STATE OF RHODE ISLAND UNIFIED INFRASTRUCTURE PROJECT

MONTHLY IV&V ASSESSMENT
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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 Solution's (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 February 1, 2016 through February 29, 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.

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: FEBRUARY 2016

Below is a summary Dashboard of the RI UHIP as of February 29, 2016. Overall, Release 7 is moderate risk with a positive trend; consider corrective action or monitor previous corrective action. See Section 5.3 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	Low	+	High	High	NA	Moderate	Moderate	-

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 5.3, 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 ensure 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?

3.1 Scope

The scope category measures progress against requirements to ensure 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

Since the last reporting period, the project scope trend has remained constant. **Phase 2 scope is a moderate risk**; consider corrective action or monitor previous corrective action.

3.1.2 Observations and Recommendations

➢ **Data Feed from RIBridges to Data Warehouse**

    ✓ **Observation**

        • A daily data feed from RIBridges to the Human Services Data Warehouse (HSDW) has not been developed to ensure that the Office of Medical Review (OMR) will have current data for clinical eligibility determinations.

    ✓ **Recommendation**

        • The State should ensure that Deloitte is working with HP to develop a daily batch feed for the HSDW prior to go-live.

➢ **Roadblocks in Test Case Rewrite, Execution, and Distribution**

    ✓ **Observation**

- EOHHS test case deficiencies were identified and discussed, but the test cases were not updated with necessary steps for execution; DHS provided 100+ test cases to EOHHS for review/approval, but the test cases were not distributed or provided for execution.

  ✓ **Recommendation**

  - EOHHS should identify a resource that understands the process flows and FDDs; an individual with the ability to properly vet test cases for accuracy and thoroughness.

➢ **Test Cases and Execution Plan/Schedule for Release 7 UAT Cycle 3 Not Finalized**

  ✓ **Observation**

  - The test cases and execution plan/schedule for Release 7 UAT Cycle 3 has not been finalized. Without adequate test cases and an execution plan/schedule, successfully completing UAT within the scheduled timeframe is at risk.

  ✓ **Recommendation**

  - The State agencies should identify dedicated scripters to write test cases at a level that can be used to derive an execution plan/schedule.

➢ **Save and Exit Functionality in HIX after Go-Live**

  ✓ **Observation**

  - Information saved without resubmitting the application using the "SAVE/EXIT" functionality will never sync data to RIBridges.

  ✓ **Recommendation**

  - The State should require Deloitte to provide details about the synchronization mechanism on these conditions.

➢ **Lack of a Plan for Automated Regression Testing for Release 7**

  ✓ **Observation**

  - There is no plan for automated regression testing for Release 7. Failure to implement automated regression testing decreases the chances of detecting bugs caused by changes to existing software and application.

  ✓ **Recommendation**

  - The State should require Deloitte to provide a plan for automated regression testing that covers end-to-end HIX/IE functionalities.

➢ **Third Party Security Audit Undetermined**

  ✓ **Observation**

  - A third party security audit has not been defined. The security audit cannot be performed until a determination has been made on the type of audit to conduct.

  ✓ **Recommendation**

  - Based on the list of controls provided by Deloitte, the State should decide whether to conduct a full SOC 2 Type II or Deloitte AT101 audit.

➢ **2015 Contractual Disaster Recovery Plan and Test Date Delayed**

- ✓ **Observation**

  - The 2015 contractual Disaster Recovery Plan and test date has been delayed. Deloitte and NTT Data cannot support the 2015 Disaster Recovery test until the site move has been completed.

- ✓ **Recommendation**

  - The State should require Deloitte to establish a date for the deliverable and to work with NTT Data to establish a cutover date.

➢ **Functional and Technical RTMs Not Finalized**

- ✓ **Observation**

  - Functional and technical requirements that have not been documented within the Requirements Traceability Matrix (RTM) may not be delivered.

- ✓ **Recommendation**

  - The State should ensure the scope of work for CY16 be defined and included in the RTM.

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 project cost trend improved. **Phase 2 cost is a low risk**; on track with minor concerns.

3.2.2   Observations and Recommendations

➢ **No new observations or significant updates for this section.**

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

Since the last reporting period, the project schedule and resources have remained constant. **Phase 2 schedule and resources are a high risk**; immediate corrective action with significant concerns have been identified.

3.3.2   Observations and Recommendations

➢ **Release 7 UAT Cycle 3**

- ✓ **Observation**

  - The development of the UAT Cycle 3 test cases is behind schedule. The items below impact the schedule and timely completion of UAT.

    1. All the scripts have not been completed.

2. Incomplete test script activities impact the ability to build a detailed UAT Execution Plan/Schedule.

3. The total number of needed testers has not been determined.

4. Some testers are also writing test cases. When testing, they cannot script; this impacts productivity. Also, the testers cannot and should not execute their own test cases.

✓ **Recommendation**

- Test case development should continue through UAT with testing resources split between testing and scripting activities. The UAT Execution Plan/Schedule should continue to be work in process. Since all the test cases have not been created, the plan/schedule is high-level but should become more detailed. The total number of testers needed will be derived from the detailed Test Execution Plan.

➢ **Production Topology Not Finalized**

✓ **Observation**

- The Production topology has not been finalized. Based on the draft documentation, significantly more application, enterprise service bus (ESB), and database servers will be added.

✓ **Recommendation**

- The State should review the Production topology design, once available, to identify any concerns in the following areas: single points of failure, performance bottlenecks, hardware and software initial purchasing/licensing costs, annual budgetary impact of maintenance fees, performance testing timeline, and disaster recovery site configuration.

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

Since the last reporting period, the project quality for **Phase 2 quality has remained a medium risk**; consider corrective action or monitor previous corrective action.

3.4.2 Observations and Recommendations

➢ **UAT Test Cases Inaccurately Passed**

✓ **Observation**

- UAT test cases are being passed without having met the criteria identified within the test script; testers are deviating from the test scripts and passing test cases.

✓ **Recommendation**

- Testing procedures should be strictly enforced by all stakeholders, and the testers should be encouraged to utilize their training material.

➢ **Incomplete Testing Efforts for Interfaces in SIT**

✓ **Observation**

- Deloitte's interface SIT efforts primarily entail ensuring the files are correctly formatted and the data can be read; end-to-end testing is lacking.

✓ **Recommendation**

- 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.

➢ **HealthSource RI Slow System Performance**

✓ **Observation**

- System performance has been periodically slow starting back in December 2015.

✓ **Recommendation**

- System performance needs to be continuously monitored and root analysis performed as required.

➢ **HIX/IES Downtime Dependency**

✓ **Observation**

- With the centralization of common systems, features will be maintained within the RIBridges Worker Portal data source. During "HIX/IES" downtime, both applications will go down.

✓ **Recommendation**

- The State should work with Deloitte to determine if the customer interface will be available during IES downtime, how and where data entered by the customer will be stored, and make sure data will not be lost. In addition, the State and Deloitte should identify if there will be a disaster solution when the IES is down.

➢ **HIX/IE Data Model Design was Changed Without State Approval**

✓ **Observation**

- The HIX/IE data model design was changed by Deloitte without the State's approval. Customer information will be read from the account dashboard versus coming from the Citizen Portal; this requires unnecessary synchronization from the Worker Portal to the Citizen Portal.

✓ **Recommendation**

- The State should require Deloitte to handle all changes to an approved deliverable through the Change Management process.

➢ **Section 508 Requires that All Website Content be Accessible to People with Disabilities**

✓ **Observation**

- Section 508 requires website content to be accessible to individuals with disabilities. The State may be subject to fines if it is later discovered that the application is not truly 508 compliant and end-users with disabilities are not able to fully utilize the system.

✓ **Recommendation**

- The State should identify testers who are visually or hearing impaired to test the accessibility functionality.

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 February 29, 2016 is included in this report. Information received after this date will be included in the next monthly assessment scheduled for February 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 ensure 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   *TeamCSG℠ Tracker:* Risk Assessment Model

TeamCSG℠ 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 *TeamCSG℠ Risk Assessment Tracking* tool and *TeamCSG℠ Risk Assessment Model* categories for reporting, tracking, and follow-up. The CSG IV&V team migrated from a legacy observation tracking tool to the *TeamCSG℠ Risk Assessment Tracking* tool throughout February 2016. Numbers referenced within the title of an observation, under the Title column, denote the original ID assigned by the legacy observation tracking tool.

Table 2 – New Observations and Recommendations

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
155	Bobby Malhotra	Technical	Scope	Data feed from RIBridges to Data Warehouse	According to the 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 exported data determined through analysis and design 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 eligibility. The CSM interfaces with the 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.	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 will have current data for clinical eligibility determinations.	**Medium**

Table 3 – Observations and Recommendations Monitored

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
120	Bobby Malhotra	Technical	Quality	Automation Regression Testing for Iteration 7 - #398	For phase 1 and 2, Deloitte agreed upon creating the automated quality test suites into their regression test process. First Code Merge for Phase 2 "cycle 3" is scheduled for 2/1, there have been no discussion/plan to date on Automation regression testing. Automation suite was not built for Release 6.6 release, which explicitly was considered as an assumption under Contract Amendment 35.	Deloitte should provide the update and plan on the automation regression testing. The regression suite should cover E2E HIX/IE functionalities. State should insist Deloitte to immediately provide the timeline and the status on this.	**High**
158	Bobby Malhotra	Technical	Scope	Consolidated Database Design – Security Assessment	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 servers, ETL tools, and secure FTP landing zones need to be reviewed for any storage of sensitive	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. The State should request Deloitte's finalized session management design including how the risk of timeout and potential data loss will be mitigated. 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. The State should consider the long-term support model and projected separation of roles and responsibilities that may be desired	**High**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					data. #132/415 (Medium/Medium) – The HIX/IES single sign-on session management design is not finalized and tested. #141/425 (Low/Low) – Access control policies and procedures for direct database access are not formalized in writing. #142/426 (Low/Low) – The current processes and infrastructure do not provide complete segregation between the customer portal and worker portal applications. Development and support staff can move freely between activities on the different applications. Based on current information, the overall Probability and Impact ratings are both High. 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. Session timeout within one application (e.g., IES) while user actions are focused in	or needed down the road, if any. 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. The State security team should collaborate with Deloitte to ensure all data at rest is properly protected. The State should incorporate database access controls with the established controls for application-specific security already in place. More fine-grained Oracle access controls may be warranted to subdivide access at the table level within the consolidated database. Application servers may warrant grouping by application for support staff access control purposes (more fine-grained procedural aspects of the support business processes) or in the more extreme even be firewalled from each other as an additional security protection (significantly intrusive to the design and potential performance profile).	

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					the other (e.g., HIX) could potentially result in data loss. Lack of formalized access controls may result in improper authorization or incomplete audit trails for access to the database. For long-term support purposes, it may be beneficial to create boundaries in the back-end between the applications if there will ever be staff restricted to supporting one application or the other.		
128	Bobby Malhotra	Technical	Quality	HIX Application Framework Still Requires Data Synchronization (Duplication) - #411	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 to be the IES database schema. Implications: Storing copies of the data 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	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 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	**High**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					synchronize back and overlay the citizen-entered data, causing data loss.	data stays properly synchronized.	
102	Bobby Malhotra	Technical	Quality	Integrated Eligibility Services Code Quality based on Bi-Monthly Code Review 6 - #377	The random sample was selected from recently modified modules and the fifth code review was used for the manual code review and automated code review. The sample revealed several issues that fall into two basic areas of review 1) Comments and 2) Organization and Error Handling. However, all issues still remained from the fifth code review with very few deficiencies remediated.	Based on the issues found and recommendations, the following steps are recommended for the UHIP team to consider: Provide the code quality checklist 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. Continue making efforts to improve the code quality and code as per best industry standards. Every developer must run the SONAR report during development and during defect repair. Code should be SONAR compliant for critical and blockers. Reduce the SONAR major issues within each release.	High
118	Bobby Malhotra	Technical	Quality	Network Bandwidth Testing Readiness - #396	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 which requires high attention and needs inputs from various agencies.	Before using EDM/Scanners in production, Deloitte should determine the size, type, and quantity of documents which 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
107	Bobby Malhotra	Technical	Quality	Production Data Access for Phase 2 Interface Testing - #384	To test interfaces and batches, Deloitte requested testing with converted data in UAT CV for SSA	Production data access as advised by CISO and State tech lead, should be immediately eliminated without encryption. Deloitte and the State	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					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.	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	
123	Bobby Malhotra	Technical	Scope	Save and Exit Functionality in HIX after Go-Live - #402	The HIX will not accommodate existing users to resubmit an application during the change reporting process. Currently, a user can change their circumstances 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 RIBridges. 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.	It is recommended the State require Deloitte to provide details about the synchronization mechanism on these conditions. If there is not a synchronization plan for the identified scenarios, then an alternate plan or discussions about handling batches should be initiated.	**High**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
97	Bobby Malhotra	Technical	Scope	UHIP System Change Updates to CMS - #367	CMS has asked 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). CMS shared a link to download the form, which needs to be filled out by the Security Team with all changes listed. 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. For Authority to Connect, all the federal compliance documents have to be submitted to the CMS prior to GO-Live, July 2016.	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**
109	Mike Tully	Testing	Quality	Scripting Efforts for Release 7 - 386	The number and quality of UAT test scripts created to date will not thoroughly test the system.	The State should review the functionality within each agency to determine the appropriate number of test scripts and ensure the test scripts are vetted for accuracy and thoroughness before being executed.	**High**
101	Bobby Malhotra	Technical	Schedule/Resource	Disaster Recovery (DR) site moving to Sacramento - #375	Deloitte informed the State that the DR site managed by NTT Data will be	Deloitte should provide more explanation to the State about the new DR site change. The new site	**High**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					relocated to Sacramento from San Jose. In addition, the contractual DR planned for October may not happen because of the pending site change. The disaster recovery environment is a mirror image of the Warwick data center technology, where both data and the server images are replicated asynchronous to the DR facility. The State is required to communicate any DR site change to CMS for prior approval.	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.	
161	Bobby Malhotra	Technical	Schedule/Resource	Consolidated Database Design – System Capacity	During the development of the Database Consolidation Readiness Assessment Report, four areas related to system capacity had the following issues identified. The detailed items as noted in the original report issued on 01/29/16 are listed below: #130/413 (High/High) – The production topology has not been finalized. Based on the draft documentation, significantly more application, enterprise service bus (ESB), and database servers will be added. #143/427 (High/High) – The initial design showed	The State should review the production topology design once available to identify any concerns in the following areas: - Single points of failure - Performance bottlenecks - Hardware and software initial purchasing/licensing costs - Annual budgetary impact of maintenance fees - Performance testing timeline - Disaster recovery site configuration The State should request itemized metrics and/or dashboard health reports on an ongoing basis for systematic monitoring of key performance and stability metrics such as the number of database threads, concurrent connections, open cursors, and killed sessions to trend over time for maintenance and	**High**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					six application servers where 12 will be under consideration today. #144/428 (High/High) – The initial design showed three ESB servers where eight are under consideration today. The draft design is considering four servers dedicated for HIX and four separate servers dedicated to IES. #145/429 (High/High) – An additional Oracle RAC node is being considered to go to three nodes instead of the two nodes in the current production cluster. The Bridging Document does mention Oracle will run on a three-node cluster with 12 cores each (36 cores total). As per comments made by the DBA, each individual Oracle node today is configured with eight cores (i.e. 16 cores total for the current production RAC). Based on current information, the overall Probability and Impact ratings are both High. Implications: A detailed review of the entire infrastructure could not be performed within the scope of the consolidated	planning purposes. These metrics will also provide support for post-mortem analysis during triage. Consider adding automated support staff alerts for any indicators above thresholds to be identified based on observed stable values.	

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					database assessment, but the aspects were reviewed based on materials available. Although the structure of the architectural layers is fairly defined, ambiguity regarding the quantity of application, service bus, and especially database servers is a concern with five months remaining in the go-live schedule. Comprehensive performance testing should be based on the finalized topology design.		
103	Bobby Malhotra	Technical	Quality	Health Insurance Exchange Code Quality based on Bi-Monthly Code Review 7 - #378	The random sample that CSG selected from recently modified modules and the fourth code review was used for the manual code review. The sample revealed several issues that falls into three basic areas of review 1) Comments 2) Organization 3) Error Handling. Although there were several issues identified during the code review, improvement was observed during this review.	Based on the issues found and recommendations, the following steps are recommended for the UHIP team to consider: a) Reduce the SONAR major issues within each release. b) Peer code reviews are a standard approach and are mandatory. c) Discuss the approach for new single database design; conduct meetings with CSG and the State to provide more insight on the integrated development to inform all the areas of the code which are planned to be refactored. d) Provide the code quality checklist 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. e) Continue making efforts to improve the code quality and code as per best industry	**High**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					standards.		
106	Bobby Malhotra	Technical	Quality	Phase 1 Slow System Performance - #383	System performance consistently observed to be slower than usual starting the week of 12/14/15. Application submissions and verifying tasks are heavily impacted, while page navigation and other activities have experienced degraded performance at peak times. All users, including individuals and workers across DHS offices and the Contact Center, are impacted. The impact is heaviest during peak hours (M-F, 8 am - 5pm).	There is an immediate need for workarounds to track system performance. The RIBridges single database design will have shared/common functionalities and the expected load will be heavy on the IES code. It is recommended, that Phase 2 production environment be simulated within a performance environment. All issues found and fixed during the previous and current open enrollments should be documented. An actionable plan should be built with metrics captured on a regular basis, benchmarks, and shared wide area network bandwidth utilization tracked all based on the new RIBridges. Any known performance issues should be communicated to the State.	**High**
100	Bobby Malhotra	Requirements	Quality	Phase 2 - Requirement Traceability Matrix - #371	The current RTM partially supports the new centralized database approach for the UHIP architecture framework. The 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	As changes are implemented, Deloitte and the State should perform the required updates to the RTM. The RTM will help ensure that the project requirements are met as well as track all changes made to the system.	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					helps to create a downstream and upstream flow of connecting software requirements to product requirements.		
155	Bobby Malhotra	Technical	Scope	Data feed from RIBridges to Data Warehouse	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 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.	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 will have current data for clinical eligibility determinations.	**Medium**
99	Bobby	Technical	Scope	HIX Application	Deloitte is currently	It is recommended that Deloitte	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
	Malhotra			Vulnerability Testing - #369	conducting security testing within the HIX application. However, the security testing plan and the scope have not been shared with the State Security team. Deloitte has not 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.	informs the State Security team about all activities related to Security testing. The State should be notified about the severity of all defects found and provided with a detailed plan, recommendations, and steps taken to fix any issues identified.	
119	Bobby Malhotra	Technical	Quality	HIX/IE Downtime Dependency - #397	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 IES downtime, how and where data entered by the customer will be stored, and that data will not be lost. Identify if there will there 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**
159	Bobby Malhotra	Technical	Schedule/Resource	Consolidated Database Design – Disaster Recovery	During the development of the Database Consolidation Readiness Assessment	The State should confirm with Deloitte that the new DR site would have sufficient capacity to match the	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
				Impact	Report, three areas related to disaster recovery (DR) had the following issues identified. This detailed list was noted in the original report issued on 01/29/16. #133/416 (Medium/Medium) – The disaster recovery facilities will need to be updated to match the final production topology (which has not been finalized) to incorporate changes for the single database design. #150/434 (Medium/Medium) – The DR site vendor, NTT Data, is initiating a site move from the San Jose, California facility to their Sacramento, California location. #151/435 (Medium/Medium) – While the changes are being introduced and validated for performance testing the IES application with the consolidated database, the DR site will likely remain out of sync with the new production configuration from a design perspective. (This is expected to be the case since the DR site must be a replica of the production infrastructure for worker portal.) Based on current	new production topology at go live. The State should continue to monitor the DR site move in relation to the changes being implemented to finalize the production topology. The State should meet with Deloitte to discuss detailed plans and timing for incorporating the new infrastructure configuration for the worker portal into the production environment for go live and the timing for the corresponding reconfiguration at the DR site.

Early numbers for hardware requirements should be shared with the hosting vendor (NTT) for their revised capacity planning purposes to have a rough order of magnitude to ensure readiness when the time comes to expand the alternate production site. | |

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					information, the overall Probability and Impact ratings are both Medium. Implications: If the DR facilities are not up to date with the latest infrastructure capacity and configuration when the worker portal goes live, uptime SLAs will be impacted if a disaster occurs at the primary site. The exact timing of the DR site move is not known with certainty. The transition to a different DR site, while system configurations for production are changing, is a risk. The disaster recovery site is intended to mimic the live production environment (currently citizen portal only), but the design and topology for the full production Phase 2 implementation is significantly larger.		
160	Bobby Malhotra	Technical	Quality	Consolidated Database Design – Performance Impacts	During the development of the Database Consolidation Readiness Assessment Report, three areas related to the potential performance impact had the following issues identified. The detailed items as noted in the	The State should review the performance of the complete batch cycle and validate the dependencies to ensure required reports can be completed on time or are okay to be run ongoing after the primary batch cycle has completed. The State should itemize detailed SLAs from contract terms that need	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					original report issued on 01/29/16. #134/417 (Medium/Medium) – The affected existing canned reports are being rewritten to accommodate the consolidated database during Phase 2. #137/420 (Medium/Medium) – Specific to the new approach with the consolidated database, the design of the online interaction between the HIX portion of the citizen portal and the new single source of truth in the IES database schema changes the path and timing of data updates and synchronization activity. Many of the batch operations for HIX will also now be required to process against the data within IES during the nightly cycle in the same basic window as IES batches. This introduces the potential for resource contention. #152/436 (Low/Low) – Given the movement of the single source of truth for the HIX data over to the IES schema, most of the interfaces will now be processed against that	to be validated, tested, and enforced during performance testing. The State should review the performance of the complete batch cycle and validate the dependencies to ensure interfaces can be completed on time.\n\nIdentify and prioritize key production metrics for validation to ensure that these can be evaluated as a top priority and any issues mitigated prior to go-live.\n\nFor batch processes that run at night, the impact can be mitigated by carefully sequencing the batch jobs to avoid contention (preventing jobs affecting the same tables from running concurrently with each other). For any interfaces that process real-time or are otherwise triggered outside of a specific scheduled slot, error handling and any potential retry mechanisms would need to be implemented and thoroughly tested to mitigate contention and deadlock issues in the shared database.	

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					schema. Based on current information, the overall Probability and Impact ratings are both Medium. Implications: The volume of data will be higher overall with both HIX and IES going live so report performance may suffer. System performance must be sufficient to meet SLAs to ensure efficient use of the system by end users, including 24x7 access to the citizen portal features even while the nightly batch cycle is running. The increased reliance on the IES schema will cause a commensurate increase in the activity in that portion of the database from a physical data access perspective, potentially increasing contention for resources as well as potentially vying for concurrent updates to the same data itself from online activity or other batch operations.		
94	Bobby Malhotra	Technical	Quality	Centralizing common functionalities between worker Portal and HSRI integration - #356	Deloitte presented three different options to the State for IES and Exchange integration. State selected the option to centralize the common functionalities.	Deloitte should be required to provide technical expertise to help the State understand how and what areas of the system will be refactored or modified to incorporate single database efforts.	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					New design approaches will not require Synchronization of P1 and P2 Databases. Eligibility and enrollment HIX data model will replace with IES data model. The approach will integrate functions across Public Assistance and Exchange for EOHHS, Contact Center, and DHS. Reports and Notices between IES and Exchange will be limited to case data only. Integrated eligibility system will be considered as a system of record Eligibility, case management, FDSH, Enrollment Data. If any agency is down for maintenance, for release activities or for any unexpected disaster all the areas will be affected and will be out of service. There is minimal technical architecture, information shared with the State at this time. Plan 10, DMP, Security design plan and other technical documents, which were based on a separate DB approach, need to be updated with the new approach.	Deloitte has failed to discuss with the State how the immediate storage area for the staging DB data processing will work. Deloitte must work closely with the State and all the agencies to discuss the Phase 2 new architecture approach. An Initial assessment of the new approach is highly recommended to identify any gaps. Critical areas such as 834 and 1095 should also be assessed in parallel.	
157	Bobby Malhotra	Technical	Quality	Consolidated Database Design – Database Technical	During the development of the Database Consolidation Readiness Assessment	The State should request from Deloitte a detailed reckoning of all database tables to account for all	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
				Assessment	Report, six of the technical 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. #127/410 (High/High) – Hundreds of tables do not have referential integrity constraints. #131/414 (Medium/Medium) – The database has few mount points (stated as two or three) for physical storage on the SAN. #136/419 (Low/Low) – Database object naming is inconsistent. #138/422 (Low/Low) – Converted data being loaded to the new consolidated IES database schema is still being left behind in the HIX source schema. #139/423 (Low/Low) – The level of normalization within the new consolidated database design should be reviewed further as time permits. #140/424 (Low/Low) – Proprietary and COTS tools are used for database and application development; the COTS products can be licensed for the State, but	referential integrity and identify any tables that are not used or fully defined as per RI requirements. During performance testing, the State should request from Deloitte metrics demonstrating the disk utilization under heavy database load for any indications that input/output (I/O) requests are queuing or taking longer than should be expected to see if I/O tuning such as adding mount points is warranted. The State should request copies of the database object naming conventions from Deloitte, ensure the documentation meets the needs of the State for any reporting, and support tasks that will be performed by the State or other vendors. The State should ensure that testing covers data scenarios where modifications made in the post-conversion copy of data in the consolidated IES database are successfully retrieved, modified, and/or deleted by any widgets that consume the data. This testing is to verify the widgets are not still accessing obsolete or un-synchronized copies of the data. If performance bottlenecks are identified with specific queries, the State should work with Deloitte to evaluate how the data is being stored and maintained to see if the data is properly (de)normalized to meet performance objectives. The State should request from Deloitte an explanation of any	

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					the Deloitte proprietary tools need to be researched further. Based on current information, the overall Probability and Impact ratings are both Medium. Implications: If any constraints are missing from tables being used by the application, data integrity is at risk due to the potential that the application itself may allow bad data/relationships to be created or manual data fixes might introduce undetected data errors. If the physical storage available to the database servers via mount points is not sufficiently segregated, database performance will suffer due to contention. Inconsistencies in object naming can reduce productivity of development and support activities. Converted data left behind in the source database schema can complicate testing and takes up space. Intentionally de-normalizing some data may increase performance. If any development processes are using	proprietary tools used for development and maintenance of the system and whether these will be turned over for to the State.	

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					proprietary code-generators or other tools, these may be beneficial for the State to request as part of the system turnover.		
154	Bobby Malhotra	Technical	Quality	Phase 2 Data Model Design Modified without the State Approval	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 information devoid of the common services (eligibility, task, notices) data.	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.	**Medium**
112	Bobby Malhotra	Technical	Quality	Performance Testing Results for Release 6.6 - #389	Deloitte has initiated Release 6.6 performance testing. It is assumed that the results will be validated against expected SLA's with newly added/modified functionalities and with common expected usage scenarios. Significant key areas like testing scope, volume, plan, and the	Conduct sessions with the State technical team, including IV&V to ensure environment capabilities. Consider simulating a production level of activity and load to observe system performance under heavy load, in a scaled-down environment.	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					environment's capacity have not been discussed with the State and IV&V.		
110	Bobby Malhotra	Technical	Schedule/Resource	Interfaces Schedule for Release 7 - #387	Several interfaces require reach out to the source with considerable work around. DOC and DOH have not included in the list. Many interfaces are under SIT or development. Majority of the interfaces will not be ready by 2/1 for UAT.	State should insist Deloitte to provide definitive timeline and the plan of interfaces testing for Cycle 3 user acceptance testing. UHIP EDS schema gets weekly refresh from DOH and DOC, Deloitte and State should discuss if that can be used for Human services programs. DUA should be signed between the agencies if required	**Medium**
116	Bobby Malhotra	Technical	Quality	UHIP Infrastructure - Open Source Products - #394	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**
96	Bobby Malhotra	Technical	Schedule/Resource	2015 Disaster Recovery Testing - #366	The 2015 DR plan has not been documented. Viewing disaster recovery at an enterprise level may reveal missing or critical interdependencies. In addition, a complete business continuity plan has not been finalized. There is limited time available to the open enrollment. Disaster recovery should be	Recommend creating a 2015 Disaster Recovery (DR) Plan. Deloitte should identify the point of contact from NTT and Deloitte's Infrastructure team for all DR related activities and finalized a date for testing. It is also recommended that Deloitte create and maintain a Disaster Recovery Tracker to track DR plans across vendors and agencies.	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					scheduled and executed before November 2015 (the State previously decided to have a DR test before or after an open enrollment period, same will/can be considered for 2015). There has been no point of contact from Deloitte as to whether NTT Data has been identified.		
93	Bobby Malhotra	Technical	Schedule/Resource	Semi-Annual Security Report - #308	There are several requirements (approx. 8 to 10) traced out from the RTM which are being marked as NOT MET, for example- Deloitte has not developed a Security Report, which is expected to be submitted every 6 months to the State. As per the requirement, the report must define all security-related activities, 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.	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**
98	Gloria Darby	Quality Assurance	Quality	Section 508 Compliance (Accessibility) Testing - #368	Section 508 requires that all website content be accessible to people with disabilities It was inadvertently	CSG recommends the State identify testers who are visually or hearing impaired to test the accessibility functionality.	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					discovered that a list of codes were being excluded from Deloitte's accessibility testing, and the list was not properly documented within 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 accessibility is not tested in UAT, the State and CSG require Deloitte to provide a letter of attestation that 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 fully utilize the system.		
113	Gloria Darby	Quality Assurance	Quality	Triage Issue Dashboard - #391	Triage tickets are being closed/cancelled without a defined resolution. Triage tickets and the corresponding defect and incident tickets are not in sync.	The States should require Deloitte defined and document the process in how they will handle triage issues and the corresponding defect and AM/PM ticket assigned.	**Medium**
111	Bobby Malhotra	Requirements	Quality	Existing Plan Deliverables not Updated and	The system architecture, DR plan, capacity plan, database development,	The State should acknowledge and encourage Deloitte to update the technology and database related	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
				Revised - #388	configuration plan, and others have not been updated with the new Phase 2 single database design. These deliverables will be required during the maintenance period and to support 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 which could incur additional licensing costs.	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.	
95	Bobby Malhotra	Technical	Scope	MFA for Phase 2 Remote Access - #357	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	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**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					only be viewed using State provided laptop or workstation.		
121	Gloria Darby	Testing	Schedule/Resource	Phase 1 Testing Resources for Release 7 - #399	Due to staffing changes and vendor changes at the Contact Center, most of the experienced testers from HSRI will not be available to support the HSRI portion of UAT. This experience is crucial in providing successful testing and has allowed the Phase 1 UAT team to have the ability to "hit the ground running." Having to bring on new testers will require onboarding and the ability to "hit the ground running" will be null and void.	It is suggested that the State work with the new vendor to be able to utilize those testers that may have remained with the Contact Center for UAT.	**Medium**
125	Mike Tully	Testing	Scope	Backlog of Defects for State Review - #404	The backlog of defects that need to be reviewed between Deloitte and the State for potential change requests has not been completed. The weekly review sessions have been de-prioritized by Deloitte and often cover internal tasks and items that had been reviewed in prior sessions.	Deloitte should review the list prior to meeting with the State to remove internal items and defects that have been reviewed previously or are already included in updated design sessions. Deloitte and State resources should agree on a dedicated schedule for reviewing the backlog until it is completed.	**Medium**
114	Gloria Darby	Testing	Quality	Blueprint Testing Incomplete within Phase 1 - #392	Phase 1 is coming to a close with Blueprint testing remaining incomplete. Achieving full accreditation as a SBM is dependent	It is recommended that the State require Deloitte to provide a timeline for completing testing, achieving attestation, and implementing the required functionality,	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					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. 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 it also raises the concerns of additional costs.		
104	Bobby Malhotra	Testing	Quality	Incomplete Testing Efforts for Interfaces in SIT - #379	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. As a result, Interface	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 sub-systems and interfaces integrate with the solution and function as required. This testing will be performed in the System Test environment.	**Medium**

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					testing in UAT has essentially replaced SIT as the initial test to see how the data is received and displayed in Bridges. This places a significant burden on the State to fully test all interfaces, and increases the amount of time and effort needed to test Interfaces in UAT.	The SIT testing effort should include not only receiving the files from partners but reading and displaying data appropriately in Bridges.	
156	Bobby Malhotra	Technical	Quality	Availability and Content of Design Documents	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. 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	The State should request that Deloitte revise the existing documentation for the single database design to explicitly show at a schema and table level what is considered the source of truth and what is a synchronized copy of the data. 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. 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	Low

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					Report: #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. #149/433: Master matrix showing where data is created, read, updated, 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	disposition status on each (unused, unmodified, partially converted, dropped, etc.).	

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					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
Matt Harvey	OHHS Director of Operations	RI Office of Health & Human Services
Art Schnure	OHHS SME	RI Office of Health & Human Services
George Bowen	DHS Lead	RI Department of Human Services
Kiernan Conn	HSRI Lead	HealthSource RI
Ralph Racca	OHHS OMR Lead	Office of Medical Review
Kailash Bolar	Lead Architect	Deloitte
Raveen Govindasamy	Eligibility SME	Deloitte
Ishaq Mohammed	Database Administrator	Deloitte
RajiReddy Maddhula	Database Administrator	Deloitte
Vijay Chandra Reddy	Conversion Team	Deloitte
Vinaya Kumar Golla	Conversion Team	Deloitte
Jeff Walker	Senior Manager	Deloitte

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

Project Meetings Attended	Participants
State Tech Status Meetings	State and Deloitte
State and Deloitte Security Meetings	State and Deloitte
3-Vendor Meetings	State, Deloitte, HP, and Northrop Grumman
Release Preparation 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
Weeky Release 7 interface Meetings	State and Deloitte
Disaster Recovery Planning Meetings	State and Deloitte
Contact Center Cloud Services Meeting	State, CMS, and Deloitte
Release 6.6 Performance Meeting	State and Deloitte
CMS Webinar for MARS-E 2.0	State and CMS
IT Demo with HealthSource Rhode Island	State and Deloitte
M&O Contract Amendment Preparation	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
Daily Operations Report
Maintenance and Operations Release Notes
Hot Fixes Release Notes
Key Performance Indicators
System Performance Reports
Data Analytics Wave 1 Implementation Summary
Unit Test results for Release 6.6
Release 6.6 Performance Report
Release 7 Development and Build Plan
Release 7 SIT Cycle 3 Exit Report
Disaster Recovery Cutover Plan
Contract Amendment 37

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Documents and Files Reviewed
MARS-E 2.0 compliance documents
Release 7 Interface documentation
Release 7 Conversion Document
Security Controls on accessing Production Data for UAT

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:

☐ Approved With Indicated Conditions   ☐ Not Approved

State Representative: Date:

Final Deliverable Signoff

CSG: Date:

DOA Representative: Date: