



**STATE OF RHODE
ISLAND
UNIFIED
INFRASTRUCTURE
PROJECT**

**MONTHLY IV&V ASSESSMENT
JANUARY 2016**

**VERSION 1.0
STATUS: FINAL**

DATE: FEBRUARY 21, 2016

Document Information

Document Title		Monthly IV&V Assessment	
Version		1.0	
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Amendment History

Document Version	Date	Author/Reviewer	Modification
0.1	02/05/2016	Initial Draft	Bonnie Harris; William Vacha
1.0	02/21/2016	Submitted onto CALT	William Vacha

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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 January 1, 2016 through January 31, 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 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: JANUARY 2016

Below is a summary Dashboard of the RI UHIP as of January 31, 2016. Phase 1 concluded this month with the end of Release 6.6 User Acceptance Testing (UAT); however, quality remained at a moderate risk due to the number of defects still being addressed via Maintenance and Operations (M&O). Overall, Phase 2 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

PHASE 1 PROJECT STATUS INDICATORS											
SCOPE			COST			SCHEDULE/RESOURCES			QUALITY		
Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend
Low	Low	NA	Low	Low	NA	Low	Low	NA	Moderate	Moderate	NA

PHASE 2 PROJECT STATUS INDICATORS											
SCOPE			COST			SCHEDULE/RESOURCES			QUALITY		
Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend
Moderate	Moderate	+	Moderate	Moderate	+	High	High	+	Moderate	Moderate	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 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 1 concluded this month with the end of Release 6.6 UAT. **Phase 2 is moderate risk** with a positive trend; consider corrective action or monitor previous corrective action.

3.1.2 Observations and Recommendations

➤ 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.

➤ Deferred Release 7 UAT Cycle 2 Defects are Not In Scope

✓ Observation

- There are deferred Release 7 UAT Cycle 2 defects that are not in scope. Deferred defects requiring a change request will need to be addressed outside of the planned releases and could incur additional costs.
- ✓ **Recommendation**
 - The State should require Deloitte to triage and assess the level of work and determine the cost.
- **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 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.
- **HIX/IES Semi-Annual Security Audit Report Not Completed**
 - ✓ **Observation**
 - The HIX/IES semi-annual security audit report has not been completed. The State may not be aware of security vulnerabilities present in the application.
 - ✓ **Recommendation**
 - The State should require Deloitte to conduct and submit the results of security audits after each enhancement release.
- **Third Party Security Audit Undetermined**
 - ✓ **Observation**
 - A third party security audit has not been defined. Security audit cannot be performed until a determination has been made on the type of audit to conduct.
 - ✓ **Recommendation**
 - The State should review the list of Controls provided by Deloitte and decide whether to conduct 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 NTTData 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 NTTData to establish a cutover date.
- **Phase 1 and Phase 2 Functional and Technical RTM Not Finalized**

✓ **Observation**

- The Phase 1 and Phase 2 functional and technical Requirements Traceability Matrix (RTM) has not been finalized. Outstanding functional requirements, technical requirements, and change requests may expand scope.

✓ **Recommendation**

- The State should assure 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 has remained constant. Phase 1 concluded this month with the end of Release 6.6 UAT. **Phase 2 is moderate risk** with a positive trend; consider corrective action or monitor previous corrective action.

3.2.2 Observations and Recommendations

➤ **Contract Amendment #37 to Cover Release 7 Activities from 03/01/16 through 12/12/16**

✓ **Observation**

- Deloitte's Release 7 development and test activities may come to a standstill without the approval of Contract Amendment #37 before 03/01/16.

✓ **Recommendation**

- The State needs to approve Contract Amendment #37 by 03/01/16.

➤ **CSG Contract Extension for IV&V Support**

✓ **Observation**

- CSG's contract expires on 02/24/16; the State will lose CSG's IV&V and UAT support starting on 02/25/16 unless a new contract is approved before that time. IV&V is a Federal requirement until RIBridges is implemented into Production.

✓ **Recommendation**

- To avoid an interruption in IV&V oversight, the State should approve the CSG contract extension by 02/25/16.

➤ **Software Licensing Analysis and True-Up**

✓ **Observation**

- The total number of environments, servers, and licensed software installations may be in excess of originally planned and licensed quantities, which could incur additional licensing costs.

✓ **Recommendation**

- The State should require Deloitte to conduct an audit and balancing of all ordered versus used software to ensure compliance with licensing terms.

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 1 concluded this month with the end of Release 6.6 UAT. **Phase 2 is high risk** with a positive trend; immediate corrective action with significant concerns have been identified.

3.3.2 Observations and Recommendations

- **Interface Testing with Production Data Discontinued by Chief Information Security Officer**
 - ✓ **Observation**
 - The State's Chief Information Security Officer stopped interface testing that was using production data. Testing interfaces and batches with the Trading Partners could be delayed for those partners requiring production data.
 - ✓ **Recommendation**
 - The State and Deloitte should reach out to Trading Partners to determine if dummy or scrambled data can be supported.
- **Release 6.6 Performance Test Results Incomplete**
 - ✓ **Observation**
 - The application performance testing of the new functionality implemented via Release 6.6 was not reported prior to UAT or production. When performance testing is not measured prior to the deployment of a release into production, performance issues may be promoted into production.
 - ✓ **Recommendation**
 - The State should require the performance testing efforts and the execution plan be published prior to existing System Integration Testing (SIT).
- **Mandatory CMS Security Update**
 - ✓ **Observation**
 - The State is required to submit various security documents to CMS to obtain an Authority to Connect (ATC); without the ATC the system cannot properly function.
 - ✓ **Recommendation**
 - The State should require a timeline that is continuously reviewed by CMS; all risks pertaining to deliverables should be prioritized by the State.

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 both Phase 1 and **Phase 2 has remained a medium risk**; consider corrective action or monitor previous corrective action.

3.4.2 Observations and Recommendations

➤ EOHHS Scripting Efforts for UAT Cycle 3

✓ Observation

- The EOHHS scripting efforts for UAT Cycle 3 is disorganized, which may potentially impact the quality of the test cases and thoroughness of the overall testing efforts.

✓ Recommendation

- The State should require all scripting efforts be coordinated through one individual with a clear plan for scripters to follow to create the required test cases.

➤ Section 508 Required 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.

➤ 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.

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 January 31, 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 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 throughout January 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 #	Client ID	Big Category	Rocks	Dashboard Category	Title	Observations	Recommendations	Risk Rank
153	William Vacha	Quality Assurance		Schedule/Resource	CSG Contract Extension for IV&V and UAT Support	CSG's contract expires on 02/24/16, and a new contract to extend both CSG's IV&V efforts and UAT oversight activities has not been approved. The State will lose CSG's IV&V and UAT support starting on 02/25/16 unless a new contract is approved before that time. IV&V is a Federal requirement until RIBridges is implemented into Production.	To avoid an interruption in IV&V oversight, the State should approve the CSG contract extension by 02/25/16.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
128	Bryan Ayriess	Technical	Quality	HIX Application Framework Still Requires Data Synchronization (Duplication) - #411	<p>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.</p> <p>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 synchronize back and overlay the citizen-entered data, causing data loss.</p>	<p>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.</p> <p>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.</p>	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
154	Bobby Malhotra	Technical	Quality	Design Document for Citizen Portal Changed Without State Approval	Without State approval, Deloitte changed the documented design for the Citizen Portal. The initial Citizen Portal design was to read common data from the Worker Portal. Instead eligibility data will be loaded to a staging database. Moreover, citizens will retrieve their eligibility/enrollment data from the Citizen Portal instead of RIBridges.	Deloitte should provide a detailed demonstration to the State for them to gain a better understanding of the design change and any changes to the design should have prior approval.	Medium
126	Bobby Malhotra	Technical	Quality	Minimal Communication on Security Findings - #405	Several security vulnerability issues were found by the Deloitte. Some of them were fixed as part of January M&O release. There is very minimal communication from Deloitte on the security findings, issues found past couple of months haven't been discussed with the State. 3 issues identified in November 2015 are still in open status.	State should insist Deloitte to immediately follow up on this and make sure all open security vulnerabilities issues are getting fixed and communicated. Issue should be prioritized as per the criticality by the State, as critical issues can cause security vulnerabilities in the production	Medium

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
160	Bryan Ayriss	Technical	Quality	Consolidated Database Design – Performance Impacts	<p>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 original report issued on 01/29/16.</p> <p>#134/417 (Medium/Medium) – The affected existing canned reports are being rewritten to accommodate the consolidated database during Phase 2.</p> <p>#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 basis</p>	<p>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.</p> <p>The State should itemize detailed SLAs from contract terms that need to be validated, tested, and enforced during performance testing.</p> <p>The State should review the performance of the complete batch cycle and validate the dependencies to ensure interfaces can be completed on time.</p> <p>Identify 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.</p> <p>For 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</p>	Medium

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
157	Bryan Ayriiss	Technical	Quality	Consolidated Database Design – Database Technical Assessment	<p>During the development of the Database Consolidation Readiness 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.</p> <p>#127/410 (High/High) – Hundreds of tables do not referential integrity constraints.</p> <p>#131/414 (Medium/Medium) – The database has few mount points (stated as two or three) for physical storage on the SAN.</p> <p>#136/419 (Low/Low) – Database object naming is inconsistent.</p> <p>#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.</p> <p>#139/423 (Low/Low) –</p>	<p>The State should request from Deloitte a detailed reckoning of all database tables to account for all referential integrity and identify any tables that are not used or fully defined as per RI requirements.</p> <p>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.</p> <p>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 unsynchronized copies of the data.</p>	Medium
February 21, 2016 © 2016 CSG	Government Solutions, Inc.		Page 15		<p>The level of normalization within the new consolidated database design should be reviewed further as time permits.</p>	<p>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</p>	

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
156	Bryan Ayriss	Technical	Quality	Availability and Content of Design Documents	<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</p>	<p>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.</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 #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
158	Bryan Ayriss	Technical	Scope	Consolidated Database Design – Security Assessment	<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.</p> <p>#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 data.</p> <p>#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</p>	<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 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</p>	High
February 21, 2016 © 2016 CSG	Government Solutions, Inc.		Page 17		<p>and procedures for direct database access are not formalized in writing.</p> <p>#142/426 (Low/Low) – The current processes</p>	<p>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</p>	

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
161	Bryan Ayriss	Technical	Schedule/Resource	Consolidated Database Design – System Capacity	<p>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:</p> <p>#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.</p> <p>#143/427 (High/High) – The initial design showed six application servers where 12 will be under consideration today.</p> <p>#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.</p> <p>#145/429 (High/High) – An additional Oracle</p>	<p>The State should review the production topology design once available to identify any concerns in the following areas:</p> <ul style="list-style-type: none"> - 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 <p>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 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.</p>	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
159	Bryan Ayriess	Technical	Schedule/Resource	Consolidated Database Design – Disaster Recovery Impact	<p>During the development of the Database Consolidation Readiness Assessment 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.</p> <p>#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.</p> <p>#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.</p> <p>#151/435 (Medium/Medium) – While the changes are being introduced and validated for</p>	<p>The State should confirm with Deloitte that the new DR site would have sufficient capacity to match the 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.</p> <p>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.</p>	Medium
February 21, 2016 © 2016 CSG Government Solutions, Inc.			Page 19		<p>performance testing the IES application with the consolidated database the DR site will likely remain out of sync with the new</p>		

ID #	Client ID	Big Category	Rocks	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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

Table 3 – Observations and Recommendations Monitored

ID #	Client ID	Big Category	Rocks	Dashboard Category	Title	Observations	Recommendations	Risk Rank
105	Bobby Malhotra	Quality Assurance		Quality	Post Auto Enrollment Production Issues - #381	Issues identified with the auto renewal batch in Production had a negative impact on some accounts. Such as changes in account coverage start date, incorrect APTC calculations, etc. This prompted numerous tickets to be logged and a number of Hot Fixes (code and data) to be deployed to resolve the issue.	It is recommended that more detail testing is done in SIT to reflect real-life scenarios and that automated regression testing is conducted during each release. Data quality scripts should run on a frequent basis to identify and fix data integrity issues. It is also recommended that experienced team members perform code reviews/designs.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
110	Bobby Malhotra	Schedule	Schedule/Resource	Interfaces Schedule for Release 7 - #387	Several interfaces requires reach out to the source with considerable work around until date. 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	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 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 access as advised by CISO and State tech lead should be immediately eliminated without encryption. 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 #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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 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.	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 #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
97	Bobby Malhotra	Technical	Scope	CMS Security Updates - #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.	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.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
101	Bobby Malhotra	Technical	Quality	Disaster Recovery (DR) site moving to Sacramento - #375	Deloitte verbally informed the State that the DR site managed by NTT Data will be 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.	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

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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 standards.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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 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/NTTData should provide firewall specs to the State for further enhancement on the State's firewall size.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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 environment's capacity have not been discussed with the State and IV&V.	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.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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
108	Mike Tully	Testing	Quality	EOHHS Scripting for Release 7 - #385	EOHHS does not have an organized scripting effort in place to create the necessary test cases that are required for 2/1.	All scripting efforts should be coordinated through one individual who has laid out a clear plan for individuals to follow to create the required test cases.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
122	Gloria Darby	Testing	Quality	H43-PVC Failure - #400	H43-PVC testing failed to meet testing requirements as defined by CMS, IV&V attestation not obtained; PVC is scheduled to go-live with Release 6.6 on 02/01/16; FTR cannot go into Production without IV&V attestation	The State and/or Deloitte should immediately contact CMS to see if the problem lies with the TDS or in their data. Testing should be rescheduled immediately if this is to be included in Release 6.6 scheduled for a 02/01/16 go-live.	High
120	Bobby Malhotra	Testing	Quality	Automation Regression Testing for Iteration 7 - #398	For phase 1 and 2, Deloitte agreed upon creating the automated data 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 6.6 release, which explicitly was considered as an assumption under ca 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

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
109	Mike Tully	Testing	Quality	Scripting Efforts for Release 7 - 386	The level of scripts that have been created to date do not meet the required number to adequately test the system on 02/01/16. There were a reported 26 test scripts completed by 01/13/16. There are over 600 needed to test starting 2/1.	Increase the number of testers to make up the difference. Ensure that staff are assigned to scripting as a priority and can focus solely on the task of scripting.	High

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
98	Gloria Darby	Quality Assurance	Quality	Section 508 Compliance (Accessibility) Testing - #368	<p>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 any deliverables. This prompted Deloitte to update the Phase 1 Detailed Test Plan (outside of the Change Management process) with the list of exclusions.</p> <p>Since accessibility is not tested in UAT, the State and CSG require Deloitte to provide a letter of attestation that accessibility testing have been completed; however, this does not equate to the true user experience.</p> <p>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.</p>	CSG recommends the State identify testers who are visually or hearing impaired to test the accessibility functionality.	Medium

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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
124	Gloria Darby	Quality Assurance	Quality	Defects Linked to Expired Tickets - #403	Deloitte is linking defects that need further attention outside of UAT to expired Production and AM-PM tickets. This could be misleading as the defects that are being linked or deferred out requires action and linking them to tickets that have been closed for months could cause the existing open defect to be loss. This could have a potential impact on cost and schedule.	It is recommended that the State require Deloitte to put procedures in place to ensure that any open item that is linked to existing tickets, that the tickets cannot be closed or resolved. Deloitte should provide the State with documented procedures and ensure all staff are aware.	Medium

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
93	Bobby Malhotra	Requirements	Quality	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

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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 helps to create a downstream and upstream flow of connecting software requirements to product requirements.	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 #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
95	Bobby Malhotra	Technical	Quality	MFA for Phase 2 Remote Access - #357	<p>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.</p> <p>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.</p>	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 #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
115	Bobby Malhotra	Technical	Quality	Production Database Storage Issue - #393	The database reached peak capacity on Friday, 1/15/16. This happened because the oracle archive log file reached the peak capacity of 150 GB, causing all threads to hang. Customers and workers were disconnected from the UHIP. All connections to Oracle were suspended for some period, the archive logs were cleared and system was subsequently bought back online	Discuss the issue with the State in more details. Check if another schema can be utilized to persist the archived table data other than production. Identify type of alerts currently in place and whom does it goes to. Alerts indicating HIGH risk to UHIP system should be appropriately tested prior putting in production.	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

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
117	Bobby Malhotra	Technical	Scope	UHIP-HIX/IE Security Audit - #395	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.	Medium

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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 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

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
94	Bobby Malhotra	Technical	Quality	Centralizing common functionalities between worker Portal and HSRI integration - #356	<p>Deloitte presented three different options to the State for IES and Exchange integration. State selected the option to centralize the common functionalities. New design approaches will not require Synchronization of P1 and P2 Databases. Eligibility and enrollment HIX data model will replace with IES data model.</p> <p>The approach will integrate functions across Public Assistance and Exchange for EOHS, 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</p>	<p>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. 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.</p>	Medium
February 21, 2016 © 2016 CSG Government Solutions, Inc.			Page 39		<p>of service. There is minimal technical architecture, information shared with the State at this time.</p> <p>Plan 10: DMB Security</p>		

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
96	Bobby Malhotra	Technical	Quality	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 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.	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 #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
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 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 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. The SIT testing effort should include not only receiving the files from partners but reading and displaying data appropriately in Bridges.	Medium

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
121	Gloria Darby	Testing	Schedule/Resource	Phase 1 Testing Resources for Release 7 - #399	<p>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."</p> <p>Having to bring on new testers will require onboarding and the ability to "hit the ground running" will be null and void.</p>	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

ID #	Client ID	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
99	Bobby Malhotra	Testing	Quality	HIX Application Vulnerability Testing - #369	Deloitte is currently 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.	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 all defects found and provided with a detailed plan, recommendations, and steps taken to fix any issues identified.	Medium

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
Art Schnure	EOHHS SME	RI EOHHS
Kailash Bolar	Lead Architect	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
Open Enrollment Daily Triage Meetings	State and Deloitte
UHIP Project Management Team (PMT) Meeting	State, Deloitte, and PCG
Problem Management	State and Deloitte
Deloitte Technology Round Up Meeting	State and Deloitte
State Tech Status Meeting	State and Deloitte
State and Deloitte Security Meeting	State and Deloitte
3-Vendor Meeting	State, Deloitte, HP, and Northrop Grumman
Release Preparation Meeting	State and Deloitte
Daily UAT Defect Triage Meetings	State and Deloitte

Project Meetings Attended	Participants
Weekly UAT Defect Deep Dive Meeting	State and Deloitte
Weekly Phase 2 UAT Update Meeting	State and Deloitte

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
Data Analytics Wave 1 Implementation Summary
Updated UHIP-54844: Admin Override for Employees SEP FDD
Updated Release 6.6 Training Plan
MMIS Release 7 Integration Specifications
Updated UHIP-99456: SEP Modifications FDD
Release 6.6 TDDs (UHIP-66614 Logic Modification for Medicaid Termination; UHIP-92989 Federal PEV; UHIP-85072 CX Pregnant Women)

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 that 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: _____

6. PRODUCTION DEFECT ANALYSIS

- A comparison of open production defects in JIRA from January 1, 2016 through January 31, 2016 (based on information in JIRA)
 - ✓ 20% increase in defects from the previous month
 - ✓ 124 Production defects are open; 42 are Ready for Production and waiting to be closed by Deloitte
 - ✓ Defects without an AM-PM ticket remain constant

Table 7 - JIRA Defects without AM-PM Tickets

JIRA Defects without AM-PM Tickets			
Severity	12/31/2015	01/31/2016	+/-
Critical	0	0	0
High	8	6	-2
Medium	6	6	0
Low	0	1	+1
Total	14	13	-1

Table 8 - JIRA Defects with AM-PM Tickets

JIRA Defects with AM-PM Tickets			
Severity	12/31/2015	01/31/2016	+/-
Critical	3	3	0
High	30	54	+24
Medium	47	46	-1
Low	5	8	+3
Total	85	111	+26

- The following graph depicts critical and high defects created and closed weekly over the past six months
- ✓ Production defects trended upward after the January Maintenance and Operation Release

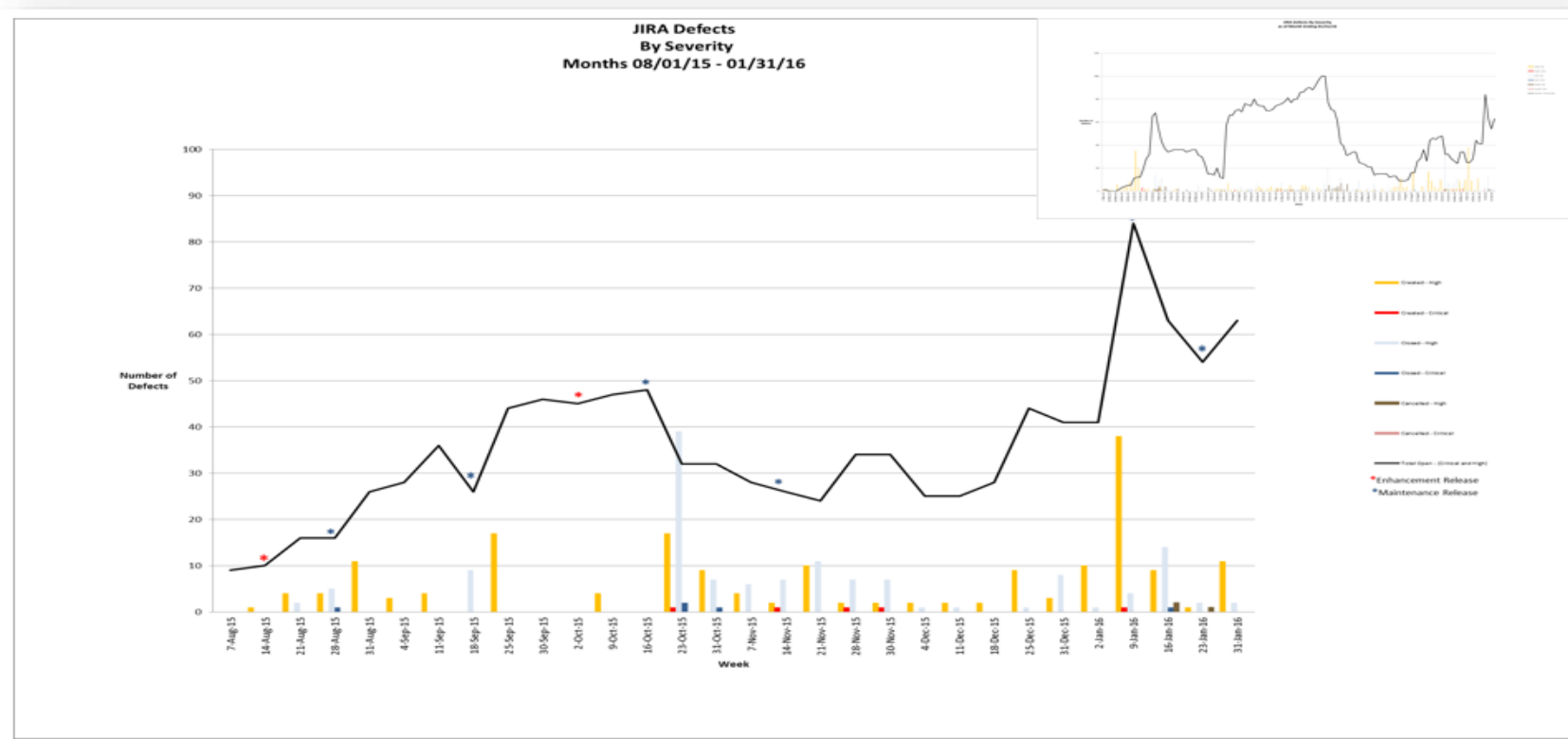


Figure 1 - JIRA Defects with AM-PM Tickets, Past Six Months

➤ Historical View of Critical and High Defects Aging

Table 9 - JIRA Open Production Defects Aging

JIRA Open Production Defects (Aging)													
Days	Critical						High						
	AUG	SEP	OCT	NOV	DEC	JAN	AUG	SEP	OCT	NOV	DEC	JAN	
60 - 90	0	0	0	0	0	2	2	1	2	2	4	5	
91 - 120	0	0	0	0	0	0	0	2	1	2	1	2	
>120	0	0	0	0	0	0	3	3	1	2	5	3	
Total	0	0	0	0	0	2	5	6	4	6	10	10	

➤ Current View of all Open Defects as of January 31, 2016

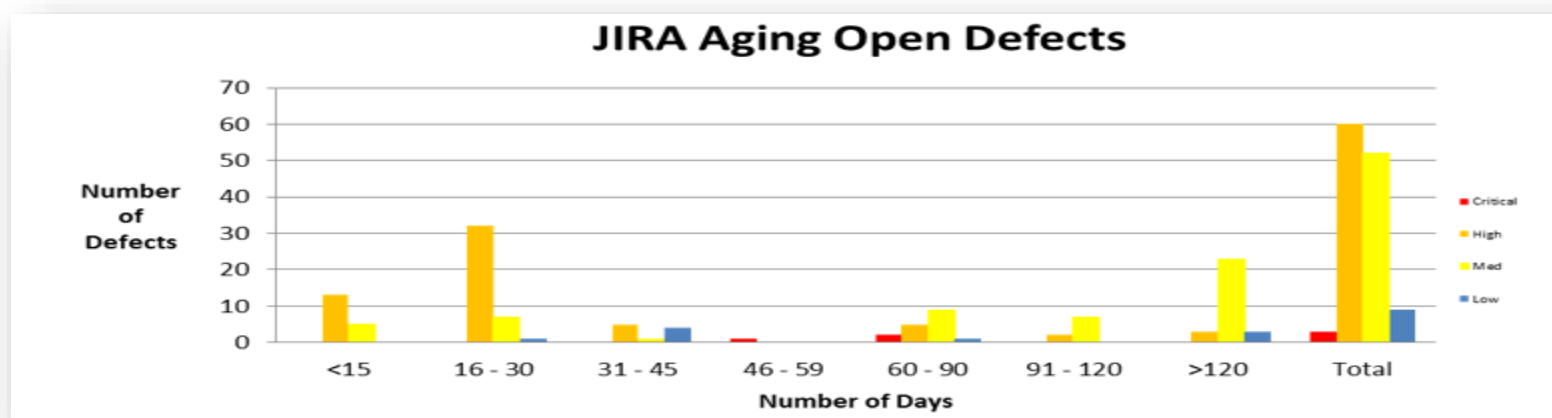


Figure 2 - JIRA AM-PM Aging Open Defects

- The following graph illustrates the number of open Production defects, the number of defects addressed within SIT, and the number of defects closed
- ✓ Defect Resolution remained constant
- ✓ The January M&O Release closed 24 defects; M&O SIT addressed 49 defects
- ✓ 10 non-data defect resolutions and 14 data defect resolutions were deployed into Production

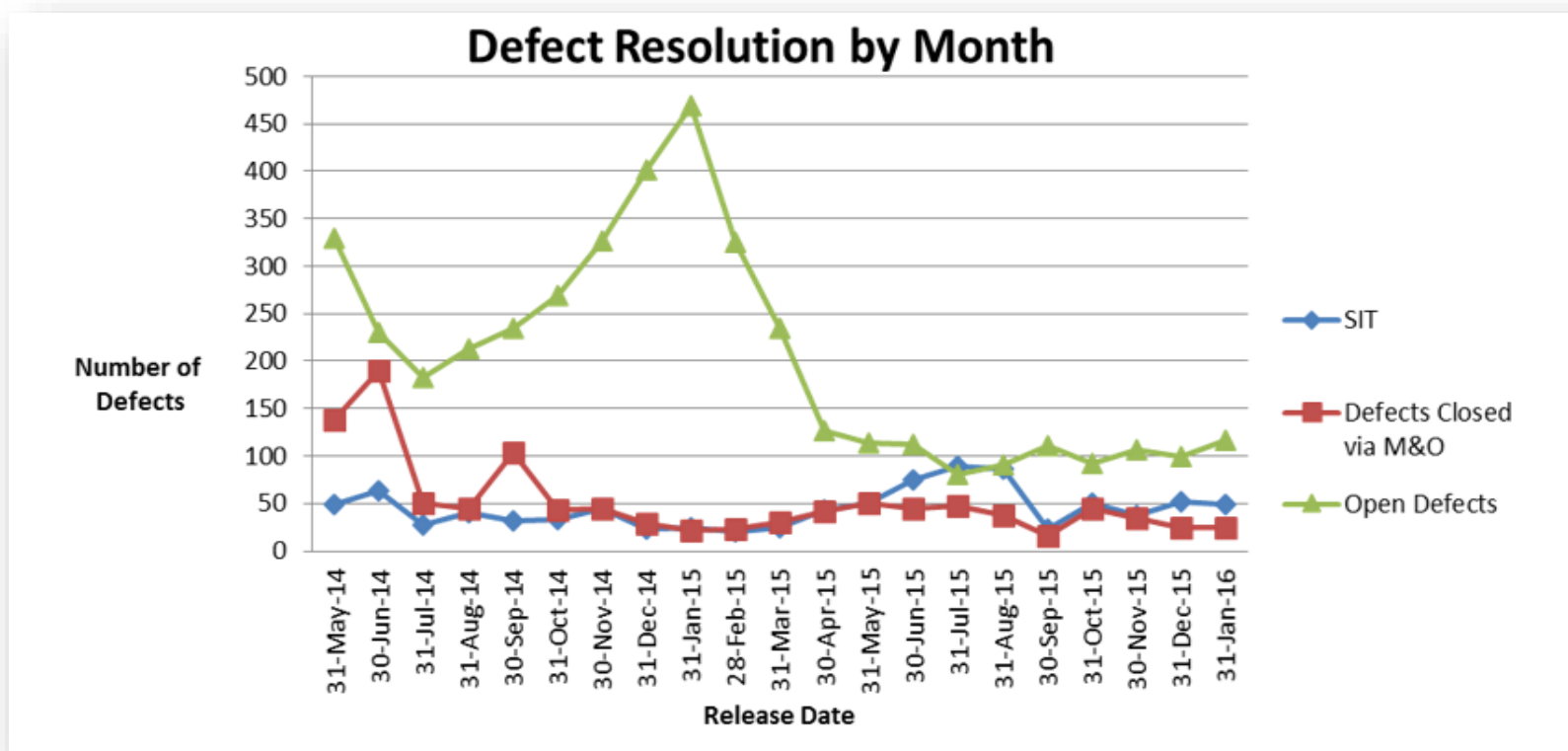


Figure 3 - Work Requests Deployed by Month

- AM-PM is the trouble ticketing system; where deficiencies are reported from the service desk or a user enters a deficiency. AM-PM provides ticket management functionality and tracking against service level agreements.
- ✓ 283 incident tickets are linked to Triage issues
- ✓ 1165 incidents tickers are in a status other than closed; 15% increase from the previous month
- ✓ The number of Resolved tickets increased by 24%; State should continue to review

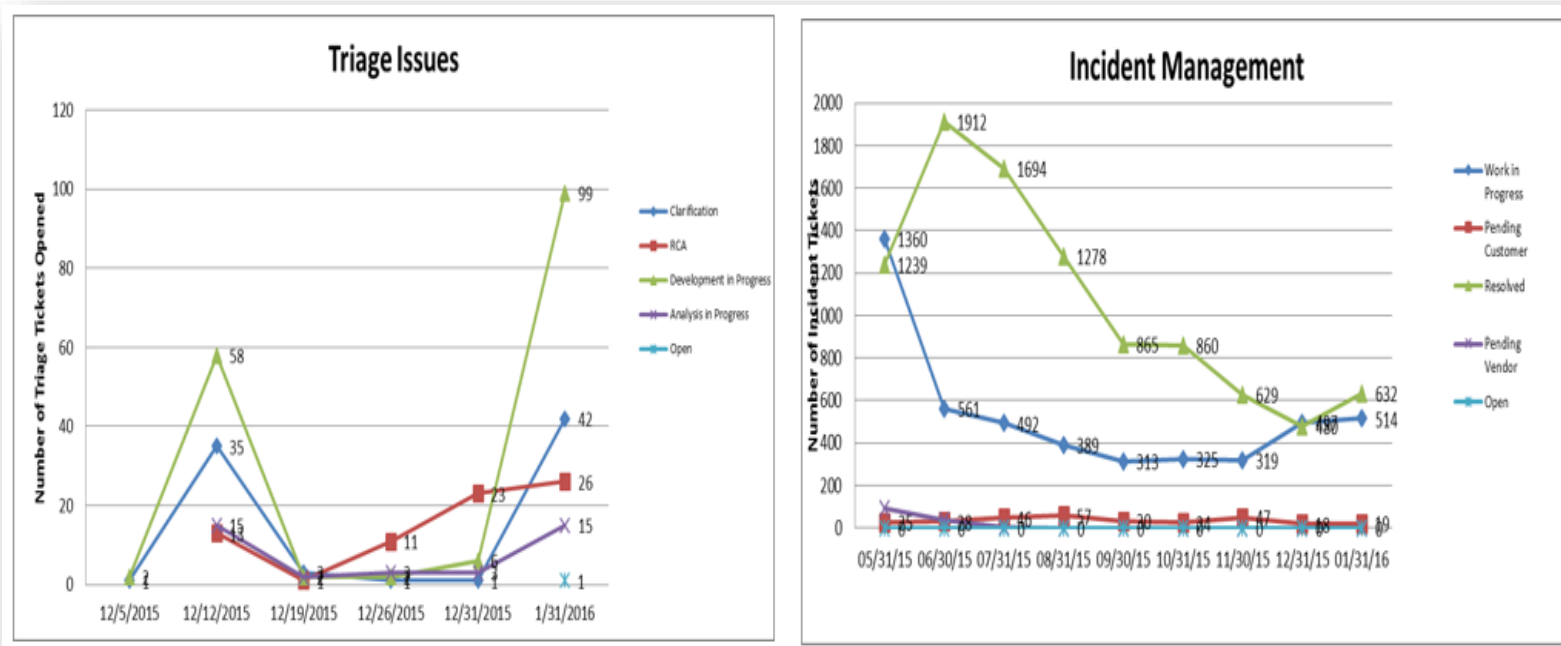
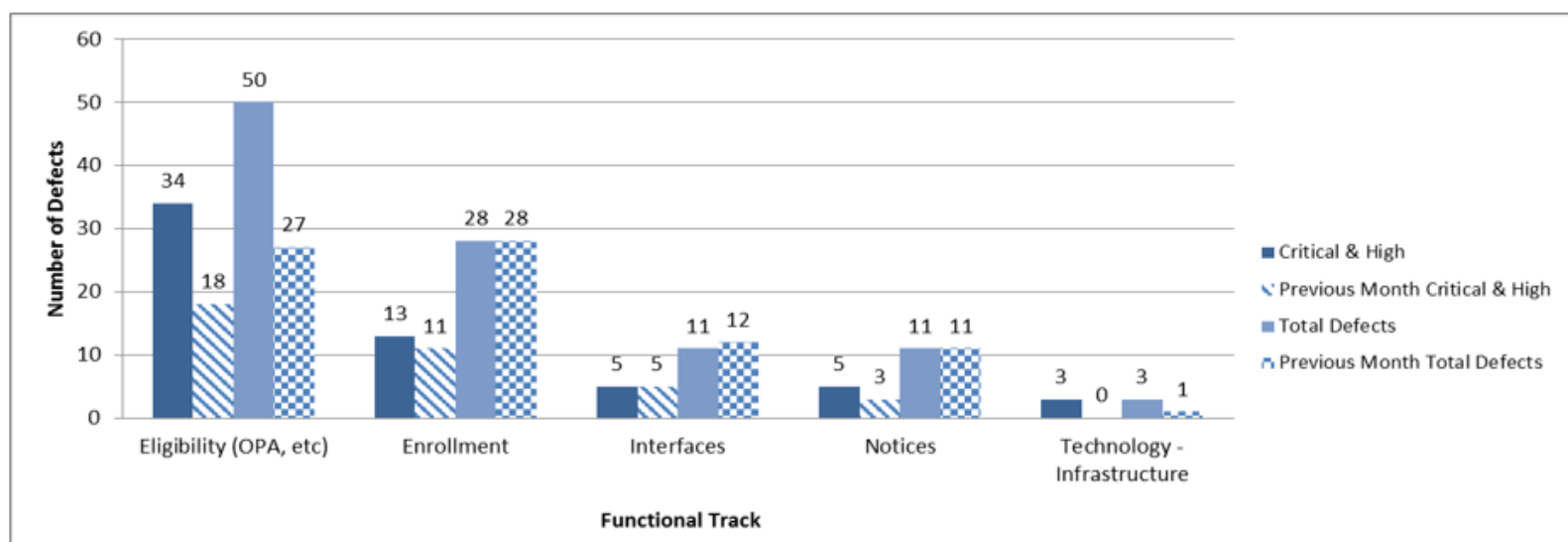


Figure 4 – AM-PM Trending Weekly

➤ Top 5 Defect Tracks (Ranked by both Critical and High, and Total Defects)

✓ Eligibility continued to trend upwards



Track	Critical & High	Previous Month Critical & High	Total Defects	Previous Month Total Defects
Eligibility (OPA, etc.)	34	18	50	27
Enrollment	13	11	28	28
Interfaces	5	5	11	12
Notices	5	3	11	11
Technology - Infrastructure	3	0	3	1

Figure 5 – Top Five Defect Tracks