resolving the conflicts is still in work and manual effort may be considered to resolve the conflicts. These conflicts have to be resolved prior to the execution of any major batch and/or prior to go-live. The impact of the data selected must be carefully considered with regard to subsequent eligibility determination in the new system. If data is selected that is not current and incorrect, individuals who are currently eligible for benefits may be denied.	includes a timely approach to fix these conflicts prior to go-live. If the approach includes manual intervention, acceptable resource plans should be included. Mitigation plans should be considered due to the risk of individuals who may be eligible for benefits being denied due to incorrect data conversion.	
110	Bobby Malhotra	Technical	Schedule/Resource	Interfaces Schedule for Release 7 - #387	05/27/16 Bob M - Majority of the interfaces have been dropped into UAT but the success or pass percentage has been degraded to date. 4/22/16 Bob M - Overall Interfaces are significantly behind schedule and considered High Risk (RED) as of 4/15/2016. Approximately 30 interfaces were initially identified as being required and 15 of them are behind schedule. 30 interfaces were not identified in the	Several interfaces require reach out to the source with considerable work around. Many interfaces are under SIT or development. There are 15 trading interfaces marked as off track as of 4/15/16. Several (~30) interfaces were initially missed and included in the list during planning phase of the UHIP project, these interfaces can significantly impact overall functional productivity if not ready by Go-live date.	A plan is required to get on track. State should insist Deloitte to provide definitive timeline and the plan of interfaces testing for interfaces readiness. DUA should be signed between the agencies if required	High

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					initial planning. Currently, 20 have been identified as required and the others are being considered. The lack of interfaces may significantly impact the overall operations and functional productivity if not ready by Go-live date.			
181	Bobby Malhotra	Technical	Schedule/Resource	Limited Production Window to Complete Final Conversion	4/29/16 BR - Revised the timeframes to 5 days and 3 days (from 6 days and 4 days) based on new information. 4/20/16 Bob M- Changed the Production window timeframe from "3 days" to "4 days" per discussion with State and Deloitte. Deloitte is putting together a plan for production conversion.	Mock Conversion is scheduled for completion in 5 days prior to Go-Live. However, the production window timeframe for the final conversion is scheduled for 3 days. The timeline and number of days allocated to complete the final conversion appears to be at high risk and the Go-Live schedule may be impacted. There will be minimal time to fix or address any issues during conversion within this limited timeframe.	The State and Deloitte should plan to add a buffer of time for the production conversion. If required, add CPU and RAM for the conversion. State should require Deloitte to finalize the infrastructure/environment capacity topology. Additionally, the mitigation plan should be developed in conjunction with all the agencies.	High
180	Gloria Darby	Testing	Quality	Cycle 4 UAT to Begin with Open Critical and High Defects from Cycle 3	04/20/16 GD - Cycle 3 has exited and the defects are being addressed in Cycle 4. As defects are being addressed, they are being	Due to the delay in exiting UAT for Cycle 3, Cycle 4 UAT will begin with open critical and high defects remaining from Cycle 3. Although these defects are expected to be addressed during the first few days of Cycle 4, both UAT cycles will be running in parallel for a period.	State should ensure Deloitte continues to address the critical and high defects so they can be retested in UAT.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					closed out. This risk is being mitigated.			
196	Bill Riippi	Technical	Quality	Software Release Process Quality		<p>Recent releases of software builds have shown that the software processes on the project may not be following best practices. The SIT planned for the Build 5 Code was not completed (approximately 350 of 500 test cases were performed) prior to the code being released into UAT on 5/2/2016. The build included many defects, including the reoccurrence of defects that were resolved and tested in the previous software. Additionally, the Build 5 Code did not include all the planned functionality (e.g., APTC calculations and Medicaid Renewal were not included). A decision was made to release the partially tested code on 5/2/2016 for UAT, while the remaining functionality and SIT was completed. These updates were delivered early in the week of 5/16/2016. Early UAT results showed the presence of many defects, including the reoccurrence of defects that were previously resolved and tested. The release of software for UAT without SIT being completed results in UAT finding and reporting many defects that should have been resolved in SIT. Additionally, UAT is required to perform retest of each case after the defects are fixed.</p> <p>The number of defects being found in UAT, including the reoccurrence of defects that were resolved and tested in the previous versions, suggest incomplete regression testing and the lack of a configuration control process.</p>	<p>The State should ensure Deloitte's software release policies and processes follow best practices and include acceptable development and schedule management, SIT processes and regression testing. The State should review the related software release requirements in the Deloitte contract to confirm they are acceptable and ensure that Deloitte's operations are in compliance. If the current contract requirements are not acceptable, the State should consider updating the current contract requirements and ensure any future contracts (e.g. M&O, applicable Change Requests) include acceptable requirements. The State should require Deloitte to provide detailed reporting documentation to show that they are following the policies and processes. Related service level agreements may be considered to monitor compliance.</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						While these problems currently negatively impact the UAT and Pilot testing prior to Go-Live, the continuation of low quality releases during maintenance and operation (M&O) may have an overall greater impact to RI UHIP clients.		
191	Gloria Darby	Testing	Schedule/Resource	UAT requires improved resources, test scripts, and Agency SME support	Update Bill R - This observation is being planned for closure in July. 06/03/16 GD: Test resources and agency SME Support has improved. This was reflected in the execution performance numbers the week of 5/30. Script development is complete as of 6/1. However, quality of DHS scripts remains an issue. This observation remains a high risk, but the status is improving due to SME support.	The risk of UAT not being complete on schedule is high and trending toward critical. The daily status updates clearly show that UAT is not progressing at the level necessary to complete testing by the planned date. Major areas of risk are outlined below. 1. Script Quality - EOHHS and DHS scripts lack the level of detail and necessary steps to allow the testers to complete execution of the script. To allow progress, minor changes to scripts have been made as long as it would not affect the outcome of the script. In such cases, the changes are modified within the tool (JAMA) so it can be tracked. However, there are cases where the script requires a total rewrite. Scripts are being written based on the flow of the screens within the application itself and not based on the FDD. Scripts are also being written and considered end-to-end where the first part of the script is from a previous and closed UAT. The continuation of the scripts lack the detail necessary to allow any tester to pick up with the script and continue execution. This restriction on who can execute a script will slow down productivity and hinder the ability to time travel, as some scripts are time travel dependent. 2. Inconsistent Test Resources – A	The State should assign resources with the required expertise and knowledge to review and develop quality scripts using the appropriate FDD. The State should assign a dedicated team of testers with the skills, commitment, and qualifications for the positions as defined by UAT management. Each agency should provide a dedicated SME onsite during UAT to support scriptwriters and testers. We recommend State Leadership require the agencies coordinate efforts and commit qualified resources that are dedicated to support UAT scripting and execution. It is also recommended that each agency have SME support in the UAT Lab to help address questions/issues with scripts and support defect triage.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						<p>dedicated team of testers is required to conduct efficient UAT. Currently, the majority of testers are not consistently available or attend only part time. The quality of testers from different agencies also appears inconsistent. Some testers that have come in recently, required a lot of handholding and lacked basic keyboard functionality (i.e. cut and paste, logging in, etc.) Although each agency is unique, this is a large discrepancy in performance. With HSRI having a dedicated team of testers, they have executed nearly 3 times as many scripts as DHS and twice as many as OHHS with only 4 testers. Additionally, the quality, level of detail, in HSRI scripts along with SME support is a contributor to their performance.</p> <p>3. SME Support – All but one agency has support staff available to work alongside the DDI vendor in addressing questions/issues, regarding the application and/or script itself, and to address and speak to defects encountered during the testing day at triage.</p> <p>UAT will not be completed prior to Go-Live and provide a high degree of certainty that operations are acceptable if we continue to perform UAT with insufficient resources and low quality scripts. The current level of script development, testing, and SME support provided by the State Agencies is putting successful UAT completion at high risk.</p>		
195	Bobby Malhotra	Testing	Quality	Mock Pilot 4 Plan needs improvement	Update Bill R - This observation is being	The IV&V team has several concerns regarding the draft Mock Pilot (MP) 4 plan. These concerns include:	The State should require Deloitte to schedule a meeting with all agencies, including Pilot leads, to	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					<p>planned for closure in July.</p> <p>06/29/16 Bob M- As Hybrid planning has not been initiated and discussed; IV&V will continue to monitor this observation.</p> <p>06/06/16 Bob M- MP4 has been delayed and the reason for the delay has not been provided to the IV&V.</p>	<p>1) There is minimal planning to date, to execute each program in MP 4 before go-live.</p> <p>2) Number of cases to be executed during Pilot have not been finalized. Per MP 4 plan, Deloitte has proposed only one case each day per tester. Currently, average number of cases reviewed or administered by each worker is approximately eight per providence DHS office.</p> <p>3) No plan on interfaces testing is documented and discussed with the State. The MP 4 Plan states that interfaces will be supported in either Pilot or UAT.</p> <p>4) OHHS plans to test only one program (OMR) out of six plus programs in pilot. Big programs, such as RlTeShare and KB, have not been successfully tested and/or completed in UAT to date.</p> <p>5) FNS/CMS may not be aware that a number of programs are will be excluded from the final Pilot.</p> <p>6) Lesson learned or challenges faced during Pilot 3 have not been documented or discussed with the State.</p> <p>7) There are no communications planned on lessons learned from MP 4 before Mock conversion 14 execution.</p> <p>8) Feedback/comments from FNS/CMS have not been explicitly reviewed and discussed for inclusion into the MP 4 plan.</p> <p>9) Training for all workers/testers prior to MP 4 will not be complete.</p> <p>10) To complete or retest potential work requests within two weeks will be a</p>	<p>address the concerns listed in the observation. Additionally, the plan should be reviewed to confirm all programs are successfully tested with production data in MP 4 before Go-Live. The MP 4 plan should be submitted to FNS/CMS for approval.</p>	

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						challenge before Go-Live. Since MP 4 is only scheduled for 2 weeks, planning and contingencies must be thoroughly considered prior to the pilot start to minimize the risk of delays.		
192	Gloria Darby	Testing	Quality	UAT environment performance and code deliveries require improvement	Update Bill R - This observation is being planned for closure in July. 06/03/16 GD: The UAT environment and system performance has improved since moving UAT to the Deloitte office location. The Build 5 code merge has stabilized, but this observation remains high risk pending the performance of the Build 6 code merge planned to be applied the weekend of 6/4.	On March 2, 2016, an Implementation Reset meeting was held to help manage and better organize all activities required for a successful implementation. The timelines and activities were documented and approved. The dates and activities identified in the Thread have been a constant moving target with deadlines slipping and deliverables not being met. Major areas of concern are: 1. UAT Environment and Performance - The environment has been unstable. Users are getting time out errors, environment has been slow (pages were taking almost 5 minutes to load), and the Citizen Portal was down for nearly 2 hours. 2. Delivered Functionality and Quality – The 5/1 code merge did not include all the functionality that was planned. For example, APTC calculations were not included and Medicaid Renewal functionality is now planned for delivery in July. The quality of the code is also in question since Java error messages resurfaced and 2 defects previously retested and closed have been reopened. The 5.0 code drop did not include all the functionality planned, but it does include much functionality into play that we need to be able to test, re-execute, and close. UAT cannot be successfully	The State should require Deloitte to update the Code Merge plan to provide an accurate reporting of the functionality that will be delivered. The State should require Deloitte to establish a stable and consistent UAT environment. We recommend State Leadership require Deloitte to establish a consistent UAT environment that includes adequate space, networking, and other requirements. Deloitte should commit to the Code Merge schedule and immediately report any potential changes.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						completed on schedule without significant improvements in the test environment stability to allow consistent testing performance. Additionally, repeated delays in delivery of functionality will continue to extend the UAT schedule and increase the risk of UAT completion on schedule to support Go-Live.		
111	Bobby Malhotra	Requirements	Quality	Existing Plan Deliverables not Updated and Revised - #388	05/27/16 Bob M-IV&V to review CCI and other Release 7 technology deliverable and provide the feedback to State/HSRI on the content and level of technical details available from the technical perspective. 3/18/16 Bob M - State to provide the list of technology deliverables that is required to be updated before Go-Live.	The system architecture, DR plan, capacity plan, database development, configuration plan, and others have not been updated with the new Phase 2 single database design. These deliverables will be required for the maintenance period and future system audits on the UHIP system. Additionally, the total number of environments, servers, and licensed software installations may be in excess of original planned and licensed quantities that could incur additional licensing costs.	The State should acknowledge and encourage Deloitte to update the technology and database related existing deliverables. The State should identify all essential technical documents for Deloitte to update to reflect the single database design. The State should request a Software Licensing Analysis and True-Up from Deloitte to provide an audit and balancing of all ordered versus used software to ensure compliance with licensing terms.	High
128	Bobby Malhotra	Technical	Quality	HIX Application Framework Still Requires Data Synchronization (Duplication) - #411	3/21/16 Bob M - Deloitte submitted the draft of single database approach document to the State and IV&V outlining the flow of HIX/IE application flow.	What: The HIX application framework still requires that the data, which is directly accessed by the application, exists in the HIX database schema (a copy) even though with the new single database design the master “source of truth” is considered the IES database schema. Implications: Storing copies of the data	The State Tech Team and Deloitte should collaboratively review the design and implementation to ensure that synchronization failures will be automatically retried and processes are in place to escalate any ongoing failures. Ensure that all failure scenarios are thoroughly tested. Ensure sufficient negative testing	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						and synchronizing changes back and forth incurs some risk of sync failures. In one specific scenario where data has been saved in the citizen portal without submitting, changes made in the worker portal can synchronize back and overlay the citizen-entered data, causing data loss.	is performed (such as having a DBA lock a table to block updates) and validated for all anticipated and potential synchronization failure scenarios. Ensure fatal conditions at runtime are properly logged and escalated to mutually agreed contacts with the support team and the State. In addition to handling synchronization exceptions as they happen, perform periodic validations to ensure the data stays properly synchronized.	
167	Bobby Malhotra	Technical	Quality	Data Integrity	3/18/16 Bob M - Per State "CSG to validate whether referential integrity constraints exist among required active tables. Tables remaining from the transferred solution and not required in the RI system, are not an issue."	The transactional schema IE_APP_ONLINE alone includes over 2,600 tables/views including the audit tables), rough counts of parent/child relationships via foreign keys accounts for less than 1,000 tables. The audit tables (with names ending in A) are not expected to have foreign keys by design, but that only explains about 500 of them leaving another 500 for further review. Based on table counts, there seem to be hundreds of transaction tables that do not have any foreign key relationships at all. Unless all of these tables turn out to be truly "disconnected" for valid reasons, there may be significant omissions in the referential integrity (RI). Missing RI can allow invalid values to be populated and subsequently these rows may be missed in queries that perform a join on what may be expected to be firm relationship with another table. Without RI to preserve a relationship, a value that is used by a	The recommendation is to perform a thorough review of the tables that do not have any RI constraints to see why so many such tables exist. Furthermore, an analysis of all tables should be performed to ensure that no other foreign keys are missing. This can likely be expedited somewhat based on column naming conventions to identify columns holding common keys. In the event that columns are not utilizing RI for intentional reasons such as runtime performance issues or the requirement to hold data that has not yet passed validation, a systematic approach to documenting these as column comments in the database and/or notes in the data dictionary is recommended. These decisions and comments should be shared beyond the development team to	High

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						table, which is missing the foreign key definition, can have its row deleted in the parent table with no warning or error. Although the application may be programmed in such a way as to enforce the relationships via code, this approach does not support detection when data is manually manipulated as part of a data fix.	include users that may be performing support activities including state staff.	
101	Bobby Malhotra	Technical	Schedule/Resource	Disaster Recovery (DR) site moving to Sacramento - #375	05/27/16 Bob M-Deloitte informed State that majority of the VMs have been moved to Sacramento site. Sacramento site have not been officially approved by the State due to number of issues originated during the site preparation. 4/22/16 Bob M - Sacramento DR site move has not been completed to date.	The DR site move from San Jose to Sacramento have not been completed. The data replication from Warwick Data Center to Sacramento failed as NTT Data failed to bring up database server due to disk failure.	Deloitte should provide more explanation to the State about the new DR site change. The new site change, including testing efforts should be documented or update the DR Plan 12 and then circulated through the State PMO process for formal approval. CMS should also be made aware of the pending change for prior approval. Deloitte should arrange with the State designee to inspect the new Sacramento site.	High
171	Bobby Malhotra	Technical	Schedule/Resource	Interfaces- Department of Health and Corrections	Update Bill R - This observation is being planned for closure in July. 05/27/16 Bob M-State has not tested or reviewed the manual work around which is being selected as work around on these two interfaces. This	The development of the DOH and DOC interfaces have not been started for the Phase 2/IES system. Deloitte does not consider these interfaces as a part of the original requirements for the Phase 2/IES system. These interfaces are required to be operational in system to support Go Live and the current process is delaying development and subsequent SIT and UAT. The interfaces allow customer eligibility information, including birth, death and incarceration data, to be exchanged.	The State and Deloitte should make an agreement that allows for development of these interfaces to begin within a schedule that enables their completion and testing to support Go Live. To expedite discussions, the State and Deloitte should consider the original UHIP requirement traceability matrix that includes the interfaces as part of the HIX/IE scope.	High

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					poses a risk of not using DOH and DOC data for DHS programs. 4/22/16 Bob M - The interfaces (DOH, DOC) will not be ready for Go-Live. Deloitte is planning to develop a manual work around for the state workers to evaluate DOH, DOC data.			
118	Bobby Malhotra	Technical	Quality	Network Bandwidth Testing Readiness #396	Update Bill R - This observation is being planned for closure in July. 05/27/16 Bob M- Pilot machines were used to monitor the network. IPerf was installed and used on a VM in the UHIP environment to generate the network traffic results. The details with the results will be provided to the State via infrastructure thread meeting. 4/22/16 Bob M - Work in progress, but testing has not been started. The iPerf software package will be used	Network Bandwidth Testing Readiness UHIP network traffic analysis and readiness for RIBridges go-live for 07/2016 have been initiated by the State. There are several areas identified that require high attention and need inputs from various agencies.	Before using EDM/Scanners in production, Deloitte should determine the size, type, and quantity of documents that will be uploaded or exchanged/transferred via the network by each location. The scanner usage and user load should be divided by the location (e.g. Providence, Cranston, New port etc.). Deloitte/NTT Data should provide firewall specs to the State for further enhancement on the State's firewall size.	High

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					to determine the maximum bandwidth between the ends. The testing will be a collaborative effort between State/DoIT and NTT data. DoIT will monitor the DoIT controlled firewall and NTT Data/Deloitte will be required to monitor the UHIP firewall's ingress and egress interfaces.			
194	Bobby Malhotra	Technical	Quality	Preliminary IV&V Security Assessment Report (SAR) Revealed Several Findings		The preliminary SAR, performed by the IV&V Team and based on MARS-E 1.0 controls and vulnerability testing on application code and the network/servers, revealed several findings. The findings were categorized as 29 High, 17 Moderate, and 4 Low. Per CMS/FNS guidance, Go-Live is not allowed with more than 5 High findings. Additionally, all High findings must be resolved within 30 days.	The State should ensure incorporating all the IV&V SAR findings into POAM prior 06/01 CMS submission. The State should require Deloitte to provide State and IV&V with their remediation plan. A plan to address all findings should be submitted for review. Ensure all highs are being addressed prior to Go-Live. Resolution of High findings should be scheduled prior to Go-Live and the State technology leads or CISO should determine the priority levels. Planning must also consider the potential findings in the Final SAR based on MARS-E 2.0 to support the 08/01 formal authority to connect (ATC).	High
165	Bobby Malhotra	Technical	Quality	UHIP Security Certificates Not Being Tracked	3/25/16 Bob M - This observation was discussed with	A process has not been established to track the validity (e.g. expiration dates) of the security certificates and other	The State should require Deloitte to develop a process to manage and track the validity of all	High

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					the State and Deloitte during collaborative meeting on 3/21/16. Reach out pending to the trading partners to find out certificate requirements for the real time interfaces.	types of certificates used/installed within UHIP system. Without a process and tool to manage these certificates, they may unexpectedly expire and result in interruption of the services if not renewed on time.	certificates used in the UHIP system (Customer portal, training environment, testing environment, phase 2, DR site). Certification reporting process should be prepared and consistently reported to the State.	
176	Bobby Malhotra	Technical	Scope	UHIP System Change Updates to CMS - #367	06/16/16 Bob M - This observation can be closed as all required CR forms has been submitted to the CMS. IV&V to confirm with State tech lead for the closure acknowledgement. 3/18/16 Bob M - State to submit the Change request form to the CMS once Deloitte provides more details around the Phase 2 system. 3/11/16 Bob M - Meeting have been scheduled between CSG and the State to go over the P2 MARS-E V 1.0 scope prior to Go-Live.	For Authority to Connect, all the federal compliance documents have to be submitted to the CMS prior to GO-Live, July 2016. CMS has required the State to provide the list of all the major areas, which will be changed or modified in the system with the new centralized database approach (that will share the functionalities between citizen and the worker portal). As per CMS guidance, any changes that require data conversions/migrations i.e. staging environment have to be MARS-e compliant, the same document and third-party test assessment will be required of that environment for CMS approval.	The State should ask Deloitte to update the architecture document that should contain all the areas to be refactored, modified, and changed in the new database approach; the updates should include all the updated information at least on all the significant areas listed by CMS. The State Security Team with Deloitte should schedule a meeting to discuss the changes with CMS. The State security team with Deloitte security team should schedule closely work with CMS to discuss the changes. Security documents for ATC should also be timely discussed with the State and CMS.	High
100	Bobby Malhotra	Requirements	Quality	Phase 2 - Requirement	Update - Deloitte tech team will be scheduling a weekly	The current RTM partially supports the new centralized database approach for the UHIP architecture framework. The	As changes are implemented, Deloitte and the State should perform the required updates to	Medium

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				Traceability Matrix - #371	or bi-weekly meetings with State tech team to walk through the current status of appendix N. 4/22/16 Bob M - RTM Appendix M is in work, but there are no discussions on updating Appendix N "Technical."	citizen and the worker portal applications will be integrated with shared functionalities. This will be a significant change to existing architecture, including security and shared application frameworks. Without an updated RTM it will be difficult for the State to interpret and keep track of the requirements. The RTM helps to create a downstream and upstream flow of connecting software requirements to product requirements.	the RTM. The RTM will help ensure that the project requirements are met as well as track all changes made to the system.	
179	Bobby Malhotra	Technical	Quality	Security - User Role and Permission Matrix	Update - Security roles testing has not been successfully completed in UAT to date. During the week, State/DHS lead informed that several issues were observed in UAT while user role and permission testing. 05/27/16 Bob M - This is currently considered a RISK as aggressive testing of user roles has not been conducted. Additionally, the security testing has not considered stealthier during Mock Pilot 3. 4/22/16 Bob M - Risk Rank is being reduced to Medium	The single database approach consolidated the HIX/IE permission matrix. This allows for the management of all user roles and the permission matrix within IES/RIBridges. Significant testing is required to assure that each user has access to their authorized screens. Failure to correctly authenticate and authorize each user could result in a security incident post. In addition, it may lead to permission issues with the application approaching Go-Live.	i) Require Deloitte to provide the SIT scripts, with the results, to validate appropriate end-to-end user role-based testing. ii) Require the execution of the appropriately documented test plan and UAT scripts and during UAT and the pilot. iii) Require each Agency to assure the successful testing and verification of all the roles per their business rules before Go-Live.	Medium

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					since this is being addressed.			
188	Bobby Malhotra	Technical	Quality	HSRI-IES Code Quality - Error Handling / Exception Handling		<p>The Phase 2 “HSRI-IES” code used for the ninth Bimonthly Code Review Report, had following issues identified on Error / Exception Handling:</p> <p>1) Signature Declare Throws Exception- Observed in several classes a method/constructor explicitly throwing java.lang.Exception making unclear which exceptions the methods will throw.</p> <p>2) Catching Throwable- Observed in some classes, code is either Catching Throwable or Error that will also catch OutOfMemoryError and InternalError.</p> <p>3) Catching Generic Exception- In several places instead of adding different catch blocks to the try block, the programmer simply wrapped the method calls in a try/catch block that catches generic Exceptions. Another consequence of the generic catch clause is that logging is limited because catch does not know the specific exception caught.</p>	<p>The State should require Deloitte to insist their development team follow industry’s best practices while developing code. The code quality checklist should be provided to the development team and closely monitor if they make sure to RUN Sonar and complete peer code reviews before checking in class to the repository.</p> <p>Additionally, 1) The developer should either use a class derived from RuntimeException or a checked exception. A method should only throw the exceptions that are relevant to its interface. Exception is the “root” of all exception; the developer should try to be more specific. Methods should not declare to throw the exception, only declare to throw the specific types of exceptions that can happen and re-throw in the catch clause. 2) Catch Exception instead of Throwable. Avoid catching Throwable; developers should never try handle error. Throwable is a parent of Exception and Error. For example, OutOfMemoryException is out of the program’s scope and hence the developer should not consider these instances while coding. The recommended approach is that the application should not try to</p>	Medium

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							recover from errors such as these. Throwable and Error classes should not be caught. Only Exception and its subclasses should be caught. 3) Avoid catching generic exceptions such as NullPointerException, RuntimeException, Exception in try-catch block.	
172	Bobby Malhotra	Technical	Scope	Annual Penetration Test Not Conducted	05/27/16 Bob M - Changed to Avoidance. There is no plan to date for conducting penetration testing on UHIP system prior to go-live by Deloitte through this contractual item.	Deloitte is contracted to perform a network penetration test every year with the results to be published to the State within 14 days of completion. The penetration test results are important and represent the potential vulnerabilities in the system and the associated security risks. Without the test results and identified risks, an evaluation of the system vulnerabilities cannot be performed.	The State should require Deloitte to immediately conduct the network penetration test and submit the results to the State for review within 14 days of completion.	Medium
155	Bobby Malhotra	Technical	Scope	Data feed from RIBridges to Data Warehouse	05/27/16 Bob M - Deloitte has been continuously providing the level of information and data informs of table extract to HPE for their development. UAT will be conducted on CSM tool prior to go-live per OHHS. 4/22/16 Bob M - Deloitte indicated that the batch feed to Data Warehouse will be ready by mid-June. CSM readiness date from HPE has	Deloitte has not developed the daily batch feed of specified data fields from RIBridges to the Human Services Data Warehouse (HSDW). If the batch feed is not developed, clinical eligibility will not be able to be determined by the OMR. According to original requirements, Deloitte is required to create a daily batch feed of specified data fields from RIBridges to the Human Services Data Warehouse (HSDW), with the data to be exported determined through analysis and design to be performed by the Deloitte. To date, Deloitte has not developed a daily data feed from RIBridges to the HSDW. The Office of Medical Review (OMR) currently uses the Customer Service Management (CSM) tool to determine clinical	The State should ensure that Deloitte is working with HP to develop a daily batch feed for the HSDW prior to go live. Weekly meetings with a detailed plan should be scheduled between the State, Deloitte, and HP. If the batch cannot be developed prior to go live, an alternate plan should be discussed to ensure that OMR would have current data for clinical eligibility determinations.	Medium

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					not be published to date. As the work is in progress, the risk rank is reduced to "Medium." 3/31/16 Bob M- Deloitte and HPE have initiated the batch development discussion. The Go-Live scope and the timeline are to be finalized by the State.	eligibility. The CSM interfaces with data warehouse real-time to gather eligibility data of customers applying for benefits. Without a daily data feed from RIBridges, the Office of Medical Review (OMR) will be significantly impacted after go live. Clinical eligibility determinations will be based on outdated data.		
119	Bobby Malhotra	Technical	Quality	HIX/IE Downtime Dependency - #397	Update Bill R - This observation is being planned for closure in July. 3/31/16 Bob M - The State accepted the design. During HIX downtime enrollment functionality will be unavailable. 3/4/16 Bob M - This observation will be discussed on 3/9/16 between State and Deloitte during tech meeting.	The single database model will have a common physical database for both the Phase 1 Citizen Portal and Phase 2 Worker Portal systems. With the centralization of common systems, features will be maintained in the Phase 2 Worker Portal data source. During "HIX/IES" system downtime, both applications will go down.	Determine if the customer interface will be available during the IES downtime period. Assess how and where customer-entered data will be stored, and that data will not be lost. Identify if there will be a disaster solution when the IES is down. The State should require Deloitte to document different scenarios when the HIX portal will be affected, due to IES downtime. This may also impact batch execution as well as supporting the HIX portal.	Medium
98	Gloria Darby	Quality Assurance	Quality	Section 508 Compliance (Accessibility) Testing - #368	06/03/16 BR: An SME to support Section 508 compliance testing remains unidentified. There are no current plans	Section 508 requires that all website content be accessible to people with disabilities It was inadvertently discovered that a list of codes were being excluded from Deloitte's accessibility testing, and the list was not properly documented within	CSG recommends the State identify testers who are visually or hearing impaired to test the accessibility functionality.	Medium

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					for Section 508 compliance testing prior to Go-Live. Deloitte's attestation remains the only justification for compliance. 03/31/15 GD: The State has not identified when the SME will be engaged. 03/18/15 GD: The State has identified a SME to conduct and validate compliance testing. However, it is not known when he will be engaged. CSG will continue to monitor.	any deliverables. This prompted Deloitte to update the Phase 1 Detailed Test Plan (outside of the Change Management process) with the list of exclusions. Since there is no accessibility test in UAT, the State should require Deloitte to provide a letter of attestation when the accessibility testing has been completed; however, this does not equate to the true user experience. The State could face serious fines if it is later discovered that the application is not truly 508 compliant and end-users with disabilities are not able to utilize the system.		
117	Bobby Malhotra	Technical	Quality	UHIP-HIX/IE Security Audit - #395	06/03/16 Bob M- During weekly security meeting, Deloitte stated that the SOC 2 Type II test has been postponed for after go-live. IV&V have changed the priority level from Medium to HIGH. 05/27/16 Bob M- There has been no update or work around on this annual audit observed since the	UHIP-HIX/IE Security Audit Grant Thornton have been appointed to conduct the security audit on UHIP-HIX/IE. The State and Deloitte agreed upon having a SOC 2 Type II audit completed. Grant Thornton's team have expressed some concerns conducting a SOC 2 audit and requested an AT101 audit instead. According to the Bridging document, the audit should be equivalent to SAS Level 2. There is uncertainty and a lack of information available to the State with details to help them distinguish between both audits.	The State should require Deloitte to provide detailed information on AT101. Additionally, the language in the bridging document should be closely reviewed before making any determinations. The state should immediately require the close review of the SAS level 2 to determine the scope of SOC II Type 2.	Medium

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					determination of conducting SOC 2 Type II audit on the UHIP system.			
164	Bobby Malhotra	Communications	Quality	Minimal Visibility to Phase 2 Development and Testing	Update Bill R - This observation is being planned for closure in July.	Deloitte has provided minimal communication to State on development and system integration testing efforts. Without notifying State or discussing the feasibility of any existing implemented functionality designs are getting modified Phase 2 with Contact Center Integration enhancements couples all the agencies to a single source of truth "Single database", any change to the existing functionality due to design or system feasibility, issue if not well communicated, depending on the significance of the change may cause or delay EOHHS, Exchange and/or DHS in user acceptance testing, which may further impact the Go-Live schedule.	The state should require Deloitte to set up time involving all agencies to discuss the development and SIT efforts. Deloitte should immediately provide detailed demonstrations to the State to obtain a better understanding of the any significant design change other than Claimed SSN, citizens to retrieve their eligibility/enrollment data from the citizen portal instead of RIBridges. The state should require Deloitte to submit results with detailed exit criteria of SIT and smoke testing with the trading partners prior deploying into UAT.	Medium
186	Bill Riippi	Finance	Cost	Potential Increase in Project Expenditures	Update Bill R - This observation is being planned for closure in July. 3/18/16 Bob M - Per Deloitte- "All the development and testing activities will be discussed during the application readiness thread." Deloitte will make sure development and SIT status are shared during implementation	Project expenditures are at risk to increase if a number of the observations identified to impact the project schedule, resources, quality, and scope are realized. Mitigation factors being considered may also result in increased costs. Selected events and observations that raise this concern include: • Completion of UAT on schedule to support Go-Live is at risk. Increasing the number of workstations and testers is currently being considered to mitigate the risk (Reference Observations 109, 121, 182 and Project Risk 67). Additionally, performing UAT on Saturday and extending the schedule	The State should develop potential scenarios that may be required to mitigate delays and estimate resulting expenditures. Evaluate the current project budget and make plans for potential variance. If funding is not currently available, plans for additional funds should be considered.	Medium

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					<p>thread meetings. 3/4 Bob M - Observation was discussed with the State on 3/1.</p>	<p>are being considered.</p> <ul style="list-style-type: none"> Approximately 50% of the initially identified interfaces are behind schedule and considered High Risk as of 4/15/2016. Other required interfaces were initially missed and are being evaluated (Reference Observations 110, 185, 155). The Release 7 development schedule was previously revised to add 2 additional code merges to the original 4 planned (Reference Observation 169). Any schedule revision beyond this date will significantly increase the risk to meet the Go-Live date. Mitigation being considered is to delay selected functionality into September. <p>To the IV&V Team's knowledge, there are no CRs pending that substantially impact the budget as this time. However, the CRs that may result from extending the schedule, adding resources, and adding scope to mitigate delays are likely to result in significant increased expenditures.</p>		
154	Bobby Malhotra	Technical	Quality	Phase 2 Data Model Design Modified without the State Approval	<p>Update Bill R - This observation is being planned for closure in July.</p> <p>02/26/16 Bob M - State has asked Deloitte to schedule a meeting to go over this change including State leadership.</p> <p>02/09/16 Bob M - The State will</p>	<p>The proposed data model design "Citizen Portal to read the common data from Worker Portal" changed without State approval. Eligibility data will be loaded back to staging database. Moreover, citizens will retrieve their eligibility/enrollment data from the citizen portal instead of RIBridges. The approach was to reduce the volume of data exchange between both the systems, remove the data redundancy, to have the person and account level</p>	<p>Deloitte should provide detailed demonstration to the State to obtain a better understanding of the significant design change. Any change to the design after the deliverable approval should be discussed with State stakeholders prior to implementing or prior to Go-Live on July 2016.</p>	Medium

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					escalate this to Deloitte for detailed information and the reason for the design change without prior notification.	information devoid of the common services (eligibility, task, notices) data.		
95	Bobby Malhotra	Technical	Scope	MFA for Phase 2 Remote Access - #357	Update Bill R - This observation is being planned for closure in July. 05/27/16 Bob M- Meeting held between State, HSRI, CISO, and IV&V to discuss Contact Center point-to-point circuit. Outcomes from the meeting: The circuit will be used to connect to the worker portal, the training environment, and to drop files of client data onto the SFTP folder. 3/18/16- Per State "State will make sure NTT Data or Deloitte is supporting hard token procurement."	The IRS asked the State to implement MFA for IES worker portal. UHIP/IES Worker Portal will only be accessible from within the State's network. The IRS guidelines state that the individual accessing system containing FTI from a remote location requires an encrypted modem and/or Virtual Private Network. Additionally, two-factor authentication - cryptographic identification device, token, is required whenever FTI is being accessed from an alternate work location. The IRS has also stated that FTI can only be viewed using State provided laptop or workstation.	Business approval from all the agencies is immediately required for the remote access. The State must determine how this implementation needs will be funded. State and Deloitte must work together to find out if something can be leveraged from the Phase 1 MFA implementation. Gaps and the requirement must be documented instantaneously so that the scope of work can be included in APD.	Medium
99	Bobby Malhotra	Technical	Scope	HIX Application Vulnerability Testing - #369	Update Bill R - This observation is being planned for closure in July.	Deloitte is currently conducting security testing within the HIX application. However, the security test plan and the scope have not been shared with the State Security team. Deloitte has not	It is recommended that Deloitte inform the State Security team about all activities related to Security testing. The State should be notified about the severity of	Medium

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					<p>06/17/16 Bob M-Results for Release 7 were submitted to the State on week ending 06/03. The report had very high-level details. There were no details on the type of vulnerabilities found and which were considered false/positive. Additionally, the code used for the scanning by the Deloitte was not up-to-date with the latest current version available within UAT.</p> <p>05/27/16 Bob M-Results from the application vulnerability test have not been shared with the State to date which poses high risk few days remaining to go-live. Any fix or remediation required could potentially not be able to address prior go-live.</p>	made the State aware of what areas of the application where security scans are planned or have been conducted. Nor does the State have insight into any information on when and what level of defects was found during testing. Without this information, there may be security vulnerabilities yet to be identified, discussed, and resolved.	all defects found and provided with a detailed plan, recommendations, and steps taken to fix any issues identified.	

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187	Bobby Malhotra	Technical	Quality	HSRI-IES Code Quality - Organization		The Phase 2 “HSRI-IES” code used for the ninth Bimonthly Code Review Report had following issues identified: 1) Comments- The IES Code is a transfer solution; the majority of the comments in the artifacts reviewed were old and not updated. Additionally, there were insufficient comments on majority all the classes and methods reviewed. 2) TODOs- TODO tags are commonly used to mark places where some more code is required, but which the developer wants to implement later. This could result severe issues in later time, if the developer forgets to get back to that tag. 3) Empty methods- Observed in some modules, methods are empty. Additionally, no comments are there explaining why the method is empty without throwing any exception. 4) Commented Code- Observed commented out code in the majority of the classes in most reviewed modules. A best practice is to delete unwanted code. This practice alleviates confusion and encourages concise and easy to maintain code	The State should require Deloitte to insist their development team follow industry’s best practices while developing code. The code quality checklist should be provided to the development team and closely monitor if they make sure to RUN Sonar and complete peer code reviews before checking in class to the repository. Additionally, 1) Well nested Class and method comments should written in each class. All source files should begin with a copyright comment header that lists the class name, version information, date, and copyright notice. 2) “TODO” tags should be handled and task should be completed associated to the TODO comments before pushing the code into production. 3) Methods should not be empty Add a nested comment explaining why the method is empty, throw an UnsupportedOperationException or complete the implementation. 4) Avoid the retention of commented-out code or unwanted code in production	Medium
93	Bobby Malhotra	Technical	Schedule/ Resource	Semi-Annual Security Report - #308	Update Bill R - This observation is being planned for closure in July. 05/27/16 Bob M- The feedback was provided to Deloitte by the State, there	There are several requirements (approx. 8 to 10) traced out from the RTM which are being set as NOT MET, for example- Deloitte has not prepared a Security Report, which is required to be submitted every 6 months to the State. As per the requirement, the report must define all security-related activities,	The State should ask Deloitte to provide a plan of action for completing the Security Report. Moving forward Deloitte should submit a Security Report every six months.	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					has been minimal discussions on incorporating State's comments into the report. 3/25/16 Bob M- Deloitte has submitted the draft to the State. Per State, "The report is very high-level and requires more data with detail explanation of activities happened during past six months."	upcoming security initiatives, and long-range security plans. The State has not been provided with any such document from the DDI vendor for upcoming security plans, activities to protect the system and application appropriately.		
116	Bobby Malhotra	Technical	Quality	UHIP Infrastructure - Open Source Products - #394	02/16/16 Bob M - Deloitte has provided list of all major open source software products to the State and IV&V. Under MARS-E 2.0, State is require to use licensed version software rather any open source product. Deloitte is working with Apache and Mule to get commercial licenses for ESB and ActiveMQ.	UHIP infrastructure uses open source products to support major pieces of architecture in the production environment. Lack of commercial support available for majority of the open source products, senior technical expertise are often required to maintain/debug such products	The open source products should be researched and analyzed to determine the level of risk exposure, if any, that is being imposed by using these products. An example is Mule ESB, Apache ActiveMQ.	Medium
123	Bobby Malhotra	Technical	Scope	Save and Exit Functionality in HIX after Go-Live - #402	3/18/16 Bob M - Deloitte provided the demonstration of the new system	The HIX will not accommodate existing users to resubmit an application during the change reporting process. Currently, a user can change their circumstances	It is recommended the State require Deloitte to provide details about the synchronization mechanism on these conditions. If	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					<p>“save and exit” functionality.</p> <p>2/26/16 Bob M - No update observed during the week.</p> <p>2/12/16 Bob M- This observation have been discussed with the State, State will require stakeholders to verify the business impact going live without this existing functionality.</p>	<p>and exit from the account after saving the data using the ‘Save/Exit’ functionality. After go-live in 07/2016, batches will be running on the data, maintained within RIBridges tables and not on the data stored within the HIX account. Therefore, information saved without resubmitting the application using the ‘SAVE/EXIT” functionality will never sync data to RI Bridges. This will impact eligibility status, based on the latest data provided by the customer without submitting the application. This also applies to address changes made by a user.</p>	<p>there is not a synchronization plan for the identified scenarios, then an alternate plan or discussions about handling batches should be initiated.</p>	
184	Bobby Malhotra	Technical	Scope	Privacy and Procedures Readiness for Authority To Connect (ATC)	<p>Update Bill R - This observation is being planned for closure in July.</p> <p>04/29/16 Bob M- The State have developed a privacy work group with Policy people to discuss/create/update policies based on MARS-E 2.0 controls for ATC.</p>	<p>There are eight more Privacy Control Families added in MARS-E 2.0 on top existing MARS-E 1.0 policies. Existing, all, the policies based on MARS-E 1.0 have also not been completed and signed off by the State, to date. Policies and Procedures based on MARS-E 1.0 if not signed and in place prior, to go-live will result in a finding in POAM and further impact the schedule based on the priority set up by CMS. Policies and procedures based on MARS-E 2.0 if not in place can impact the Authority to Connect (ATC), 8/1/16</p>	<p>State should expedite the process to create and/or complete the privacy and other policies based on both MARS-E 1.0, 2.0. If not completed on time could impact the ATC. Any concerns pertaining to the policies should be brought to CMS and State leadership attention.</p>	Medium
104	Bobby Malhotra	Testing	Schedule/Resource	Incomplete Testing Efforts for Interfaces in SIT - #379	<p>Update Bill R - This observation is being planned for closure in July.</p> <p>5/27/16 Bob M- State, during interfaces thread meeting requested Deloitte to provide the SIT and</p>	<p>Deloitte’s Interface SIT efforts primarily entails ensuring the files are correctly formatted and the data can be read. There does not appear to be a testing effort that includes viewing the data collection screens to see if the data is correctly displayed and the appropriate case action is taken per the data received.</p> <p>A Schedule/Resources risk exists</p>	<p>The State should require that Deloitte fully test all interfaces in SIT prior to deploying the functionality into UAT, as described in Deloitte's P2 Application Development Plan: The objective of Perform System Integration Testing activity is to test the customized RI UHIP solution and confirm that various</p>	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
					<p>regression testing results for the batches for Release 7.</p> <p>4/22/16 Bob M - Deloitte informed State that SIT interfaces testing is not in scope of Release 7. However, a risk still exists that the Interface testing increases the amount of time and effort in UAT and may extend the UAT schedule. The risk category is being revised from Quality to Schedule/Resources.</p>	<p>because the Interface testing increases the amount of time and effort in UAT. Additionally, with the current delay in interfaces, this may extend the UAT schedule.</p>	<p>sub-systems and interfaces integrate with the solution and function as required. This testing will be performed in the System Test environment. The SIT testing effort should include not only receiving the files from partners, but also reading and displaying data appropriately in Bridges.</p>	
114	Gloria Darby	Testing	Quality	Blueprint Testing Incomplete within Phase 1 - #392	<p>04/04/16 GD - CSG will continue to monitor.</p> <p>03/24/16 GD - Deloitte has provided the State with a proposed implementation date. The State expects to implement the remaining scenarios in the July 2016 release.</p>	<p>Phase 1 is coming to a close with Blueprint testing remaining incomplete. Achieving full accreditation as a SBM is dependent upon successful completion of Blueprint testing 6 scenarios remain outstanding, they have been postponed from one release to another to only be deferred once again. IV&V attestation is required.</p> <p>The State of RI cannot be granted full certification as a SBM with testing scenarios incomplete. While CMS has not instituted a timeline for completion outside of the original 2013 date, deferring these test scenarios and business functionality into Phase 2 not only impacts the workload, timeline, but</p>	<p>It is recommended that the State require Deloitte to provide a timeline for completing testing, achieving attestation, and implementing the required functionality,</p>	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						it also raises the concerns of additional costs.		
156	Bobby Malhotra	Technical	Quality	Availability and Content of Design Documents	02/26/16 Bob M - Response pending from Deloitte.	<p>Terminology used in the database design document is not always used in a precise technical manner. Most of the high-level system documentation has not been updated since 2013. The documentation does not reflect a comprehensive baseline of what would have gone live for the original 2015 release. It does not incorporate the changes for the single database design for go-live in 2016.</p> <p>Implications: The state will not have a clear picture of the system they are receiving which can impact the long-term maintenance and support of the system. Specific examples have been listed below from individual observations in the Database Consolidation Readiness Assessment Report:</p> <p>#148/432: The single database design document does not paint a clear picture of the final design and implementation. The terminology for database and schema in particular were frequently interchanged or used ambiguously. The re-characterization that the citizen portal will utilize a separate “staging database” is misleading because it is neither a separate database, nor does it reflect the ongoing use for other programs within the citizen portal such as SHOP that are not being consolidated with IES.</p> <p>#149/433: Master matrix showing where data is created, read, updated,</p>	<p>The State should request that Deloitte revise the existing documentation for the single database design to show at a schema and table level what is considered the source of truth and what a synchronized copy of the data is. The State should request that Deloitte provide additional documentation, including an overall CRUD matrix plus documentation showing the disposition of each HIX table from a post-conversion standpoint.</p> <p>Request documentation, including a thoroughly reviewed and updated single database design document with a focus on clearly articulating the baseline that would have gone live and itemizing the differences in data storage and replication that will be used by the current implementation. Request a master CRUD matrix showing system-wide usage of data at a schema/table level. Document all existing Phase 1 schemas and tables with a disposition status on each (unused, unmodified, partially converted, dropped, etc.).</p>	Low

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Actions	Observations	Recommendations	Risk Rank
						and deleted (known as a CRUD matrix) does not exist. The technical designs for individual widgets were identified as having the details for usage of data elements, but these may not be readily cross-referenced or searched across the entire system. Maintenance staff may not be readily able to identify the true impact of data or design changes. #135/418: No systematic identification of HIX/SSP table-by-table disposition has been documented. Users performing ad-hoc reporting, support staff researching discrepancies or implementing data fixes, and future developers and system designers will not have a clear picture of what source system transactional and historical data is valid.		

4.4 Catalog of Review

This section includes a list of the RI UHIP interviews, meetings observed, and materials reviewed by the CSG IV&V team during this Monthly IV&V Assessment.

4.4.1 Interviews

This section provides a listing of personnel interviewed during the month.

Table 4 – Project Stakeholders Interviewed

Project Stakeholders Interviewed	Title or Team	Organization
Vanessa Doorley	RI UHIP Project Manager	Office of Digital Excellence
Phil Silva	RI UHIP Technology Lead	Office of Digital Excellence
Deb Merrill	RI UHIP Technology Team	Division of Information Technology
Wayne Hannon	Deputy Secretary for Administration	RI Health and Human Services
Kiernan Conn	CISO	HealthSource RI
Michael Lombardi	Asst. Director IT Operations	Division of Information Technology
Gordon Evans	Risk Manager	Deloitte
Tim Sanouvong	Sr. Security Manager	Deloitte
Vania Rebollo	Eligibility Supervisor, UAT Manager	RI Department of Human Services
Shannon Massaroco	DHS Asst. Director, UAT Manager	RI Department of Human Services

4.4.2 Meetings Attended

This section provides a listing of meetings observed.

Table 5 – Meetings Attended

Project Meetings Attended	Participants
UHIP Project Management Team (PMT) Meetings	State, Deloitte, and PCG
Problem Management Meetings	State and Deloitte
Deloitte Technology Round Up Meetings	State and Deloitte
State Technical Status Meetings	State and Deloitte
IV&V Observations, Risks and Issues Update Meetings	State and Deloitte
Release Preparation Meetings	State and Deloitte
Performance Testing Approach for Release 7	State and Deloitte
Phase 2 HIX/IE Batches discussion	State and Deloitte
IV&V Collaborative Session – Technical Observations	State and Deloitte
Multi-Agency Finance Meeting	State Agencies
Daily UAT Touchpoint and Planning Meetings	State and Deloitte
Daily UAT Defect Triage Meetings	State and Deloitte
Weekly UAT Defect Deep Dive Meetings	State and Deloitte
Weekly Release 7 UAT Update Meetings	State and Deloitte
Weekly Release 7 interface Meetings	State and Deloitte
Disaster Recovery Planning Meetings	State and Deloitte
State Internal Tech Status Meeting	State
EOHHS & HSRI – Testing and Planning Meetings	State and Deloitte
Mock Pilot Planning and Readiness Meetings	State and Deloitte
M&O Contract and Release Preparation	State
Third Party SAR Status, Review and Coordination Meetings	State and Deloitte
RI UHIP Security Discussion	State and Deloitte
Cycle 4 Preliminary SIT Exit Meeting	State and Deloitte
Implementation Activities and Readiness Meetings	State and Deloitte
Implementation Extension Review Discussions	State

4.4.3 Documents and Files Reviewed

This section provides a detailed listing of all documents reviewed during the month.

Table 6 – Documents and Files Reviewed

Documents and Files Reviewed
Operations Report
Maintenance and Operations Release Notes
Hot Fixes Release Notes
Key Performance Indicators
System Performance Reports
Release 7 Interface documentation
Release 7 Conversion documentation
JAMA and JIRA UAT Reports and Documentation
Maintenance and Operations Contract Draft
Unit Test Submission 3 Results
Deloitte Unit Test submission 3 responses
Mock Pilot Four Plan
Implementation Thread Risk Tracker
Mock Pilot #3 Status Report and Implementation activities tracker
Release 7 interfaces tracker with timeline and schedule
Release 7 Performance Testing Plan
Release 7 Batches Calendar and dependencies
Code Review
Security Implementation activities and the risk register
MARS-E 2.0 and MARS-E1.0 compliance documents
System documentation to support Third Party Security Assessment
PMT/Internal CCB and SR

5. DELIVERABLE SIGNOFF AND APPROVAL

The following approval form is used to indicate that this Project Deliverable, the Rhode Island Unified Health Infrastructure Project Monthly IV&V Assessment, has been reviewed by the State and all the necessary project stakeholders, and the authorized signers accept and approve the content herein.

Unified Health Infrastructure Project

State Approvals

CSG Monthly Status Report	
Conditional Deliverable Information	
Conditions of Acceptance:	
How Conditions Were Met:	
Date Resubmitted for Final Acceptance:	
Conditional Deliverable Signoff	
CSG:	Date:
<input type="checkbox"/> Approved With Indicated Conditions <input type="checkbox"/> Not Approved	
State Representative:	Date:
Final Deliverable Signoff	
CSG:	Date:
DOA Representative:	Date: