

## Lessons Learned Action Plan in Response to BerryDunn

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Final Draft

05/01/2014



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## Background and Purpose of the Document

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## BerryDunn Project Background and Objectives

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- BerryDunn was contracted by the State to conduct a third party assessment of the lessons learned from the Vermont Health Connect project up to October 1, 2013
- BerryDunn collected feedback from stakeholders via survey and interviews and developed a comprehensive report that details the interactions with stakeholders and also provides recommendations to improve on the State requested domains:
  - Adherence to Project Management Methodology and Processes
  - Requirements Development
  - Vendor and State Implementation Planning and Readiness
  - Systems Development, Testing, and User Acceptance
  - Deployment Planning and Deployment
  - Risk Identification and Mitigation
  - Vendor and State Governance, Management, and Decision Making

## BerryDunn Lessons Learned Report Findings and Recommendations

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- The BerryDunn report clustered findings and 55 detailed recommendations into 10 key recommendations:
  - Utilize the results of the Lessons Learned exercise to institute impactful changes moving forward
  - Continue to improve processes that identify, recognize, and plan for project constraints
  - Improve requirements and scope management processes to ensure project phases are reasonable and achievable
  - Proactively evaluate and modify the governance structure on large projects when necessary
  - Document roles and responsibilities for project positions, make them transparent, and articulate them to project stakeholders
  - Improve the visibility and transparency of decisions and, where appropriate, involve key stakeholders in effective decision making
  - Improve project communication vehicles and processes
  - Continue to seek ways to improve vendor contract management
  - Communicate project health to all stakeholders regularly and engage executive leadership appropriately to inform them on project challenges
  - Continue to evolve the concept of Enterprise Architecture (Business, Information/Data, Application/Integration, and Technology Infrastructure) for the Health Service Enterprise Program

## Gartner's Role and Involvement in the BerryDunn Project

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- Gartner has provided strategic support for the development of the Health Services Enterprise (HSE) and the HSE PMO
- In addition, Gartner has assisted with the development of several of the procurements of the constituent projects within the HSE, and with IV&V for others
- Gartner's role will continue to evolve to provide Health and Human Service Enterprise QA / IV&V Oversight in support of the PMO, focusing on the integration and coordination of the PMO's QA/IV&V activities across the program including:
  - Support the State in defining and establishing a set of QA/IV&V standards and approach for the projects under the Health and Human Services Enterprise PMO driven by the PMO's enhanced governance and vendor management approach and the needs of the PMO projects
  - Overview and Training for all PMO project stakeholders specific to the projects working with the PMO Projects' QA/IV&V service providers
  - Assessment and review of newly revised PMO Project Management approach and QA/IV&V activities including detailed recommendations and action plan for optimization and effectiveness
  - A tiered risk and issue management reporting structure with recommendations for improvement / enhancement / refinement including a continuation of the bi-weekly reports, monthly reports and quarterly health checks
- In response to the BerryDunn Lessons Learned Report, Gartner facilitated the creation a State Action Plan to address and execute on the independent recommendations that BerryDunn delivered. The Action Plan Framework and Key Initiatives can also be established as a reusable process for evaluation, investigation, prioritization, execution and review of strategic initiatives within the HHSE Program and for other similar State projects

## Purpose and Background of the Lessons Learned Action Plan (LLAP)

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- Develop an actionable LLAP through the identification and prioritization of Key Initiatives to respond to the findings and recommendations of the BerryDunn Report to continue the on-going enhancement of the HSE PMO project and vendor management activities to ensure success
- The LLAP process must not exist in a “silo” but needs to be a part of the current and planned activities of the HSE Program for the continuous improvement of HSE PMO operations
- It must include active communications with HSE Program stakeholders, regular reporting on progress, plans, issues and risks and risk mitigation strategies.
- This comprehensive approach to HSE PMO improvements should integrate the following key activities:
  - BerryDunn LLAP Action Plan Execution Results
  - VHC Readiness Assessment Results and Recommendations
  - Outputs from the Executive Steering Committee and the Operations Steering Committee
  - Outputs from the PMO Project and Vendor Management Activities
  - Quality Assurance Reports from Gartner and the future Vendors doing QA / IV&V on other PMO Projects

# Lessons Learned Action Plan (LLAP) Development Process

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## LLAP Development Process

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- The State LLAP Response Team developed an approach that ensures an on-going enhancement life cycle to strengthen project and vendor management activities and outcomes of the Health Services Enterprise (HSE) Program efforts
- The steps of this continuous improvement life cycle include:
  1. Assign staff to the LLAP Response Team that will be responsible for the activities necessary to implement the action plan. This should include identifying executive sponsorship, team membership and defining team roles and responsibilities to achieve LLAP outcomes
  2. Identify current and planned activities to strengthen HSE Program's governance, decision making and Project Management enhancements
  3. Organize the BerryDunn recommendations being addressed in the HSE Program and Projects by functional categories
  4. Develop an integrated Action Plan of Key Initiatives aligned with BerryDunn's improvement opportunities identified in Step 3
  5. Prioritize the Key Initiatives by importance and urgency
  6. Execute on the Key Initiatives and communicate outcomes to stakeholders
  7. Revisit the Key Initiatives of the LLAP once complete to determine level of success and outstanding issues
- The schedule, as agreed by the Response Team working group, is shown on the following slide

# LLAP Development Schedule

	April				May			
1. Staff the LLAP	■	■						
2. Identify current and planned activities to strengthen HSE Program's governance, decision making and Project Management enhancements		■	■					
3. Organize the BerryDunn recommendations by functional categories		■						
4. Develop integrated Action Plan of Key Initiatives identified in Step 3		■	■	■	■			
5. Prioritize the Key Initiatives					■			
<i>Delivery, Approval and Communication of the Action Plan Key Initiatives</i>						■		
6. Execute and communicate outcomes to stakeholders							■	■
7. Revisit the Key Initiatives of the LLAP once complete to determine level of success and outstanding issues	TBD							

\*\*Execution of plans will continue as needed



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## Analysis and Recommendations

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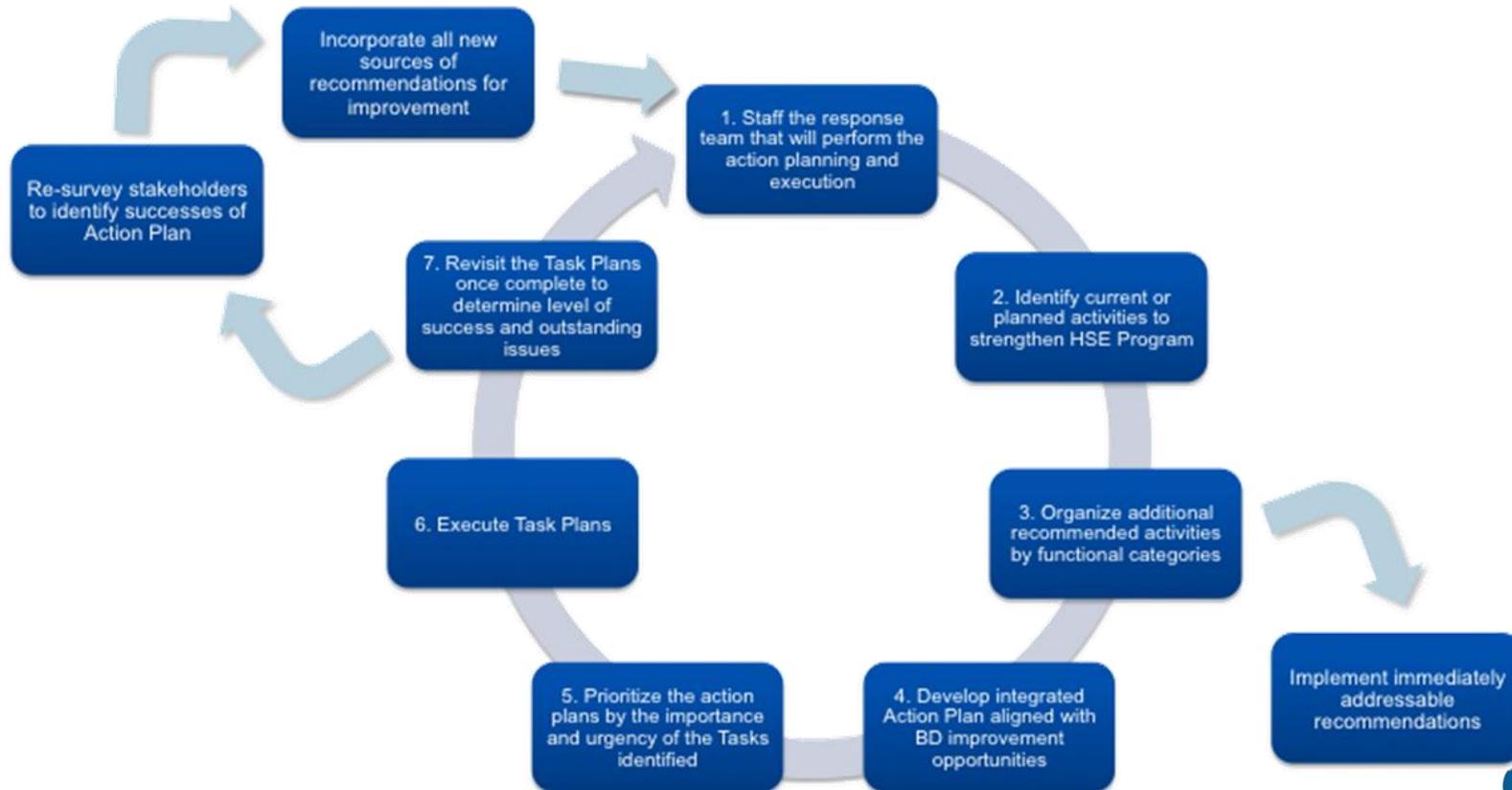


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## Action Plan Implementation Framework

- Gartner believes that the efforts the State has undertaken to review, analyze and implement improvements based on the accomplishments and improvement opportunities to date is a critical part of a learning organization that the HSE Program strives to be. To ensure success, Gartner suggests the continuation of this review and initiative development cycle to support the continuous improvement of the HSE Program activities



## LLAP Analysis and Recommendations

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- Eight Key Initiatives have been identified for the HSE Program LLAP to address the 55 recommendations provided by BerryDunn.
- Each Initiative includes key components and task descriptions to be reviewed, modified and staffed by the HSE PMO for execution, these include:
  - Initiative / Task Titles
  - BerryDunn Recommendation(s) Being Addressed
  - Task Objectives and Expected Outcomes
  - Work Done to Date
  - Interaction with Other Initiatives
  - Deliverables
  - Task Steps
  - Key Risks / Issues Identified
  - Delivery Team – Including Sponsor and Leads
  - Required Resources
  - Critical Success Factors
  - Timeline – Estimated Task Start Date and Duration
  - Communication Plan Summary

## Analysis and Recommendations (Cont'd)

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### ■ Gartner recommends that:

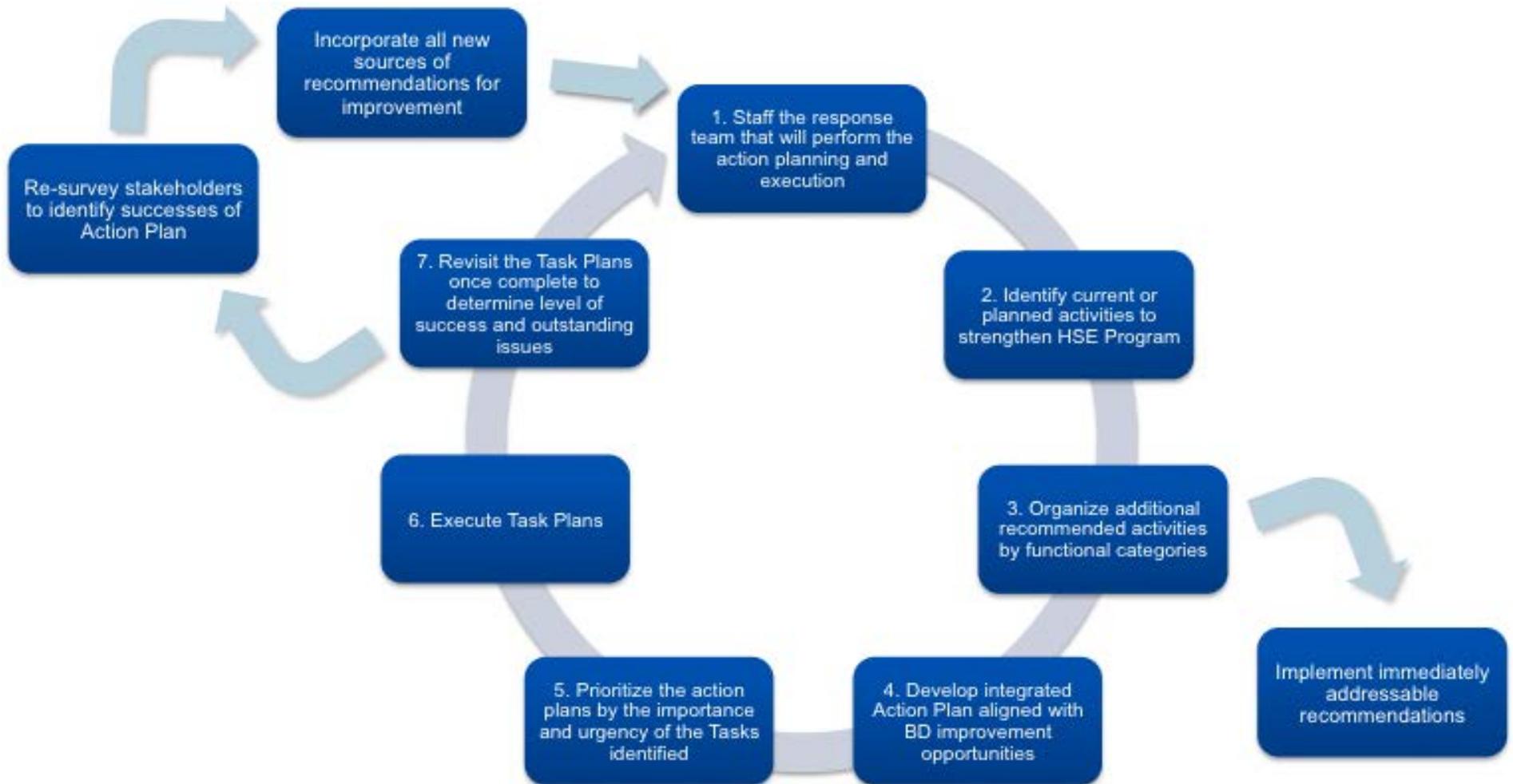
- The HSE Program continue project and vendor management enhancement work that is already underway and is aligned with the BerryDunn recommendations and the identified LLAP Key Initiatives
- The State adopt the LLAP Action Plan Implementation Framework as a formal initiative review, investigation, prioritization and approval process for strategic enhancements initiatives within the HSE Program going forward
- The State establish a rapid cycle for the execution, review and modification as necessary of the LLAP Key Initiatives
- The State immediately formally approve, staff and start the LLAP Key Initiatives identified as Tier 1 initiatives, including continuing the HSE PMO enhancement work in process and leveraging the enhancement work done to date
- The State formally approve, staff and start the Key Initiatives identified as Tier 2 initiatives as soon as resources are available and Tier 1 Initiatives are effectively underway
- The State widely, regularly and transparently communicate the plans, progress and successes of the LLAP initiatives to all stakeholders of the HSE Program – both internal and external

## BerryDunn Lessons Learned Action Plan Framework and Initiatives

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# BerryDunn LLAP Framework



# LLAP Key Initiative Prioritization and Planning

Key Initiative / Task	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<b>Tier 1 Key Initiatives</b>								
1. Refine and document and widely communicate a comprehensive HSE / AHS Vision, Strategy and the Enterprise View of Business, Application, Information and Technology Architectures Necessary to Achieve the HSE/AHS Vision	■							
2. Modify the HSE and AHS PMOs; Define PMO, business and project staff roles and responsibilities								
2.1. Modification of the HSE PMO to align with the AHS governance structure, AHS Project Management Office and the State EP MO	■							
2.2. Define and document the HSE governance (decision-making authority and processes) and execution structures and communicate these widely	■	■	■					
2.3. Establish consistent roles and responsibilities within the HSE PMO and projects; define and document these roles and their responsibilities	■	■	■	■				
<b>Tier 2 Key Initiatives</b>								
3. Redefine the program-level QA strategy and plan; establish competencies in the identified areas	■	■	■	■				
4. Refine, codify and enforce usage of core project management capabilities, processes and tools	■	■	■	■	■	■	■	■

## Legend

■	Initiative chartered and staffed with full AHS / HSE support
■	Supporting activities continue without approved charter

## LLAP Key Initiative Prioritization and Planning (Cont'd)

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Activities that support the following key initiatives should continue, however the HSE should prioritize resources for the Tier 1 and 2 LLAP initiatives

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### Key Initiative / Task

5. Redefine requirements management methodologies and tools

6. Enhance and strengthen the vendor and contract management capabilities of the PMO

7. Define and execute a communications, training and education plan for stakeholders tailored to audiences

7.1. Develop project-specific and HSE-wide communications plans

7.2. Develop project-specific and HSE-wide training and education plans

8. Engage in periodic structured feedback cycles with Program and project stakeholders

8.1. Project teams review the BerryDunn report for applicability of their own project

8.2. Internally conduct a Lessons Learned exercise at major project milestones

8.3. Conduct a periodic Lessons Learned exercise with an independent firm

8.4. Identify and implement a HSE-level consolidated feedback and action planning cycle

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## Guiding Principles

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- In order to launch an initiative, the following needs to be in place:
  - Full staffing of the project team as identified in the initiative / task description
  - Availability of Resources required by organizational or project leadership
  - Acknowledgement and establishment of any Critical Success Factors
  - Establishment and use of effective project management methodologies in compliance with EPMO, AHS and HSE standards, and industry best practices

# Initiative: 1. Refine and Document and Widely Communicate a Comprehensive HSE / AHS Vision, Strategy and the Enterprise View of Business, Application, Information and Technology Architectures Necessary to Achieve the HSE/AHS Vision

## Task: No Subtask

### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 3. Improve requirements and scope management processes to ensure project phases are reasonable and achievable
- 10. Continue to evolve the concept of Enterprise Architecture (Business, Information/Data, Application/Integration, and Technology Infrastructure) for the Health Service Enterprise Program

### ■ **Objectives / Expected Outcomes**

- Documented definition of the AHS and HSE vision, strategy and Enterprise Architecture view, and the interaction between these in a HSE Strategy document
- Initial and ongoing communication of the HSE Strategy to stakeholders

### ■ **Work Done to Date**

- AHS department strategies (2011-15) are documented on the AHS website
- Draft visions and strategies have been socialized but have not been widely adopted or communicated
- CMS gate reviews and AHS/Commissioner Integration work

### ■ **Interactions with Other Initiatives**

- Included in the Communication Plan

### ■ **Deliverables**

- HSE strategy document that defines the vision, strategy, objectives, goals of the HSE Program. Should also include a discussion of the Business, Application, Information and Technical Architectures for the HSE, the alignment between the Program, AHS and the AHS departments
- Communication Plan for the dissemination of this document (MS Excel)
- Corresponding internal and external stakeholder presentation documents (MS PPT) and communications

### ■ **Steps**

1. Conduct interviews and/or working sessions to identify the established vision and strategy, and any additional themes to include
2. Develop and validate HSE imperatives and guiding principles
3. Develop draft HSE Vision and Strategy for review
4. Review and provide improvements to the HSE Vision and Strategy (performed by AHS executives and HSE PMO)
5. Finalize HSE Strategy and develop associated internal and external communication materials

6. Communicate HSE Strategy by AHS executives, HSE Program Director and project sponsors/leads to all HSE and AHS stakeholders via presentation and written communications (multiple sessions)
7. Incorporate outputs in to projects inflight and planned;

### ■ **Key Issues / Risks**

- This activity requires involvement and approval from AHS/HSE executives and leaders – coordinated availability and agreement will require skilled management
- Awareness, acceptance and support of this plan must happen at all levels, and with all vendors – active management of this must occur
- This work will compete for resources that will also be devoted to the HSE Project/Procurement work

### ■ **Delivery Team**

- Doug Racine – Initiative sponsor
- Stephanie Beck – Initiative Lead
- Lisa Beilstein
- Andrew Liang
- DII Representative
- Mike Maslack

### ■ **Resources Required**

- AHS and HSE leadership interviews – ½ day
- AHS and HSE leadership review and approval of deliverables – ½ day
- AHS and HSE presentations and communications – ½ day
- DII leadership for definition of App, Info and Tech Architectures – 1 day

### ■ **Critical Success Factors**

- HSE and AHS leadership must actively participate in the process and openly support / approve the deliverable
- Support of deliverable must be established at all levels of the HSE and AHS organizations – business leadership must be actively engaged to ensure this

### ■ **Timeline**

- Start: Underway
- Length: 7 Weeks for Steps 1-5

### ■ **Communication Plan Summary**

- Communication of the deliverables must be conducted by multiple levels, including AHS and HSE leadership

## Initiative: 2. Modify the HSE and AHS PMOs; Define PMO, business and project staff roles and responsibilities

### Task: 2.1. Modification of the HSE PMO to align with the AHS governance structure, AHS Project Management Office and State EPMO

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#### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 3. Improve requirements and scope management processes to ensure project phases are reasonable and achievable

#### ■ **Objectives / Expected Outcomes**

- Established and staffed revised HSE PMO to align with the AHS and HSE vision and strategies
- Clear understanding of the responsibilities of the HSE PMO, the AHS PMO and the project teams
- Use of existing State (e.g. EPMO), AHS and HSE existing tools, processes, methodologies and artifacts

#### ■ **Work Done to Date**

- Vision for future state of merged AHS/HSE PMO approved
- Appointment of Paul Pratt as the lead for Project Execution
- Vendor manager (via contract) on board
- Vendor manager (state position) position request under consideration
- HSE PMO staffing plan in development

#### ■ **Interactions with Other Initiatives**

- The structure is driven by the AHS / HSE strategy and vision, and the needs of the constituent projects

#### ■ **Deliverables**

- HSE PMO organization chart with staff identified for each position
- Identification of the division of responsibilities between roles (to be enhanced and refined in Task 2.2)
- Transition Plan from current PMO structure to future PMO structure
- Staffing Plan for future PMO
- Corresponding internal and external stakeholder presentation documents (MS PPT) and communications

#### ■ **Steps**

1. Through interviews and/or working sessions, identify key imperatives and goals / objectives of the HSE PMO
2. Review existing structures of the HSE PMO including identification of successes and improvement opportunities
3. Develop and seek approval of the HSE PMO organization and responsibility structures

4. Define Staffing Plan and Transition Plan for existing to future HSE PMO
5. Communicate planned HSE PMO structures and Transition Plan
6. Implement and staff the future HSE PMO
7. Incorporation of outputs to projects inflight and planned, and organizations

#### ■ **Key Issues / Risks**

- The transition from the current to future PMO structures must not detract from the existing project activities
- Awareness, acceptance and support of this plan must happen at all levels, and with all vendors – active management of this must occur

#### ■ **Delivery Team**

- Doug Racine – Initiative sponsor
- Stephanie Beck – Initiative Lead

#### ■ **Resources Required**

- AHS executive and HSE leadership interviews – ½ day
- AHS and HSE leadership review and approval of deliverables – ½ day
- AHS and HSE presentations and communications – ½ day

#### ■ **Critical Success Factors**

- Clearly defined organizational structures must be established, communicated and staffed to effectively make the transition to the future PMO structures

#### ■ **Timeline**

- Start: Underway
- Length: 6 Weeks for Steps 1-5

#### ■ **Communication Plan Summary**

- Communication of the Transition Plan prior to the transition is necessary

## Initiative: 2. Modify the HSE and AHS PMOs; Define PMO, Business and Project Staff Roles and Responsibilities

### Task: 2.2. Define and Document the HSE Governance (decision-making authority and processes) and Execution Structures and Communicate These Widely

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#### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 4. Proactively evaluate and modify the governance structure on large projects when necessary
- 5. Document roles and responsibilities for project positions, make them transparent, and articulate them to project stakeholders
- 6. Improve the visibility and transparency of decisions and, where appropriate, involve key stakeholders in effective decision making
- 7. Improve project communication vehicles and processes
- 9. Communicate project health to all stakeholders regularly and engage executive leadership appropriately to inform them on project challenges

#### ■ **Objectives / Expected Outcomes**

- HSE and AHS governance structures and processes are clearly defined, documented and communicated to all stakeholders
- Stakeholders can clearly discern who can make what decisions
- Decisions are consistently made by the appropriate individual, in a timely manner, and are not revisited

#### ■ **Work Done to Date**

- Strengthening of the Governance and decision making for the HSE Program to ensure more effective management, coordination and risk mitigation of the projects under the program including modification of the HSE organizational governance structure including:
  - Appointment of a permanent HSE Program Director
  - BD report distributed and discussed with AHS Commissioners and Integrated Operations & Policy Team (IOPT)
  - HSE updates are regular agenda item for AHS Commissioners and IOPT
  - Leveraging AHS Governance structure and alignment of AHS and HSE Governance
  - Refined ESC & OSC agendas are under development
- Development of the HSE Newsletter

#### ■ **Interactions with Other Initiatives**

- Defined governance included in all project management processes and Plans
- Clear roles & responsibilities include decision authority established in governance

#### ■ **Deliverables**

- HSE and AHS organizational charts, and interactions / overlap between them
- HSE Governance Plan that defines decision-making processes and responsibilities for governance, planning and execution

#### ■ **Steps**

1. Discovery and identification of established State of Vermont governance and authority models
2. Analysis of the existing governance structures' strengths, deficiencies and inconsistencies across the HSE
3. Definition of a HSE Charter and Governance Plan for review and approval by HSE leadership
4. Communication and implementation of the Charter and Plan
5. Incorporation of outputs to projects in-flight and planned, and organizations

#### ■ **Key Issues / Risks**

- Risk: Existing governance or decision authority conflicts with clear delineation of roles within HSE program
- Risk: Stakeholder disagreement with governance structure

#### ■ **Delivery Team**

- Stephanie Beck – Initiative Sponsor and Lead
- Paul Pratt
- Mike Maslack

#### ■ **Resources Required**

- TBD

#### ■ **Critical Success Factors**

- There will necessarily be conflict between the visions and strategies based on multiple organizations (e.g. AHS, HSE, DII) – effective conflict resolution must be established to effectively and efficiently address any conflicts that arise
- Initiative teams must work with projects in-flight to incorporate outcomes of this initiative

#### ■ **Timeline**

- Start: Immediately
- Duration: 3 weeks to the communication of the Charter

#### ■ **Communication Plan Summary**

- Communication must come from AHS executive with participation of HSE Program Director
- Additional verbal and written communications must come from the HSE Program Director, each project business lead, and each AHS division Deputy Commissioner

## Initiative: 2. Modify the HSE and AHS PMOs; Define PMO, Business and Project Staff Roles and Responsibilities

### Task: 2.3. Establish Consistent Roles and Responsibilities within the HSE PMO and Projects; Define and Document these Roles and Their Responsibilities

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#### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 4. Proactively evaluate and modify the governance structure on large projects when necessary
- 5. Document roles and responsibilities for project positions, make them transparent, and articulate them to project stakeholders
- 6. Improve the visibility and transparency of decisions and, where appropriate, involve key stakeholders in effective decision making
- 7. Improve project communication vehicles and processes
- 9. Communicate project health to all stakeholders regularly and engage executive leadership appropriately to inform them on project challenges

#### ■ **Objectives / Expected Outcomes**

- HSE PMO and project roles and responsibilities are clearly defined, documented and communicated to all stakeholders

#### ■ **Work Done to Date**

- Strengthening of the staffing of the PMO and redefinition of PMO roles

#### ■ **Interactions with Other Initiatives**

- This must be included in the Communication Plan
- Roles and responsibilities used as an input to all project management plans and processes
- Governance initiative directly tied to roles and responsibilities

#### ■ **Deliverables**

- Roles and Responsibilities Document with each Key Program and Project Position defined
- Documented process and policies for defining and assigning decision authority and responsibilities for each phase of each new project

#### ■ **Steps**

1. Discovery of existing role titles and responsibility descriptions and personnel filling those roles through document discovery and interviews of project / program leaders and sponsors
2. Analysis and consolidation of role definitions for consistency across the Program

3. Definition and documentation of project and program roles that meet program and project needs, are consistent with industry best practices, and are aligned with State position descriptions
4. Development of policies and procedures to identify and monitor execution of project level decision rights and responsibilities
5. Incorporation of outputs to projects in flight and planned, and organizations

#### ■ **Key Issues / Risks**

- Risk: Difficulty in staffing teams requires a wide range of responsibilities across the program. Consistency of roles is lost

#### ■ **Delivery Team**

- Stephanie Beck – Initiative Sponsor and Lead
- Paul Pratt
- HSE Project Managers

#### ■ **Resources Required**

- Project leadership – 2 hours for document sharing and interviews; ½ - 1 day for application of recommendations to project
- State and Desai Project Managers – ½ - 1 day to revise project PM documentation
- HSE PMO / AHS PMO Staff- ½-1 day for documentation updates and application of recommendations to organization

#### ■ **Critical Success Factors**

- TBD

#### ■ **Timeline**

- Start: Upon completion of Task 2.2
- Duration: 3 weeks for steps 1-4; delivery of both deliverables

#### ■ **Communication Plan Summary**

- Communication of the deliverables must be conducted by multiple levels, including AHS and HSE leadership and all project stakeholders
- Each communication must include applicability of the roles and responsibilities to that organization / project

## Initiative: 3. Redefine the Program-level QA Strategy and Plan; Establish Competencies in the Identified Areas

### Task: No Subtask

#### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 3. Improve requirements and scope management processes to ensure project phases are reasonable and achievable
- 4. Proactively evaluate and modify the governance structure on large projects when necessary
- 9. Communicate project health to all stakeholders regularly and engage executive leadership appropriately to inform them on project challenges

#### ■ **Objectives / Expected Outcomes**

- Documented HSE-wide QA methodologies, tools, processes and roles and responsibilities
- Awareness and adoption of the HSE-level QA processes, tools and methodologies in project work by project teams and partner vendors
- Alignment of the HSE QA Strategy with State and Federal requirements

#### ■ **Work Done to Date**

- Gartner has provided an HSE Quality Management Plan to structure project oversight
- Gartner has been engaged to enhance and clarify all IV&V and QA roles and responsibilities into an HSE-level QA competency

#### ■ **Interactions with Other Initiatives**

- Included in Orientation and Staff Development Plan
- Included in development of program Roles & Responsibilities

#### ■ **Deliverables**

- Update to the HSE Quality Management Plan
- Complete list and definition of HSE QA artifacts

#### ■ **Steps**

1. Evaluate the process, artifacts, teams / vendors that are currently in place for applicability and effectiveness for HSE-level quality assurance
2. Interview individually or in groups those stakeholders identified to participate in crafting the HSE QA approach
3. Develop consistent HSE QA tools, processes and methodologies for the program and constituent projects, along with a HSE QA Plan that connects each of these
4. Solicit feedback and approval from HSE leadership
5. Submit final revised Quality Management Plan

6. Communicate plan and associated artifacts to project team and HSE stakeholders

#### ■ **Key Issues / Risks**

- Risk: As with all HSE-level initiatives, if the plan does not reflect the needs of the HSE and the uniqueness of the projects, the plan will not be adopted by project teams

#### ■ **Delivery Team**

- Paul Pratt – Initiative Sponsor and Lead
- Michael Hall
- Mike Leitch

#### ■ **Resources Required**

- Project and HSE leadership – interviews, reviews and communication of support of the outcomes to project teams
- State and Desai project managers and business leads – interviews, understanding and implementation of HSE QA processes and tools

#### ■ **Critical Success Factors**

- Project leadership and management staff must understand, adopt and support the overall QA approach as a critical piece of the success of the HSE

#### ■ **Timeline**

- Start: Immediately
- Duration: 8 weeks for delivery of final deliverable; Steps 1-5

#### ■ **Communication Plan Summary**

- HSE Program Director and Execution lead must communicate the QA plan to the HSE stakeholders
- Project business leads must communicate the plan as it applied to that project

## Initiative: 4. Refine, Codify and Enforce Usage of Core Project Management Capabilities, Processes and Tools

### Task: No Subtask

#### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 3. Improve requirements and scope management processes to ensure project phases are reasonable and achievable
- 4. Proactively evaluate and modify the governance structure on large projects when necessary
- 5. Document roles and responsibilities for project positions, make them transparent, and articulate them to project stakeholders.
- 6. Improve the visibility and transparency of decisions and, where appropriate, involve key stakeholders in effective decision making
- 8. Continue to seek ways to improve vendor contract management
- 9. Communicate project health to all stakeholders regularly and engage executive leadership appropriately to inform them on project challenges

#### ■ **Objectives / Expected Outcomes**

- Documented project management tools and methodologies to be used consistent across the HSE
- Agreement of project teams to use these methodologies and tools
- Demonstrated usage of these tools and methodologies by project teams

#### ■ **Work Done to Date**

- Project management artifacts have been developed for projects already, though their applicability and usage has been variable across projects

#### ■ **Interactions with Other Initiatives**

- Modify the HSE and AHS PMOs; Define PMO, business and project staff roles and responsibilities
- Enhance and strength the vendor and contract management capabilities of the PMO
- Redefine requirements management methodologies and tools
- Redefine the program-level QA strategy and plan; establish competencies in the identified areas
- Define and execute a communications, training and education plan for stakeholders tailored to audiences

#### ■ **Deliverables**

- HSE-wide and project-specific Project Management Plans including: Project Charter, Schedule, Risk and Issues Logs, Decision Logs, Budget Management Tool, Status Reporting Plan, Change Management process, and other project management tools and templates

#### ■ **Steps**

1. Discovery of all project and program management tools that are in place
2. Analysis of the usage, applicability and compliance with State and HSE standards, and best practices
3. Development of Program-level tools and artifacts that are to be consistently used across projects, and those that will be used at a Program level
4. Allocation of required licenses and tool availability
5. Transition of projects to use the PMO-defined tools

#### ■ **Key Issues / Risks**

- Risk: If all projects do not consistently use PMO-specified tools, HSE stakeholders cannot effectively measure and manage the progress and health of the HSE as a whole
- Risk: If the tools do not balance HSE-level needs with the uniqueness of the projects, the tools will not be adopted, resulting in inaccurate program metrics or duplicative work by project teams
- Risk: Project may be too far along for this work to be meaningful

#### ■ **Delivery Team**

- Paul Pratt – Initiative Sponsor and Lead
- Vijay Desai

#### ■ **Resources Required**

- All project managers (discovery, development and adoption of tools and methodologies)
- HSE Program Director – Approval, communication and enforcement of the usage of the methodologies and tools
- Other State of Vermont PMO teams – discovery of standard toolset and processes

#### ■ **Critical Success Factors**

- Business stakeholders must abide by and contribute to the project management tools and methodologies to increase the likelihood of success of projects
- Project managers must show fidelity to tools and methodologies and reinforce usage of these throughout project lifecycle

#### ■ **Timeline**

- Start: Immediately
- Duration: 4 weeks for delivery of final deliverable; Steps 1-4

#### ■ **Communication Plan Summary**

- PMO and project managers must communicate tools and methodologies to business and technical teams
- Project Management methods and tools included in Orientation and Staff Development Plan – on-boarding

# Initiative: 5. Redefine Requirements Management Methodologies and Tools

## Task: No Subtask

### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 3. Improve requirements and scope management processes to ensure project phases are reasonable and achievable
- 5. Document roles and responsibilities for project positions, make them transparent, and articulate them to project stakeholders
- 6. Improve the visibility and transparency of decisions and, where appropriate, involve key stakeholders in effective decision making.
- 7. Improve project communication vehicles and processes

### ■ **Objectives / Expected Outcomes**

- Identification of standards for Requirements Management
- Project teams and stakeholders trained on Requirements Management process
- Consistent use of standard Requirements Management tools and methodologies by project teams

### ■ **Work Done to Date**

- Standard tools and processes exist at various State PMO organization but are not consistently applied
- Training being developed and delivered to HSE teams on requirements management

### ■ **Interactions with Other Initiatives**

- Redefine the program-level QA strategy and plan; establish competencies in the identified areas
- Define and execute a communications, training and education plan for stakeholders tailored to audiences
- Refine, codify and enforce usage of core project management capabilities, processes and tools

### ■ **Deliverables**

- HSE Requirements Management methodology and standard toolset
- Training Plan – current teams (business and IT) and on-boarding

### ■ **Steps**

1. Discovery of all project and Program tools that are in place
2. Analysis of the usage, applicability and compliance with State and HSE Requirements Management standards, and best practices
3. Development of Program-level tools and artifacts that are to be consistently used across projects, and those that will be used at a Program level

4. Training of current teams and development of on-boarding materials
5. Transition of projects to standard Requirements Management tools and methodology

### ■ **Key Issues / Risks**

- Risk: Difficult or cumbersome processes lead to stakeholder resistance
- Risk: Tools and processes are too difficult to integrate with existing State or vendor toolset, leading to duplicate effort
- Risk: Tool cost prohibitive – continued use of varied and ineffective processes
- Risk: Project are too far along for a change in Requirements Management to have a meaningful impact

### ■ **Delivery Team**

- Paul Pratt – Initiative Sponsor and Lead
- Vijay Desai
- DII Representative

### ■ **Resources Required**

- All project managers (discovery, development and adoption of tools and methodologies)
- HSE Program Director – Approval, communication and enforcement of the usage of the methodologies and tools

### ■ **Critical Success Factors**

- Business and technology team member participation in tool selection
- Methodology and tools support current State Requirements Management processes
- Methodology and tools are largely industry-standard and easily adoptable and supported by vendors

### ■ **Timeline**

- Start: Immediately
- Duration: 4 weeks for steps 1-4; delivery of formal deliverables

### ■ **Communication Plan Summary**

- Methodology and tools to be included in overall project management methodology documentation
- Process and tool use instruction must be included in on-boarding process for both business and technology team members
- Methodology and tool selection communicated and reinforced in communications to the project team by the Program Director

## Initiative: 6. Enhance and Strengthen the Vendor and Contract Management Capabilities of the PMO

### Task: No Subtask

#### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 4. Proactively evaluate and modify the governance structure on large projects when necessary
- 5. Document roles and responsibilities for project positions, make them transparent, and articulate them to project stakeholders
- 8. Continue to seek ways to improve vendor contract management

#### ■ **Objectives / Expected Outcomes**

- Identification of processes and mechanisms for conducting Vendor and Contract Management
- Clear delineation of roles and responsibilities for key PMO positions
- Training / orientation of key stakeholders

#### ■ **Work Done to Date**

- Vendor manager (contract) have been identified or hired for primary vendors
- Gartner has been engaged to provide recommendations for enhanced vendor and contract management

#### ■ **Interactions with Other Initiatives**

- Aligned with governance and decision-making clarification
- PMO re-alignment and role definition
- Refine, codify and enforce usage of core project management capabilities, processes and tools will support vendor management processes

#### ■ **Deliverables**

- Vendor Management Plan with processes, mechanisms, tools and training material for the HSE

#### ■ **Steps**

1. Discovery and identification of existing Vendor and Contract Management teams, tools, processes and artifacts, including identification of Vendor Managers for each vendor
2. Analysis of the strengths, deficiencies and inconsistency of the current state across the HSE
3. Development of Vendor Management Plan for review and approval by HSE leadership

4. Training / orientation of the Plan to key stakeholders

5. Implementation of the Plan by Vendor Managers

#### ■ **Key Issues / Risks**

- Risk: Lack of clarity on vendor management responsibilities creates confusion and hinders effective execution

#### ■ **Delivery Team**

- Stephanie Beck – Initiative Sponsor
- TBD – DVHA Initiative Lead
- TBD – DCF Initiative Lead
- Mike Leitch
- Lisbeth Kokx

#### ■ **Resources Required**

- Current vendor managers and key stakeholders – ½ day for discovery interviews and review of Plan; ½ day of training / orientation to the Plan
- HSE Leadership – 2 hours for review and approval of Plan, communication of Plan to stakeholders

#### ■ **Critical Success Factors**

- TBD

#### ■ **Timeline**

- Start: Immediately
- Duration: 6 weeks for delivery of final deliverable; steps 1-4

#### ■ **Communication Plan Summary**

- Vendor and Contract Management included in Orientation and Staff Development Plan
- Project Business Leads communicate vendor management to project teams

## Initiative: 7. Define and Execute a Communications, Orientation and Staff Development Plan for Stakeholders Tailored to Audiences

### Task: 7.1. Develop Project-specific and HSE-wide Communications Plans

#### ■ **BD Recommendations Being Addressed**

- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 4. Proactively evaluate and modify the governance structure on large projects when necessary
- 6. Improve the visibility and transparency of decisions and, where appropriate, involve key stakeholders in effective decision making
- 7. Improve project communication vehicles and processes
- 9. Communicate project health to all stakeholders regularly and engage executive leadership appropriately to inform them on project challenges
- 10. Continue to evolve the concept of Enterprise Architecture (Business, Information/Data, Application/Integration, and Technology Infrastructure) for the Health Service Enterprise Program

#### ■ **Objectives / Expected Outcomes**

- All stakeholders and stakeholder groups identified
- All primary methods of communication within the HSE (including within project teams), and from the HSE to other entities, documented
- HSE stakeholders adopt and comply with the Communications Plan

#### ■ **Work Done to Date**

- Communication plans have been developed for projects already, though their applicability and usage have not been effective
- OSC Working Group has begun Stakeholder Identification & creating/documenting Current State Communication Forums (includes Channel, Audience, Purpose and Frequency)

#### ■ **Interactions with Other Initiatives**

- This initiative is interrelated with all other initiatives in this Action Plan

#### ■ **Deliverables**

- EPMO and PMI-compliant HSE-wide Communications Plan including: Stakeholder Register, Stakeholder Management Strategy, Communications Management Plan

#### ■ **Steps**

1. Identify stakeholders across the HSE projects
2. Conduct Stakeholder analysis to determine stakeholder needs (ie inform, consult, collaborate, orient/develop)
3. Create inventory of current state communication forums (ie channel, audience, purpose, frequency)
4. Gather HSE / AHS project communication plans
5. Identify and address gaps between current state and future state

6. Develop HSE communication plan process including approval loop (who, what, how)
7. Finalize and approve Communication Plan (with identification of approvers)
8. Communicate to stakeholders
9. Incorporation of outputs to projects inflight and planned, and organizations

#### ■ **Key Issues / Risks**

- All project teams have developed communication styles with stakeholders; the Plan must consider these, and the teams must be willing to review and revise their current methods for this Plan to be effective
- Resistor Contingency Planning in the execution of this work.
- Staffing of PMO OCM requirements that would be fully committed to executing this activity
- Define crisp communication approver loop with clear roles/responsibilities and turn around times

#### ■ **Delivery Team**

- Stephanie Beck – Initiative Sponsor
- Lisa Beilstein – Initiative Lead
- OCM staff working with OCM Working Group and Scott McCarty, plus Emily Yahr and Scott Coriell for communication approvers

#### ■ **Resources Required**

- Project PMs (1 day each to update/develop project communications plans)
- Project business leads / sponsors (2 hours each to review, approve and communicate communications plans to project teams)
- On going approver commitment and support

#### ■ **Critical Success Factors**

- Project-level plans will necessarily require unique communications styles. The initiative team must balance Program consistency with project uniqueness to establish an effective Plan

#### ■ **Timeline**

- Start: TBD
- Duration: 4 weeks for delivery of final deliverable; Steps 1-7

#### ■ **Communication Plan Summary**

- The Communications Plan must be communicated to all HSE stakeholders initially and periodically
- Additional project-specific communications about this plan need to be communicated by the project sponsor / business lead

## **Initiative:** 7. Define and execute a communications, orientation and staff development plan for stakeholders tailored to audiences

### **Task:** 7.2. Develop project-specific and HSE-wide orientation and staff development plans

---

#### ■ **BD Recommendations Being Addressed**

- 1. Refine and document and widely communicate a comprehensive HSE / AHS Vision, Strategy and Enterprise Architecture
- 2. Continue to improve processes that identify, recognize, and plan for project constraints
- 7. Improve project communication vehicles and processes

#### ■ **Objectives / Expected Outcomes**

- All stakeholders and stakeholder groups identified and orientation and staff development needs analyzed
- Orientation and Staff Development Plan and materials developed
- Delivery Plan – including ongoing orientation of new team members – developed and approved

#### ■ **Work Done to Date**

- Communication plans have been developed for projects already, though their application has not been consistent
- OSC Working Group has begun Stakeholder Identification & creating/documenting Current State Communication Forums (includes Channel, Audience, Purpose and Frequency)

#### ■ **Interactions with Other Initiatives**

- Stakeholder analysis included in development of program Communications Plan
- Orientation materials dependent on approval of Enterprise Strategy (Initiative 1)

#### ■ **Deliverables**

- Orientation and Staff Development Plan specifically tailored for each stakeholder group – approved and included in on-boarding process
- Detailed plan for delivery of orientation program

#### ■ **Steps**

1. Develop orientation and development curriculum based on Enterprise Strategy
2. Identify stakeholders across HSE
3. Conduct Stakeholder analysis to determine appropriate delivery method and content of orientation and staff development
4. Develop presentation materials based of stakeholder group needs
5. Develop and deliver Orientation and Staff Development Plan – including on-boarding process
6. Communicate Plan to stakeholders
7. Incorporation of outputs to projects inflight and planned, and organizations

#### ■ **Key Issues / Risks**

- Risk: This initiative is dependent on successful execution of the Enterprise Strategy and Communications Plan

#### ■ **Delivery Team**

- Stephanie Beck – Initiative Sponsor
- Lisa Beilstein – Initiative Lead

#### ■ **Resources Required**

- TBD

#### ■ **Critical Success Factors**

- Plan

#### ■ **Timeline**

- Start: TBD
- Duration: 4 weeks for delivery of final deliverable; Steps 1-5

#### ■ **Communication Plan Summary**

- TBD

## Initiative: 8. Engage in Periodic Structured Feedback Cycles with Program and Project Stakeholders

### Task: 8.1. HSE Stakeholders Evaluate BerryDunn Report in Business and Project Contexts

---

#### ■ **BD Recommendations Being Addressed**

- 1. Utilize the results of the Lessons Learned exercise to institute impactful changes moving forward.
- 2. Continue to improve processes that identify, recognize, and plan for project constraints.
- 4. Proactively evaluate and modify the governance structure on large projects when necessary

#### ■ **Objectives / Expected Outcomes**

- Identified relevance of the BD document to organizations and projects
- Acknowledgement of business and project teams of the recommendations made by BerryDunn with clear descriptions of what they will do differently based on the BD exercise
- Embody the culture of continuous improvement within the HSE

#### ■ **Work Done to Date**

- BD report has been presented and provided to AHS, project and program stakeholders

#### ■ **Interactions with Other Initiatives**

- TBD

#### ■ **Deliverables**

- Materials for facilitated sessions
- Facilitated Lessons Learned sessions
- Sessions outcomes document - sections for each HSE project with identified project and program improvement opportunities

#### ■ **Steps**

1. TBD

#### ■ **Key Issues / Risks**

- Task requires additional time of stakeholder and project manager time that is already constrained

#### ■ **Delivery Team**

- TBD

#### ■ **Resources Required**

- PMs – preparation for facilitated session (1/2 day)
- Business stakeholders and PMs – facilitated session by PMs (2 hours)
- PMs – Documentation and follow-up (1/2 day)

#### ■ **Critical Success Factors**

- AHS management and project Business Leads must enable stakeholders to participate in this exercise
- Stakeholders must be provided multiple communication channels that allow for open and honest feedback

#### ■ **Timeline**

- Start: TBD
- Duration: TBD

#### ■ **Communication Plan Summary**

- TBD

## **Initiative: 8.** Engage in periodic structured feedback cycles with Program and project stakeholders

### **Task: 8.2.** Internally conduct a Lessons Learned exercise at major project milestones

---

#### ■ **BD Recommendations Being Addressed**

- 1. Utilize the results of the Lessons Learned exercise to institute impactful changes moving forward.
- 2. Continue to improve processes that identify, recognize, and plan for project constraints.
- 4. Proactively evaluate and modify the governance structure on large projects when necessary

#### ■ **Objectives / Expected Outcomes**

- Document current strengths and deficiencies of the project, and changes from previous similar exercises
- Solicit feedback from project and program stakeholders that can be used to improve project effectiveness and program successes while providing input to other HSE and State projects
- Embody the culture of continuous improvement within the HSE

#### ■ **Work Done to Date**

- The BerryDunn exercise is an example of the exercise that could be completed at each project phase gate

#### ■ **Interactions with Other Initiatives**

- TBD

#### ■ **Deliverables**

- Materials for facilitated sessions
- Facilitated Lessons Learned sessions
- Sessions outcomes document - sections for each HSE project with identified project and program improvement opportunities

#### ■ **Steps**

1. TBD

#### ■ **Key Issues / Risks**

- TBD

#### ■ **Delivery Team**

- TBD

#### ■ **Resources Required**

- PMs – preparation for facilitated session (1/2 day)
- Business stakeholders and PMs – facilitated session by PMs (2 hours)
- PMs – Documentation and follow-up (1/2 day)

#### ■ **Critical Success Factors**

- Project Business Leads must enable stakeholders to participate in this exercise
- Stakeholders must be provided multiple communication channels that allow for open and honest feedback

#### ■ **Timeline**

- Start: TBD
- Duration: TBD

#### ■ **Communication Plan Summary**

- TBD

## Initiative: 8. Engage in periodic structured feedback cycles with Program and project stakeholders

### Task: 8.3. Conduct a periodic Lessons Learned exercise with an independent firm

#### ■ **BD Recommendations Being Addressed**

- 1. Utilize the results of the Lessons Learned exercise to institute impactful changes moving forward.
- 2. Continue to improve processes that identify, recognize, and plan for project constraints.
- 4. Proactively evaluate and modify the governance structure on large projects when necessary

#### ■ **Objectives / Expected Outcomes**

- Document current strengths and deficiencies of the project analyzed, and changes from previous similar exercises
- Solicit feedback from project and program stakeholders that can be used to improve project effectiveness and program successes while providing input to other HSE and State projects
- Embody the culture of continuous improvement within the HSE

#### ■ **Work Done to Date**

- Commissioning of the BerryDunn Independent Assessment of Lessons Learned from the VHC Release 1 implementation
- Development of an action plan for immediately incorporating these lessons learned and the independent recommendations into our ongoing efforts.

#### ■ **Interactions with Other Initiatives**

- TBD

#### ■ **Deliverables**

- Materials for facilitated sessions
- Facilitated Lessons Learned sessions
- Sessions outcomes document - sections for each HSE project with identified project and program improvement opportunities

#### ■ **Steps**

1. TBD

#### ■ **Key Issues / Risks**

- TBD

#### ■ **Delivery Team**

- TBD

#### ■ **Resources Required**

- PMs – preparation for facilitated session (1/2 day)
- Business stakeholders and PMs – facilitated session by PMs (2 hours)
- PMs – Documentation and follow-up (1/2 day)

#### ■ **Critical Success Factors**

- Project Business Leads must enable stakeholders to participate in this exercise
- Stakeholders must be provided multiple communication channels that allow for open and honest feedback

#### ■ **Timeline**

- Start: TBD
- Duration: TBD

#### ■ **Communication Plan Summary**

- TBD

## **Initiative: 8.** Engage in periodic structured feedback cycles with Program and project stakeholders

### **Task: 8.4.** Identify and implement a HSE-level consolidated feedback and action planning cycle

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#### ■ **BD Recommendations Being Addressed**

- 1. Utilize the results of the Lessons Learned exercise to institute impactful changes moving forward.
- 2. Continue to improve processes that identify, recognize, and plan for project constraints.
- 4. Proactively evaluate and modify the governance structure on large projects when necessary

#### ■ **Objectives / Expected Outcomes**

- Establish a comprehensive feedback cycle for the HSE that incorporates and aligns the different sources and styles of feedback
- Embody the culture of continuous improvement within the HSE

#### ■ **Work Done to Date**

- Commissioning of the BerryDunn Independent Assessment of Lessons Learned from the VHC Release 1 implementation
- Development of an action plan for immediately incorporating these lessons learned and the independent recommendations into our ongoing efforts.

#### ■ **Interactions with Other Initiatives**

- TBD

#### ■ **Deliverables**

- Materials for facilitated sessions
- Facilitated Lessons Learned sessions
- Sessions outcomes document - sections for each HSE project with identified project and program improvement opportunities

#### ■ **Steps**

1. TBD

#### ■ **Key Issues / Risks**

- TBD

#### ■ **Delivery Team**

- TBD

#### ■ **Resources Required**

- TBD

#### ■ **Critical Success Factors**

- TBD

#### ■ **Timeline**

- Start: TBD
- Duration: TBD

#### ■ **Communication Plan Summary**

- TBD



## Vermont Health Services Enterprise Program

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Vermont Health Connect Project – Testing Approach Review and Site Visit Observations

August 1, 2014



# Testing Approach Review and CGI Test Site Visit Report

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## Introduction

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**GARTNER CONSULTING**

Engagement: 330007970

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# CGI Testing Approach Review and Site Visit Report

## Purpose of the Report

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- State of Vermont VHC project leadership and AHS senior management are concerned with the excessive number of defects found in the Production environment with each incremental release (Package of functionality within a major Release) of the application
- Therefore, they requested for Gartner to conduct a high level review of issues and key contributors to the current situation
- The following report presents a high level review of Gartner's findings along with recommendations for mitigation actions for consideration by the State and project leadership

# CGI Testing Approach Review and Site Visit Report

## Approach

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- At the request of the State of Vermont, Gartner visited the CGI testing team at their location in Belton, TX on 7/1/14 with the purpose of:
  - Observing live testing
  - Enhancing Gartner understanding of the practices and processes being followed for testing the VHC system
  - Evaluating the testing process against both the approved Test Plan and industry best practice
- Although the site visit requested by Gartner was understood by CGI, date confirmed by CGI and assurances were provided that VT performance testing would be happening at the time of the TX site visit, on the day of the site visit no testing was actually occurring
- Gartner was limited in its ability to conduct a thorough onsite review and thus, a review was conducted of earlier-executed test documentation, including videos of test case steps. This was not an optimal experience for the investment of resources as assumed for on-site testing review
- The Gartner team did, though, conduct reviews of available information which is presented in this report



## Executive Summary

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**GARTNER CONSULTING**

Engagement: 330007970

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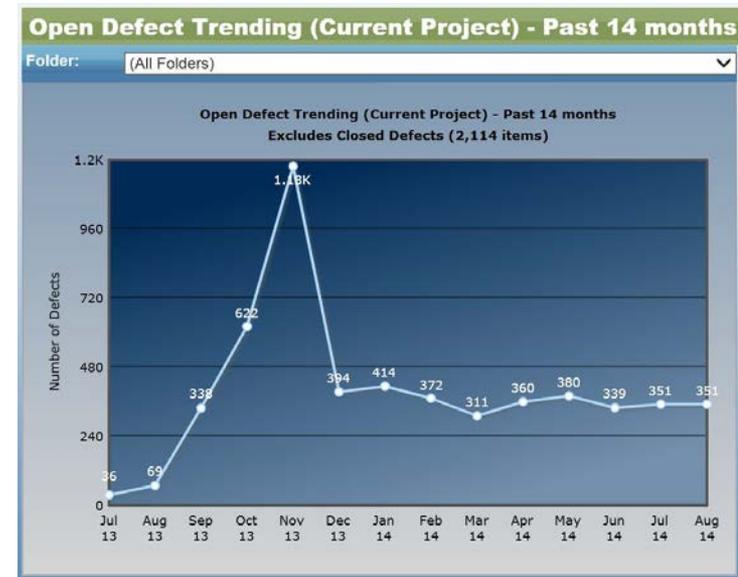
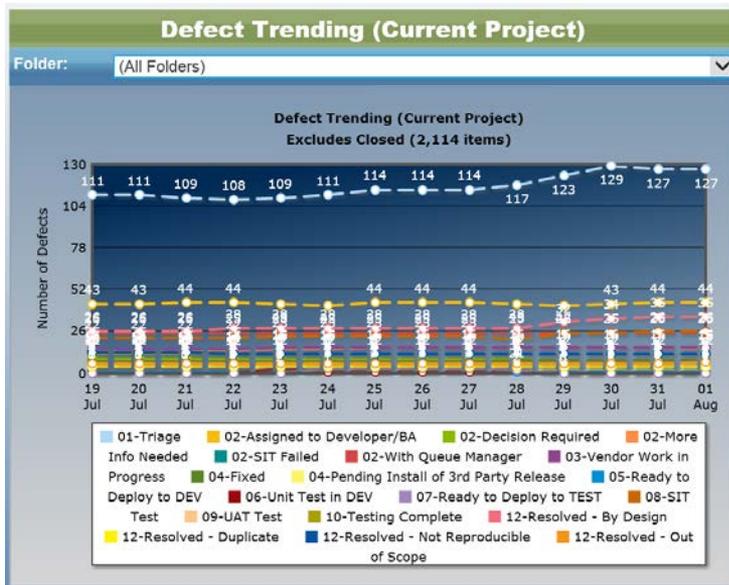
# CGI Testing Approach Review and Site Visit Report

## Executive Summary

- Gartner's review of the VHC testing lifecycle and the site visit, confirmed that there are a number of significant issues with the current VHC testing approach
- The graphic to the right demonstrates that there are over 40 high severity defects after completion of UAT activities for the latest planned deployment of Package 2 of Release 2, after a number of requirements have been removed or excluded from the package

Exhibit 35: UAT Defect Summary

Classification	Number Submitted	Number Corrected	Number Open
Defect			
▪ Sev – 1	15	8	7
▪ Sev – 2	50	14	36
▪ Sev – 3	21	4	17
▪ Sev – 4	1	0	1
<b>Total</b>	<b>87</b>	<b>26</b>	<b>61</b>



# CGI Testing Approach Review and Site Visit Report

## Executive Summary, Cont'd

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- Key gaps in the current testing process were identified:
  - Testing lifecycle entry and exit conditions / criteria are not formalized or consistently enforced
  - There appeared to be a significant lack of full end-to-end testing
  - Inability to refresh data and manipulate system dates in support of “real-life” testing of the system
  - Lack of update or maintenance of the approved Test Plan
  - Test case data setup, the lack of end-to-end test scenarios, and defect remediation and re-test happening simultaneously in the environment add significant complexity to the State’s efforts to manage an effective User Acceptance Test

# CGI Testing Approach Review and Site Visit Report

## Executive Summary, Cont'd

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### ■ Key Recommendations include:

1. Formalize, enforce and monitor the use of entry and exit criteria for each stage in testing lifecycle. The entry and exit criteria documented in the test plan (refer to Appendix A, Page 27 & 28) should serve as an appropriate starting point
2. Due to the integration complexity of the VHC solution, full end-to-end testing of in-scope functionality MUST be completed by the vendor prior to UAT and release acceptance
3. Introduce process focused application development quality metrics with associated incentives and penalties that encourage identification and remediation of defects in earlier stages of testing lifecycle (e.g. Defect Removal Ratio – see Appendix B, Page 33 for candidate measures)
4. Consider the use of Third Party Testing Service providers for later stages of the testing lifecycle (e.g. Load and Stress, Security, User Acceptance Testing, etc.) if the current testing process with CGI can not be substantially enhanced, or alternatively, use specialized testing services providers to validate the development and test efforts of CGI. These testing services can extend from revalidating the test effort of CGI from an end-to-end perspective to determining test process, planning, cases and scenarios and determining how to test, after which CGI would test (see Appendix C, Page 49 for Candidate Testing Services Providers)
5. Require update and upkeep of the Test Plan, including all test phases, and definition of an approach to test data management, including data refresh and system date manipulation
6. Develop an industry best practice approach, and highly-disciplined and appropriately staffed User Acceptance Testing methodology and environment



## Site Visit Observations

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# Testing Site Visit Report

## Purpose and Process of the Site Visit

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- At the request of the State of Vermont, Gartner visited the CGI testing team at their location in Belton, TX on 7/1/14
- The purpose of the onsite visit was to observe live testing, enhance Gartner's understanding of the practices and processes being followed for testing the VHC system are aligned with industry standards and to support evaluating the testing process against both the approved Test Plan and industry best practices
- Although the site visit requested by Gartner, was understood by CGI, date confirmed by CGI and assurances were provided that VT performance testing would be happening at the time of the TX site visit, on the day of the site visit no testing was actually occurring
- Gartner conducted meetings with the vendor test team, reviewed test process documentation and tools and test result documentation. In addition, Gartner viewed video documentation of the testing process
- The participants in the onsite day meetings:

Name	Company
Stan Hunt	CGI
Graham Dale	CGI
Norm Veit	CGI
Holly Walden	CGI
Michael Johnson (remote)	CGI
Siva Pochimcherla	Gartner
Michael Leitch (remote)	Gartner

# Testing Site Visit Report

## Test Management and Reporting Observations

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**What We Looked For:** The existence of a comprehensive Test Plan, reviewed and approved by the State, and detailing the methodology used for each test phase, to guide the testing process. Testing progress and results should be reported, and defect remediation completed according to the Test Plan.

### Key Findings

- Testing activities are managed through a Defect Review Board (DRB) and include:
  - Daily meetings between CGI and the State team where all defects are reviewed
  - CGI presents defects to the State of Vermont team during the DRB for agreement on severity and priority
    - CGI reports that at times there has been some disagreement on assignment of defect severity
    - Escalation procedures are followed when disagreement remains after the DRB
- Reporting on test status and results is done through the Application Lifecycle Management tool (ALM).
  - All metrics reported by CGI are extracted out of ALM
  - CGI reports that the State has access to everything in ALM, though they believe that Justin Tease is the primary tool user from the State and that not everyone monitors ALM
    - Metrics available to the State in ALM include:

- Total Tests Conducted	- Tests in Progress	- Tests Passed
- Tests Failed	- Tests Blocked	- Current Pass Rate Target

## Testing Site Visit Report

### Test Management and Reporting Observations, Cont'd

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#### Key Findings (cont'd)

- Test Reports (CGI deliverable D-29) are provided at the end of test cycles and include:
  - Summary of test results
  - Test cases not passed (failed or blocked)
  - Summary of remaining defects
- Test Report dated June 25, 2014 is labeled as interim and full test results are still being analyzed. Next steps recommended by CGI in the report are to begin User Acceptance Testing with defect remediation and re-test occurring simultaneously

#### Recommendations Based on Preliminary Review

- The Test Plan should be updated to include all testing phases and maintained throughout the project lifecycle
- Additional test cycles should be validated by the State to ensure the vendor is following the approved Test Plan and industry best practice
- On site reviews and observation of functional, non-functional, and performance testing should be included in the approval process

## Testing Site Visit Report

### Functional Testing Observations

---

**What We Looked For:** Functional testing ensures that all system components function as designed and all requirements are met. Test cases are created, with required data setup, test steps, and expected results defined. System requirements are mapped to individual test cases through the Requirements Traceability Matrix. Regression testing steps are well-defined to ensure updates or changes do not invalidate completed testing.

### Key Findings

- At the time of Gartner's site visit CGI considered all Package 2 Functional Testing to be complete, although their Test Report dated 6/25/14 indicated open issues and blocked tests still outstanding
- Functional requirements are managed through the Requirements Traceability Matrix (RTM) approved by the State
  - There is a process to determine which requirements from the RTM will be part of each release
  - Once functional requirements are agreed upon for the release, the requirements are loaded into ALM
  - The ALM is used to manage the test and defect review cycles
  - There are 463 test cases in ALM mapped to R2 requirements

## Testing Site Visit Report

### Functional Testing Observations, Cont'd

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#### Key Findings (cont'd)

- The CGI test team enters test case data through the application front end only and entered for each test iteration
  - CGI enters nothing through the back end as data touches many points (e.g. OPA, Siebel, Oracle, and SOA) and CGI considers it very difficult to input data and still conform to the OneGate data model
- There is no data refresh being done, resulting in the inability to duplicate tests or recreate test conditions
- All screen movements for each functional test case are recorded using SnagIt - allowing the State to review how CGI ran the test cases and to document the results

#### Recommendations Based on Preliminary Review

- The State should hold test planning sessions to develop an agreed process for data management and test time manipulation
- Risks associated with the inability to duplicate tests or effectively execute regression tests due to test data should be analyzed and mitigation actions taken

## Testing Site Visit Report

### Non-Functional Requirement (NFR) Testing Observations

---

**What We Looked For:** System non-functional testing validates that requirements not directly tied to business functions are met. Test processes are detailed in the Test Plan with specific measures identified to define pass/fail for each NFR. Test results are documented and verifiable.

#### Key Findings

- Non-functional testing for Package 2 is reported by CGI to consist of performance testing only. The Test Report does not include the number of tests passed/not passed during cycle 3. Tests conducted, results, and defects are not provided
- The process for managing non-functional requirements (NFRs) is similar to functional requirements. NFRs are input into and managed in ALM in the same way as Functional Requirements
  - Each identified non-functional requirement is mapped to 1 or more test cases and also tracked through a master spreadsheet
  - CGI only maps NFRs in ALM to test cases when required due to an onsite visit, planned demonstration, or when needed for a System Activity Report (SAR)
- NFR's tests are not videoed using SnagIt or any other tool

#### Recommendations Based on Preliminary Review

- The Test Plan should be updated to include all testing phases and maintained throughout the project lifecycle
- Test Reports should include NFR test cases, standards and results

## Testing Site Visit Report

### Performance Testing Observations

---

**What We Looked For:** System performance testing verifies that response time, throughput, and resource utilization goals are achieved and system configuration optimized. The performance test environment should mirror the production environment as closely as possible and include all system components. System performance testing is required to ensure the system is fit-for-use.

### Key Findings

- CGI acknowledged executing against a Performance Test Plan - a component of the overall VHC Test Plan. However, no Performance Test Plan has been approved by the State
- CGI reports that performance testing was conducted with focus on the end user, utilizing automated tools and industry-standard processes to simulate and measure the end user experience. Performance goals and test results were not included in the Test Report published on 6/25/14
- For components at the middleware and data layers, CGI reported including data and system engineers as part of the initial test process. They used methods and measures to capture the metrics/spikes affecting every component. However, results were not included in the Test Report of 6/25/14

## Testing Site Visit Report

### Performance Testing Observations, Cont'd

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#### **Key Findings (cont'd)**

- WebLOAD Integrated Development Environment (IDE) is used to execute tests and extrapolate performance. For each transaction that takes place, WebLOAD IDE measures the information from server to client. Performance is not measured after the data reaches the client machine
- The Test/Prod environment is being used for performance testing; no performance testing is conducted during normal business hours
- CGI reports that all external system performance testing was completed during the Wave/Carrier test cycle, meaning that no end-to-end performance is being tested

#### **Recommendations Based on Preliminary Review**

- The State should ensure that the Performance Test Plan is up-to-date, approved and measured against
- CGI-conducted performance testing should be independently validated against both the Test Plan and industry best practice
- Onsite observation should be scheduled for the next iteration of performance testing
- Performance test results should be included in each Test Report following test completion

## Testing Site Visit Report

### Partner Integration Testing Observations

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**What We Looked For:** The VHC system is highly integrated with external partners and service providers such as the insurance carriers, CMS, and payment processor systems. Partner Integration testing ensures that the relevant individual system components function as designed, verifies the interaction between VHC and external systems or services, and detects interface defects. There should be close coordination, alignment and agreement on the approach and outcomes between business and technical subject matter experts for both the State and external organizations.

### Key Findings

- Integration testing with the carriers has been a point of disagreement between the State and CGI
  - CGI feels that they have no control over the carriers' testing activities
  - Carrier integration is key to conducting full end-to-end testing
  - CGI reports conducting daily meetings with the carriers during testing and believes that the carriers ability to respond to issues identified affects CGI's ability to execute testing
- Carrier integration tests are executed by CGI, who then provides a spreadsheet of before and after test data values to the carriers, who then validate that the test results are acceptable. Expected results are not provided, limiting the ability to identify defects

## Testing Site Visit Report

### Partner Integration Testing Observations (cont'd)

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#### Key Findings (cont'd)

- Other External Entities – Benaissance / CMS
  - Benaissance – CGI believes Benaissance has some issues because they are not able to do system time manipulation. Benaissance captures the impacted invoices and that is the proof of test success
  - CMS - provides a 'test harness' which is provided as a service. Results are validated through Siebel component of VHC
- CGI reports that they have concluded integration testing of Package-2 of Exeter and do not expect a sign-off from the State

#### Recommendations Based on Preliminary Review

- The State should require that end-to-end testing be successfully completed by CGI before accepting the system
- The State Test Manager should coordinate test planning sessions with all associated external systems, develop processes for data management, and enforce fidelity to test process controls defined in the Test Plan



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## Site Visit Findings and Mitigation Action



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## Testing Site Visit

### Key Issues and Recommendations

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#### ■ Availability of Verifiable Test Results

- Issue: Live testing was not occurring on the day of the site visit, despite requests to align Gartner’s visit with the test schedule. Much of the information contained in this report was extracted from a formal and scripted meeting conducted by CGI leads and may not accurately reflect on-the-ground reality.
- Recommendation: Future test cycles should be validated by the State to ensure the vendor is following the approved Test Plan and industry best practice. On site reviews and observation of functional, non-functional, and performance testing should be included in the approval process.

#### ■ End-to-End Testing

- Issue: The lack of end-to-end testing being conducted or discussed in detail is of significant concern. CGI provided many reasons for the lack of full end-to-end business process testing, primarily constrained by carrier testing and other external entities.
- Recommendation: The State should require end-to-end testing be completed successfully before UAT and acceptance the system. Test Manager should coordinate test planning sessions with all associated systems, develop processes for data management, and enforce fidelity to test process controls.

## Testing Site Visit Report

### Issues and Recommendations (Cont'd)

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#### ■ Data Refresh and System Date Manipulation

- Issue: Tests are conducted in a static data environment, without a process to refresh the data and re-run tests to achieve duplicate results. Similarly, no current capability exists to change system dates/times to facilitate testing of all possible scenarios.
- Recommendation: The State should hold test planning sessions to develop an agreed process for data management and test time manipulation. Risks associated with the inability to duplicate tests or effectively regression test due to test data should be analyzed and mitigation steps developed.

#### ■ Performance Testing

- Issue: There is no approved Performance Test Plan
- Recommendation: The State should ensure that the Performance Test Plan is up-to-date, approved and measured against. CGI-conducted performance testing should be independently validated against both the Test Plan and industry best practice. Onsite observation should be scheduled for the next iteration of performance testing.

## Testing Site Visit Report

### Issues and Recommendations (Cont'd)

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#### ■ Further Exploration of Related Testing Activities

- Issue: Gartner was unable to review or discuss in detail (only summary level discussion) the following topics:
  - Load Testing
  - Endurance Testing
  - Component Level Testing
  - Benchmark Testing
  - NFR Testing with Security Testing as a major component
  - Blueprint Testing
- Recommendation: The State Test Manager should review all mandated tests, as well as those tests which mitigate the highest risks to project success, and validate that they have all been successfully executed, documented and verified. Gaps in required tests should be identified and re-tested as necessary. The project manager and sponsor should require successful execution and completion of all testing stages the go-live decision process, with successful test results as mandatory.

## Testing Site Visit Report

### Issues and Recommendations (continued)

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#### ■ UAT Execution

- Issue: Creation, setup, and management of UAT testing will be a major undertaking for the State, with a high probability of identifying issues or defects. Preparation should include external and partner entities, with close coordination of activities and environment management. The State has a vendor on-board to assist and will need to provide subject matter expertise for Acceptance Testing while supporting other project areas, making resource management a priority.
- Recommendation: To ensure that User Acceptance Testing is effective in controlling the risk of system issues, the State test manager should carefully and conservatively plan resource needs and coordinate tasks with all parties. Tester training should be developed and delivered. Test environments should be configured to reflect the user experience. Additionally, UAT test scenarios should be created which cover business processes from start to finish – not a series of individual system functions. Test data must be closely managed and maintained throughout the testing process. UAT Plans should be reviewed to ensure sufficient time and resources are available to execute a full test cycle and mitigate high priority system risks, including time for defect remediation. Special attention should be paid to high-risk or sensitive functions – with specific test cases developed and executed to validate that the system is fit for use.



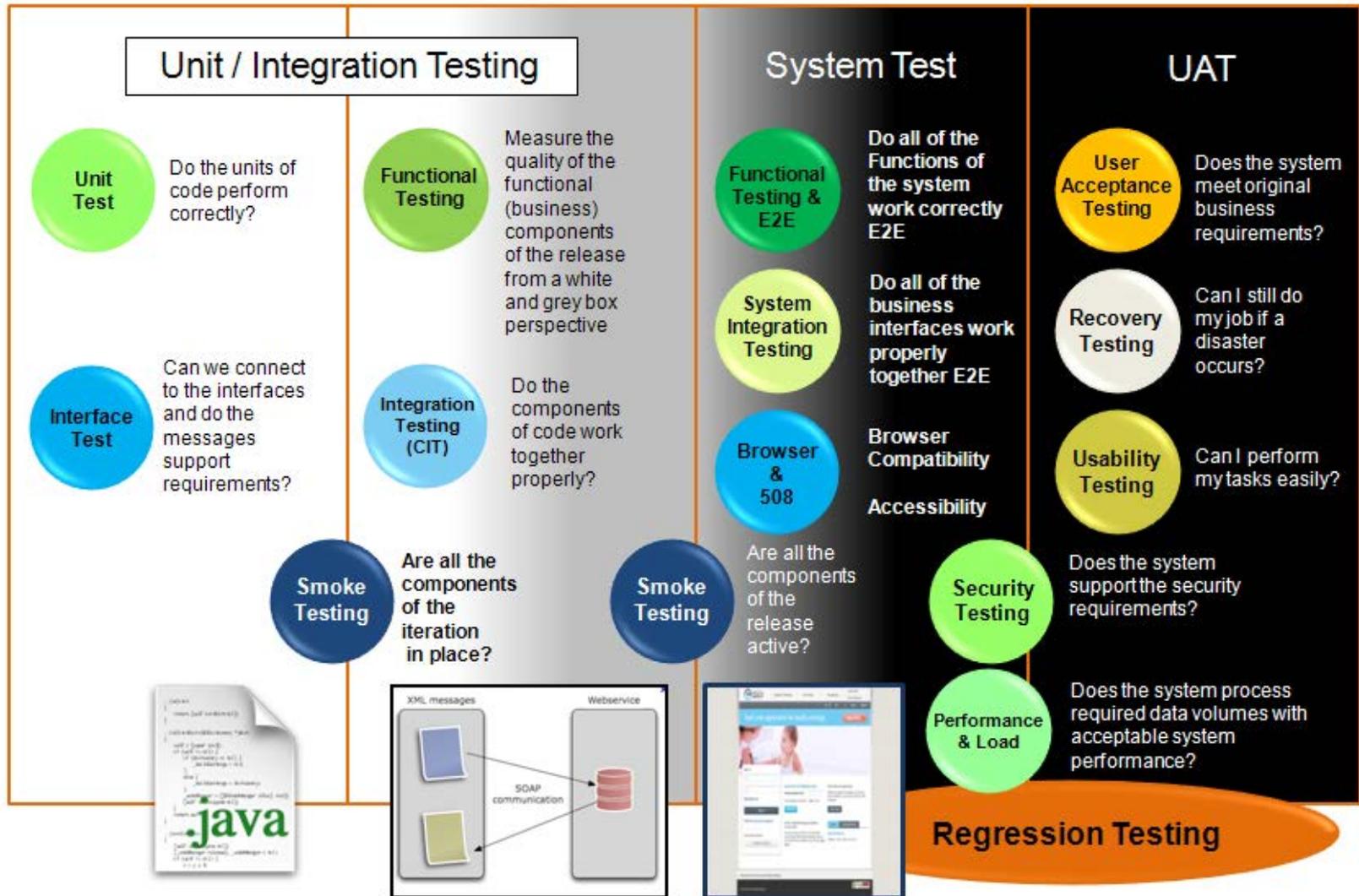
## Appendix A

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### CGI Planned Testing Approach and Testing Lifecycle Gates



# CGI Planned Testing Lifecycle Activities



# Planned Testing Stages Entry and Exit Criteria

## Unit and Integrated Testing

Entry Conditions	Exit Conditions
<ul style="list-style-type: none"> <li>▪ Requirements and System Specifications are approved.</li> <li>▪ Design Specifications are approved.</li> <li>▪ Source code is compiled clean, no build errors.</li> <li>▪ Suggested code changes have been completed according to the code walkthroughs and design.</li> <li>▪ Unit/integration Test Plan is approved.</li> <li>▪ Unit/integration test scenarios, conditions and scripts are identified and documented in the Design Documentation.</li> <li>▪ Unit/integration test environment is setup and operational.</li> </ul>	<ul style="list-style-type: none"> <li>▪ All test cases specified in the Test Plan have been executed.</li> <li>▪ Defects have been recorded in the Test Report and all fixes have been re-tested.</li> <li>▪ No outstanding Severity 1 or 2 defects.</li> <li>▪ Source has been integrated into the change-controlled environment according to configuration management procedures.</li> <li>▪ Test Report has been reviewed and approved.</li> </ul>

## System Testing

Entry Conditions	Exit Conditions
<ul style="list-style-type: none"> <li>▪ Unit/integration Test Exit Criteria has been met.</li> <li>▪ System Test Plan is approved.</li> <li>▪ System test scenarios, conditions, and scripts are completed.</li> <li>▪ Test data has been created, where applicable, and is readily available in system test environment.</li> <li>▪ System test environment is set up and operational.</li> <li>▪ System test environment smoke test is completed and application(s) are operational.</li> <li>▪ Any outstanding defects ready for re-test are identified in the System Test Plan and have been accounted for as part of the testing scope.</li> </ul>	<ul style="list-style-type: none"> <li>▪ All system test cases specified in the System Test Plan have been executed.</li> <li>▪ Defects have been recorded in the System Test Report and all fixes have been re-tested.</li> <li>▪ No outstanding Severity 1 or 2 defects open or authorization from VT HBE has been received per a defect mitigation plan approval.</li> <li>▪ Review of Severity 3 and Severity 4 defects by VT HBE with an approval to proceed based on impact analysis and defect correction estimate performed by CGI.</li> <li>▪ System Test Report has been completed on all testing types, reviewed, and approved by CGI and VT HBE.</li> <li>▪ Regression Testing as required has been executed.</li> </ul>

# Planned Testing Stages Entry and Exit Criteria

## Stress and Load Testing

Entry Conditions	Exit Conditions
<ul style="list-style-type: none"> <li>▪ System Test Exit Criteria has been met.</li> <li>▪ Stress – Performance Test Plan is approved.</li> <li>▪ Stress - Performance test scenarios, conditions and scripts are completed.</li> <li>▪ Test data has been created, where applicable, and is readily available in system test environment.</li> <li>▪ Stress - Performance test environment is set up and operational.</li> </ul>	<ul style="list-style-type: none"> <li>▪ All Stress - Performance test cases specified in the Stress - Performance Test Plan have been executed.</li> <li>▪ Defects have been recorded in the Stress - Performance Test Report and all fixes have been re-tested.</li> <li>▪ No outstanding Severity 1 or 2 defects open or authorization from VT HBE has been received per a defect mitigation plan approval.</li> <li>▪ Review of Severity 3 and Severity 4 defects by VT HBE with an approval to proceed based on impact analysis and defect correction estimate performed by CGI.</li> <li>▪ Stress - Performance Test Report has been completed on all testing types, reviewed, and approved by CGI and VT HBE.</li> </ul>

## User Acceptance Testing

Entry Conditions	Exit Conditions
<ul style="list-style-type: none"> <li>▪ Client Acceptance Test Plan is approved or Test Approach is documented in the Master Test Plan.</li> <li>▪ Client Acceptance test scenarios, conditions and scripts are complete and approved.</li> <li>▪ User Acceptance participants are identified and trained on test scope.</li> <li>▪ Test data has been created and is readily available in UAT test environment.</li> <li>▪ Test environment passes Smoke Test.</li> <li>▪ User manuals for Exchange and Back Office Process procedures documented.</li> </ul>	<ul style="list-style-type: none"> <li>▪ All acceptance use test cases have been executed at least once.</li> <li>▪ Defects have been recorded in the Acceptance Test Report and all fixes have been re-tested.</li> <li>▪ No outstanding Severity 1 or 2 defects open or defect mitigation plan and known workarounds have been identified and agreed upon by VT HBE and CGI. Mitigation Plans and Workarounds have been communicated to support personnel.</li> <li>▪ Client Acceptance Test Report has been completed, reviewed and approved by client.</li> </ul>



## Appendix B

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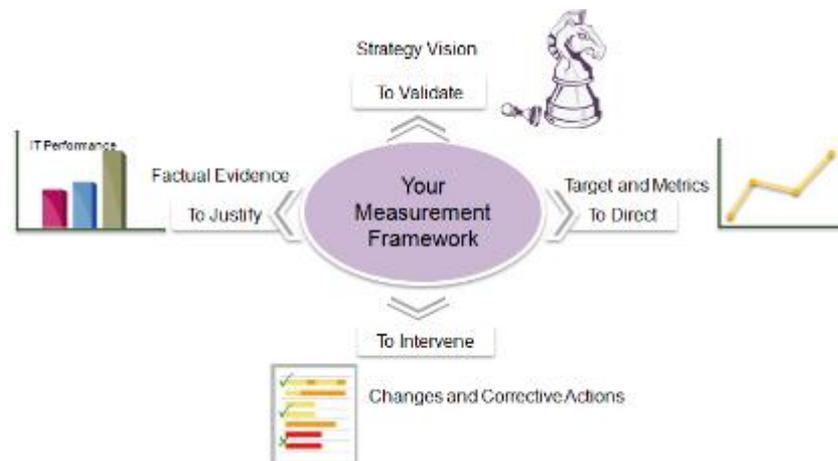
### Application Development and Testing Metrics and Vendor Performance Management



## Why Measure?

### ■ IT Performance

- Validate strategies are working
- Direct improvement action
- Intervene with corrective action
- Justify decisions with facts



### ■ DDI Vendor Performance

- Set clear expectations and validate outcomes
- Encourage / incentivize the right behavior
- Discourage / penalize poor performance
- Align vendor focus with key business objectives



# Measuring and Improving Application Development

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## ■ Three Categories of Application Development (AD) Measurements

- AD Effectiveness (what was delivered to business)
  - Net present value, projects
  - Return on investment, projects
  - Internal rate of return, projects
  - Percent of projects affecting strategic objectives
  - Percent of projects affecting tactical/operational needs
  - Overall customer satisfaction, measuring reliability, responsiveness and return on investment
  - Spending breakdown by application and by activity (development/enhancement/maintenance)
  - Spending breakdown, portfolio (project portfolio, applications portfolio)
- AD Process (doing the right things the right way)
  - Productivity (FPs per staff hour)
  - Product quality (defects per FP)
  - Process quality (percent or dollars — or both — rework)
  - Unit cost (dollars per FP)
  - Customer satisfaction (five- or seven-point scale completed as a part of project review)
  - Process control charts for variance to cost, effort and duration
- AD Project Status (how well are the projects running)
  - Earned value (typically at effort, cost or both)
  - Milestone analysis
  - Burn rate (amount of additional work necessary to bring a project back on schedule)
  - Number of re-baselines
  - Percent of scope creep (budget, unit size or both)

## What Methods Can Be Used to Measure Vendor Performance in AD Sourcing

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- Gartner research indicates that Function Point Analysis (FPA) methodology provides the following value for the AD sourcing team:
  - IT sourcing teams can use FPA to estimate the level of effort by using an estimation tool (e.g. Slim, KnowledgePLAN, Software Evaluation and Estimation of Resources - Software Estimating Model) and relative estimated cost of AD if there is available data (per-FP cost and estimated FP), and use it as one of the negotiation baselines
  - IT Sourcing teams can set Function Point based metrics to better measure and manage AD Vendor's performance over time
  - IT sourcing can use FPA as a full, formal benchmark method to measure the service provider's performance against available productivity (e.g. conducting cost/price variance analysis) and quality (e.g. defect removal efficiency) data
  - IT sourcing teams can use FPA as a measure to try to establish a cap on the contract pricing as a secondary pricing method, while using another method of pricing (such as FTE, or time and materials) as the primary pricing method
  - Provided that there is comparable data (FP count and price points) available, an IT procurement team can evaluate the estimated total cost using the FP as the baseline for a fixed-price contract negotiation

# Potential Outsourced Application Development SLAs

**Function: Applications**  
**Performance Area: Development and Enhancement**

Service Dimension	Measurement	Sample Service Levels
		Sample Service Goals
1. Cost	Cost/FP by application, attribute and severity level Plan vs. actual	Cost/FP of < \$x Accuracy of x% on planned vs. actual costs
2A. Quality — Functional Do the applications meet the functional requirements?	Response times — by transaction Defect levels/FP during warrantee period, by severity	All response requirements met Defect levels of x per FP, 0 severity 1 defects For enhancements, 0 increase in residual rates
2B. Quality — Technical Does the delivered product meet the specifications?	Essential complexity Cyclomatic complexity Dead code Unstructured code Compliance with installation coding standards	<x per module <x per module 0 Dead code x% unstructured code 100% compliance, ensured through inspections
2C. Quality — Process How did the process perform during the life of the project?	Defect removal rate — overall, by phase Defect density/FP — overall, by phase introduced	Defect removal rates of >x% Defect densities of < x/FP
3. Service Productivity	Productivity/project, in FP/hour Cycle time/project, in FP/ day or days/FP Project attributes Work backlog, in FPs Productivity/phase, in FP/hour Effort, by phase Planned/actual dates, effort, FP counts	x FP/hour, depending on attributes Specific cycle time requirements x% new dev. using specific methods/tools Backlog < x months x FP/hour in analysis/design x% spent in analysis/design x% accuracy on dates, effort, FP counts
4A. Customer Satisfaction — Project-Based	Reliability: Was the project on time? Did the project meet business requirements? Staff professionalism, responsiveness and availability Documentation: Was it useful, clear and complete? Overall satisfaction	x% projects delivered on time Scale-based opinion survey Scale-based opinion survey Scale-based opinion survey Scale-based opinion survey
4B. Customer Satisfaction — Periodic	Reliability: Do products and services have high quality? Responsiveness: Does IT provide timely solutions?	Scale-based opinion survey Scale-based opinion survey
4C. Customer Satisfaction — Return	Return: Does IT provide an adequate ROI?	Scale-based opinion survey, OR activity-based
5. Personnel	Turnover of staff by skill level and position Availability of staff by skill level and position Elapsed time to get staff by skill level and position Training hours per FTE by tool and methodology	Turnover of < 20%, 100% accessibility during avail. n% project managers with > x years experience avail. Get skilled C++ programmers within 1 month 5 days C++ training for programmers with 1 year exp.

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# Potential Outsourced Application Maintenance SLAs

**Function: Applications**  
**Performance Area: Maintenance**

Service Dimension	Measurement	Sample Service Levels
		Sample Service Goals
1. Cost	Cost/FP by application Plan vs. actual	Cost/FP of < \$X Accuracy of x% on planned vs. actual costs
2A. Quality — Functional Do the applications meet the functional requirements?	Availability — days of week Accessibility — hours of day during available periods Response times — by system, transaction Residual defects/FP — by severity level Mean time to failure (MTTF)	100% availability 100% accessibility n% of transactions < x seconds, remainder < y sec. Defect levels of x/FP MTTF of > x hours
2B. Quality — Technical Does the delivered product meet the specifications?	Essential complexity Cyclomatic complexity Dead code Unstructured code Compliance with installation coding standards	< x per module < x per module 0 Dead code x% unstructured code 100% compliance
3A. Service Productivity — Problem Reporting	Mean and max. time to respond to problem report Max. time to report problem correction Min. time to schedule outage for problem correction	Respond to all problems within x time period Maximum of x time period to report repair Minimum of x time period to schedule repair outage
3B. Service Productivity — Problem Resolution	Mean time to repair (MTTR) Calendar days to repair Problem backlog by application and platform	Set goals by severity level Set goals by severity level Set goals by severity level
3C. Service Productivity — General Measurement	Periodic hours, by type of activity FPs supported by each FTE, annualized Maintenance backlog App. portfolio by platform, language and methodology	Hours of defect removal, small enhancements, nonfunctionality-adding projects >x <y FP supported <x requests, see 3B x FPs/FTE by application, language type and platform
4A. Customer Satisfaction — Project-Based	Reliability: Was the project on time? Did the project meet business requirements? Staff professionalism, responsiveness and availability Documentation: Was it useful, clear and complete? Overall satisfaction	x% of maintenance projects delivered on time Scale-based opinion survey Scale-based opinion survey Scale-based opinion survey Scale-based opinion survey
4B. Customer Satisfaction — Periodic	Reliability: Do products and services have high quality? Responsiveness: Does IT provide timely solutions?	Scale-based opinion survey Scale-based opinion survey
4C. Customer Satisfaction — Return	Return: Does IT provide an adequate ROI?	Scale-based opinion survey
5. Personnel	Turnover of staff by skill level and position Availability of staff by skill level and position Elapsed time to get staff by skill level and position Training hours per FTE by tool and methodology	Turnover of < 20%, 100% accessibility dur. avail. per. n% project managers with > x years experience avail. Get skilled C++ programmers within one month 5 days C++ training for programmers with 1 year exp.



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## Measurements for New Application Projects vs. Maintenance and Enhancements

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- Many organizations do not implement a measurement or vendor performance management program because they don't have all the requisite building blocks in place
- For such organizations, there's a temptation to avoid measurement altogether, because any program won't be "perfect"
- We strongly recommend that even for organizations that can't specifically measure all of the key measures, a set of five to 10 measures be chosen that will either act as proxy for the measures mentioned here, or perhaps represent what the system development entity's goals are should these measures not match
- *Linkage* of measures to desired outcomes is critical, and where the measurements don't link to desired outcomes, other measures should be substituted
- In fixed bid, outsourced Application Development (AD) or Package deployment projects, the primary metrics are customarily outcome measures focused on the end deliverables within the committed timeframe. However, if it becomes apparent that the outcomes are not being met, a set of process measures focused on quality or productivity (with associated penalties and incentives) should be introduced to increase the consistency and predictability of the project outcomes
- Outsourced or insourced Application Development Maintenance and Enhancements projects or activities must consider the use of both AD "Process" and "Outcome" measures, tied to appropriate incentives and penalties



## Appendix C

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### Application Testing Services Marketplace Overview



## Application Testing Services Marketplace – Definitions

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- "Testing Services" is a comprehensive term to capture all types of validation, verification, and testing services for the purposes of quality control and quality assurance. For the sake of clarity, verification and validation are equally important components of application development, as well as parts of business process and infrastructure:
  - Verification addresses whether tested elements technically behave according to predefined specifications
  - Validation addresses whether tested elements functionally behave according to predefined requirements
- Verification and validation ensure that the defined scope is achieved with regard to business rule compliance, functionality, user experience, reporting, performance and scalability requirements
- With regard to quality, the first step is to understand its definition. Based on many of the standards bodies, “quality is the degree to which a component, system or process meets specified requirements and user/customer needs and expectations”
- The terms “Application Quality Assurance” and “Application Quality Control” are often used interchangeably to refer to ways of ensuring the quality of a software product. The terms, however, have different meanings:
  - Application Quality Assurance should be thought of as a proactive approach to driving improved quality. This means not only finding defects, but finding the source of defects and removing it
  - Application Quality Control is a reactive, gatekeeper process to find defects

## Application Testing Services Marketplace – Definitions (Cont'd)

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- Organizations need both processes but will get the best benefits by driving a Application Quality Assurance focus
- Assurance activities are focused on providing confidence and ensuring certainty in the planning and execution of the activities so that they are done in a consistent manner based on a prescribed level of quality. Thus, the definition of quality assurance is: "The planned and systematic activities defined and implemented in a process so that quality requirements for a product or service will be fulfilled"
- Practical examples of Application Quality Assurance may include process definitions, tool selection, training and quality audits. The control portion is focused on the tasks and processes that evaluate quality to determine the required corrective responses. Thus, the definition of "Application Quality Control" is: "The observation techniques and activities used to fulfill requirements for quality"
- Within the context of application testing activities, quality control and quality assurance reflect single events and continuity:
  - Application Quality Control addresses the verification and validation on a per-event basis.
  - Application Quality Assurance addresses the verification and validation against strategies, planned and evolving requirements, and specifications.
- Practical examples of Application Quality Control activities may include walk-throughs, testing, inspections and checkpoint reviews

## Application Testing Services Marketplace – Definitions (Cont'd)

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- **Core DDI Related Testing Services** - These are the primary testing services deployed in the development life cycle of products, business processes, applications and infrastructures. Core testing services are also applied to enhancement services that may often be included in the ongoing management (Run/M&O) phase. The following are some of the more common logical groupings of core testing:
  - **Unit Testing:** This tests individual units of source code work as designed. Traditionally, unit tests are scripted to address a predefined set of test scenarios. They are generally structured in the paths through the code they test. With increased automation of unit testing, as well as new forms of application development approaches, new areas of unit testing have also emerged. For example, extreme programming focuses on test-driven development where anything that can go wrong should be tested. This increases the complexity at the unit test level, but decreases the time for other tests. Unit testing is an integral part of application development and, therefore, is typically not separated out. Where it applies to products, it normally refers to embedded software. With regard to business processes, organizations would perform a scripted test of a specific business process section. With regard to infrastructure, organizations would address the testing of an individual component within the involved infrastructure.

## Application Testing Services Marketplace – Definitions (Cont'd)

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### ■ Core DDI Related Testing Services – (Cont'd)

- **Integration Testing:** This tests an assemblage of units to ensure they work properly together. Integration tests, by design, address the inner application integration, not inter-application integration (or inner product, appliance, business process section or infrastructure). Integration testing is still technical testing; it is not based on functional but technical designs (or logical for business processes). However, data exchange — sometimes defined as functional (business process), and sometimes technical (product, infrastructure) and dependent on the content of the data block (or business logic) — between applications (or inner product architecture, business process or involved infrastructure) is normally addressed purely from the data-block level and not the interfacing application level.

## Application Testing Services Marketplace – Definitions (Cont'd)

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### ■ Core DDI Related Testing Services – (Cont'd)

- **System Testing:** This tests an entire application on its hosting platform, a product (if part of a larger product suite, such as a scanner with a cash register), a business process in the process framework and an infrastructure component in the total set of functionally combined components (for example, a server in the data center). System tests are executed with functional requirements and address:
  - 1) The information flow in the system, where the system is regarded as a black box — for example, the underlying assembled units are no longer addressed separately but only as a whole;
  - 2) The information exchange with other systems at a technical or functional level; or
  - 3) Both
- It tests whether the information that is moved through the system and provided to other systems is in line with what was defined. System testing often is the test that indicates to the development community whether the environment is behaving as required. It includes compatibility testing, whereby the system is tested in concert with its supporting layers (product with supporting processes, processes with supporting applications, and applications with supporting infrastructure). Compatibility testing verifies and validates that a system can work in production.

## Application Testing Services Marketplace – Definitions (Cont'd)

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### ■ Core DDI Related Testing Services – (Cont'd)

- **Performance-Oriented Testing:** This often involves three key areas:
  - Performance — These tests are used to help understand where bottlenecks appear. Normally, this testing is performed by developers and often uses profiling tools.
  - Load — These tests look at how an application performs as the load increases or as the number of users or messages increases.
  - Stress — Building on load, stress testing understands what happens as the system runs short of resources.
- The goal of performance tests is to find the underlying performance characteristics of the application, which may cause the application to perform poorly. Performance testing involves a deep look at the performance of the application and the line of code execution level. The goal from this testing is to ensure that the algorithms used and the implementation of the code fit the needs of the application.
- Load and stress testing provide a higher-level view of the application but are designed to see how the application behaves as a number of users access it at the same time. These tests are often generated in a simulated way and use load controller machines. The goal of this testing is to ensure the stability of the application, as well as identify that the system can meet the performance expectations of users even when it is under load. Although knowing that the system can meet the planned load is important, it is equally important for the load and stress team to provide information to the operations team to help them monitor and maintain the system. Is the application CPU or memory bound? What should be monitored as an indicator that the system is reaching the failure point? This will aid with the long-term support of the system as new applications come online or as user activity increases beyond initial planned volumes.

## Application Testing Services Marketplace – Definitions (Cont'd)

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### ■ Core DDI Related Testing Services – (Cont'd)

#### – **Performance-Oriented Testing:** (Cont'd)

- Before being deployed into production, an application system is tested under a simulated load to test performance to expectations. Performance testing is often done in concert with the supporting layers for the tested system. Performance testing focuses on the transaction processing capacity of the system, when the system refers to a process, application or infrastructure. Performance testing for products depends on the product (for example, the number of articles scanned, how long the battery can work on peak energy and the peak pressure before beam bows). It will also address the information exchange among applications in the same business process. Although performance tests look at behavior with a standard, increased and decreased workload, stress tests address the application (including hosting infrastructure) stability based on scenarios that overload the system (mostly memory and CPU) to determine its behavior under exceptional circumstances.

## Application Testing Services Marketplace – Definitions (Cont'd)

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### ■ Core DDI Related Testing Services – (Cont'd)

- **Regression Testing:** This retests a system following a modification to ensure that faults have not been introduced/uncovered as a result of the changes. Common tests include reruns of previous functional tests and checks of re-emerging faults that were previously fixed.
- **User Acceptance Testing (UAT):** UAT validates end-to-end business processes, comparing actual vs. expected results. UAT validates the system setup for transactions and user access, confirms the expected and intended use of the system, verifies performance on business-critical functions, and confirms application integrity. UAT is one of the final stages of testing, and it is often performed before a new system is accepted by the customer. The biggest focus of UAT is often functional tests, whereby the test content is defined by the business users and executed by key users in a test environment that is a copy (or as close as possible) of the production environment. This includes testing of the perceived performance of users.
- **Usability (Experiential Design) Testing:** This tests the ease with which users can learn and use a system. This is not the same as usability inspection, where experts evaluate the system without any end-user involvement. Usability testing is the principle test to determine how good a system is, as seen from the end user's perspective.
- **Backward (Reverse) Compatibility Testing:** This includes new release testing, where release requirements to support old obsolete functionality, as well as new functionality, are verified. Backward compatibility is used to verify the defined distinctions between the old versus new environments and to determine the data conversion road map.

## Application Testing Services Marketplace – Definitions (Cont'd)

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- In the core testing services, many other services or terms are also used or referenced in the marketplace of services, including:
  - **Scalability Testing:** This is useful for load-balanced systems where the system is an application or infrastructure component. The scalability of business processes would reflect a growth scenario from an enterprise perspective. Scalability of products depends on the product (for example, scanning in warehouse terminals versus stores, peak pressure of beams in building). Scalability testing is often part of the performance-oriented testing described above.
  - **Ad Hoc or Exploratory Testing:** Without a test script or plan, this testing tries to find bugs and faults in the system/unit. It is often used in addition to core tests.
  - **Reliability Testing:** This discovers methodically at which moment the system fails. It is often executed in conjunction with performance and stress tests.
  - **Recovery Testing:** This forces the system to fail to see how it recovers in terms of data integrity, system reliability and stability. It indicates the robustness of the system.
  - **Globalization/Localization Testing:** This ensures that the application can support multiple languages as an input (globalization) and as a display (localization).
  - **Accessibility Testing:** This tests the application to ensure that it works for users with disabilities.
  - **Documentation Testing:** This ensures that the support materials — such as manuals, help systems and training — are all are correct and performed by walk-through.
  - **White-Box Testing:** This is where an explicit understanding of the implementation is involved. Unit testing is a good example.
  - **Black-Box Testing:** This is where the underlying implementation is not required. The focus is on the interface or external specification. The majority of test tools work this way.

## Application Testing Services Marketplace – Definitions (Cont'd)

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### ■ Other core testing services in the marketplace (Cont'd)

- **Package Application Testing:** These services focus on the complete testing life cycle for specific commercial off-the-shelf software or application platforms (for example, for ERP, CRM, Web applications and embedded software). This often involves services combined with custom or commercial tools to test the design or configuration of the application and the modifications made to the base functionality. With regard to specific tools. Testing tools are evolving to support Web services and to provide an overall service-oriented architecture stack and approach. The ability to integrate systems and dynamically change workflows based on models means that systems will be more difficult to test, and the demands to deliver business-agile changes will require increased test automation.
- **Compliance Testing:** These services address the broad range of compliance testing, which includes security testing, vulnerability testing (compliance with secure Web access), certification testing (not in relation to security, but whether appliances behave as designed) and regulatory compliance testing:
- **Security.** This testing evaluates the authentication, authorization and data protection of the application. In summary, security testing can be organized into three categories:
  - *Threat Models* — A definition of the potential security breaches looking from the attacker's point of view of entry points, access privileges and asset availability. These models enable the organization to build an attack tree and drive a focus on controlling the surface area of the application.
  - *Static Analysis* — Source code analysis that looks at the structure of the application to find common coding errors that create vulnerabilities.
  - *Dynamic Analysis* — Exercises that look for exploits, such as SQL injection. Dynamic techniques tend to rely on various data fuzzing methodologies.

## Application Testing Services Marketplace – Definitions (Cont'd)

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### ■ Other core testing services in the marketplace (Cont'd)

#### – **Compliance Testing:** (Cont'd)

- *Vulnerability Assessment (VA)*: Although this is the common term used, VA addresses automated scanning of the network (but can include systems, Web servers and databases). It is an essential component of an effective security program. VA tools provide a bottom-up security baseline for the IT environment from a database of known vulnerabilities. There are three approaches to VA: active network scanning, passive observation of network traffic and persistent agents. The most-accurate scanning requires credentialed access (over the network or via an agent). In terms of application testing vulnerability, testing can be used to probe Web servers and databases for known vulnerabilities. It can do this for homegrown applications and packaged applications that are hosted in the demilitarized zone. Gartner research shows that the strongest driver of the VA market is compliance, including the Payment Card Industry Data Security Standard specification for VA.
- *Certification Testing*: There are different forms of these kinds of services; however, all address appliances or industry-specific products, plus embedded software tests. Certification testing addresses whether an appliance or product with embedded software behaves according to design. It also includes performance and stress tests, as well as reliability testing.
- *Regulatory Compliance Testing*: These services, in general, comprise testing functionality for regulations and performance, analysis to test whether the best execution provisions are complied with, and checking that required audit trails are generated and reports are submitted to clients and regulators. Vendors have experience in other regulations such as Sarbanes-Oxley (SOX), Regulation National Market System (Reg NMS), the Health Insurance Portability and Accountability Act (HIPAA), Faster Payments Service (FPS), Treat Customers Fairly, Know Your Customer (KYC) and Data Protection Act (DPA). In the same way, there are dedicated test services for the healthcare and process manufacturing industries based on U.S. Food and Drug Administration regulations, which are laid down in the different GxP regulations.

## Application Testing Services Marketplace – Market Status

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- The list of application testing service providers that Gartner tracks has grown during the past five years from a starting point of 30 vendors to around 300 across multiple geographies. The list indicates that 44% of all testing resources are with 2% of vendors, which are all full service providers with more than 10,000 career testers.
- While Gartner’s list of vendors is not exhaustive, it does demonstrate the continued high demand from clients and the margin opportunity for vendors. This now includes virtually all large application service providers that leverage large global delivery models, as well as specialists that are focused on specific industries or specific application packages.
- The largest specialists have between 2,000 and 3,500 career testers, whereas, of the full IT service providers, some have more than 15,000 and have demonstrated a growth of more than 1,000 career testers over the last year.
- Multiple service offerings are available from vendors ranging from the advisory stages of an application development effort including creating an overall testing strategy or testing tool selection through managed testing, both for the development phase and during operations of applications.
- However, most testing services continue to be offered as horizontal technical competencies, including general application testing, integration testing and user acceptance testing. These horizontal testing services are increasingly being applied to specific packages and software as a service (SaaS) platforms (for example, SAP, Oracle, salesforce.com, Workday).

## Application Testing Services Marketplace – Market Status (Cont'd)

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- In relation to improvements, more providers have participated in the trend of differentiating themselves through industry-specific solutions (including test case automation-based applications and industry-specific templates, such as banking, pharmaceuticals and retail).
- Agile has driven the need for test-driven development (TDD, whereby unit tests are created before coding) and acceptance-test-driven development (ATDD, whereby tests are created before starting white-box functional and acceptance testing).
- An interesting service is represented by smaller testing services providers who are hired to validate the development and test efforts of development partners of an end user. In these cases, the smaller vendors perform test management services, which can extend from revalidating the test effort of the development partner from an end-to-end perspective to determining test process, planning, cases and scenarios and determining how to test, after which the development partner would test.
- The broadest set of application testing services involves end-to-end activities from test process to benefits realization in production. In addition, the need to address cost reduction, while being able to differentiate, shows the growing attraction of enterprise buyers to alternative delivery models such as utility and cloud (including all the "as a service" services).

## Application Testing Services Marketplace – Market Status (Cont'd)

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- This means that Gartner has seen a steady increase in the investment in and release of "testing as a service" offerings (also marketed as "quality as a service" or "validation as a service," among others). However, the adoption rate by clients is relatively slow, given the offering maturity issues.
- Representative List of Vendors:
  - Accenture; Allied Testing; Capgemini; Capita Group; CGI; Cognizant; CSC; Fujitsu; HCL Axon; Hexaware; HP; IBM; Infosys; ITC Infotech; LogiGear; Maveric Systems; MindTree; MTP; Persistent Systems; Softtek; Software Quality Associates; SQS; Syntel; Tata Consultancy Services; Tech Mahindra; Wipro Technologies; Zensar Technologies



# State of Vermont Agency of Human Services Health Services Enterprise Program

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## Vendor Management Briefing

October 17, 2013



# Content

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- Executive Summary
- Vendor Management Briefing Details
  - Vendor Management Briefing Objectives
  - Scope of Enhanced Vendor Management
  - Vendor Management Framework, Hurdles and Critical Success Factors
  - Steps for Establishing a Vendor Management Infrastructure

## Executive Summary

### Objectives and Focus of Vendor Management

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- Gartner has been asked to present considerations for strengthening the State's PMO Vendor Management capabilities
- The briefing provides the context of Vendor Management for the life cycle of large and complex enterprise projects such as the VT Health Services Enterprise (HSE) Program
- Vendor Management for the VT HSE Program must be approached from an enterprise perspective and how the key work streams of the HSE Program are integrated and interdependent and not "silo" initiatives. These integrated workstreams include:
  - **Vermont Health Connect (VHC)**
  - **Integrated Eligibility Solution and Health Services Enterprise Platform**
  - **Medicaid Operations Technical Solutions**

## Executive Summary

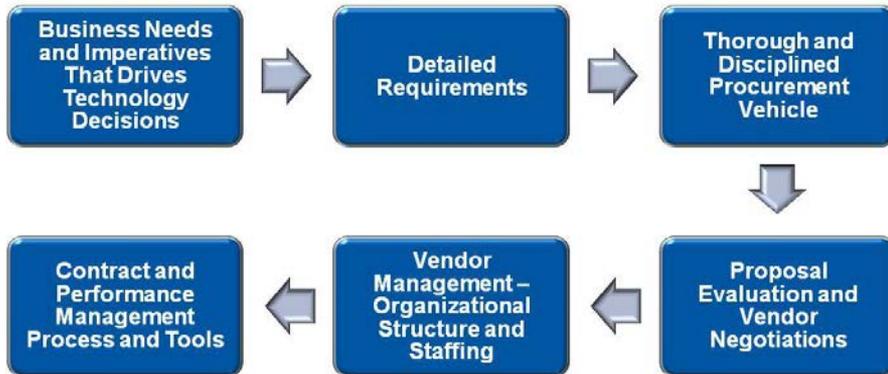
### Objectives and Focus of Vendor Management, Cont'd

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- The State faces significant risks to the success of the HSE Program's strategy if there is not an integration of the CGI development efforts into a single enterprise approach for VHC and the IE / HSE Platform Solutions :
  - Maintaining the current level of enhanced FFP as defined in the IAPD
  - Less than effective integrated enterprise approach as envisioned by the State for the Health Services Enterprise Program's technical solutions
  - Challenges to the oversight and accountability of CGI's workstreams
  - Duplication of efforts and higher potential of future rework
- A robust Vendor Management effort must be established as an "enterprise" approach through the State's HSE Program PMO (Program Management Office) focusing on all of the workstreams under the State's HSE Program PMO

# Executive Summary

## Vendor Management Framework



- **Detailed Requirements** – The State’s vision and business needs, guided the IE / HSE Platform procurement effort, led to significant depth of details and traceability for functional and non-functional requirements. These need to be the critical foundation for the PMO Vendor Management effort – and need to be similarly documented and used for the VHC continuing development and deployment and for the Medicaid Operations modernization workstream.

- Effective Vendor Management moves an organization from a silo and “ad-hoc” basis of managing vendors (or being managed by the vendors) to an enterprise program-based focused approach for achieving the State’s business imperatives and fulfilling the defined requirements
- **Vendor Management Components** - Vendor Management will require at least four (4) distinct process and skills competencies
  - **Contract Management**
  - **Financial Management**
  - **Performance Management and Risk Management**
  - **Relationship Management**

## Executive Summary

### Vendor Management Critical Success Factors

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- Managing the HSE Program Vendor(s) as a program (enterprise) vs. as one-off or “silo” approach
- Effective Governance Structure for Vendor Management
- Allocation of the appropriate level of staff resources to support the HSE Program’s Vendor Management agenda and goals
- Clear definition of roles and responsibilities within the PMO for Vendor Management

# Executive Summary

## Establishing a Vendor Management Infrastructure

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### 1. Strategize, Plan and Staff

- Define how Vendor Management will integrate into the State's HSE Program PMO structure, roles/responsibilities, staffing and resources to put a formal vendor management discipline in place and drive the right behaviors across all HSE Program workstreams – focusing on congruency and coherence of vendor management expectations, monitoring and metrics across the workstreams

### 2. Establish Governance Structure

- Develop a clear Vendor Management Charter for HSE Program Vendor Management

### 3. Execute - Implement a formal and disciplined Vendor Management effort within the PMO including:

- Ensure the optimal management of the vendor's activities for each workstream's life cycle aligned to vendor contract and State requirements and supporting the interdependencies across workstreams
- Develop reporting mechanisms and issue reports on Vendor Management activities, findings, accomplishments and risk mitigation efforts to Executive Committee and PMO stakeholders

### 4. Measure and Improve

- Establish Key Performance Indicators (KPIs) for each Vendor Management Domain for each HSE Program workstream and the HSE Program as a whole
- Use KPI's to track vendor management operations and success as well as areas for improvements and to avoid risks



## Vendor Management Details

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**GARTNER CONSULTING**  
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## Briefing Objectives

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- Gartner has been asked to present considerations for strengthening the State's PMO Vendor Management capabilities
- The briefing provides the context of Vendor Management for the life cycle of large and complex enterprise projects such as the VT Health Services Enterprise (HSE) Program that includes several interdependent workstreams including:
  - **Vermont Health Connect (VHC)** – including at a summary level -
    - Screening, Application, Determination and Enrollment in Qualified Health Plans or Transfer to Medicaid Services using Modified Gross Adjust Gross Income (MAGI) Eligibility Rules Engine
    - Portal, Workflow Management and Reporting Capabilities to support the Customer Relationship Management needs of the VHC
  - **Integrated Eligibility Solution and Health Services Enterprise Platform** – including at a summary level -
    - Expansion of Rules Engine to support Screening, Application, Determination and Enrollment for all healthcare programs
    - Expansion of Rules Engine to support Screening, Application, Determination and Enrollment for all ESD non-healthcare programs
    - HSE Platform to support master person index, workflow management, look up and query, benefits management, care and case, management, business intelligence reporting and decision support
    - Key components that can be leveraged to support future VT Health and Human Services Systems modernization (Portal, Workflow Management, Master Person Index, Care/Case Management, Business Intelligence)
  - **Medicaid Operations Technical Solution** – including at a summary level –
    - Pharmacy Benefits Management System
    - Care Management System to support Vermont Chronic Care Initiatives and other related Medicaid care management programs and services
    - Core Medicaid Management Information System (MMIS) – Including Provider Management, Claiming and Payment, Program Integrity (Fraud, Waste and Abuse identification and prevention), and Financial Management

## Briefing Objectives, Cont'd

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- The briefing provides recommendations for the State's consideration in defining the scope of Vendor Management including:
  - Benefits of Vendor Management
  - Vendor Management Domains
  - Hurdles and Critical Success Factors
  - Steps for Establishing a Vendor Management Infrastructure

# Scope of Enhanced Vendor Management

## Vermont Health Services Enterprise Program

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- The State of Vermont has secured enhanced Federal Financial Participation (97/3 FFP) through a enterprise (jumbo) Implementation Advanced Planning Document (IAPD) and Level I and II CMS Grant Awards to support the State's development of the Health Services Enterprise Program's technology solutions
- The focus of the Health Services Enterprise Program is to develop an integrated set of technology components that enable the State in moving forward with a more effective approach to the assessment, planning and delivery of the State's Healthcare and Human Services – this includes:
  - **State-Based Health Insurance Exchange** – Building out new technology support for the operational needs of the Vermont Health Connect (VHC)
  - **Integrated Eligibility (IE ) Solution** – Building out new technology to support integrated eligibility capabilities (screening, application and determination) first focusing on VHC Qualified Health Plans (QHP), Child Health Insurance Program (CHIP) and Medicaid Expansion (followed by other State healthcare programs and other non-healthcare economic support services). The IE solution also will include the build out of the case management support necessary for the operations of the State's Economic Services Division (ESD) including: Enrollment; Benefits Management; Case Management; Scheduling; Notifications; Financial Management; etc. The envisioned IE Solution will replace all of the ESD capabilities currently in the ACCESS system
  - **Health Services Enterprise Platform** – The common set of technology components essential to support the VHC and IE solutions and other future Vermont health and human services solutions that will reside on the Health Services Enterprise Platform including: Common Portal; Eligibility Automation Foundation; Master Data Management; Enterprise Information Exchange; Workflow Management; Reporting and Business Intelligence; etc. . The platform will also provide the foundation of technology capabilities along with the VHC and IE for the State's envisioned "Single Payer System" for healthcare in Vermont
  - **Medicaid Technology Modernization** - The replacement of key technology solutions that support the full business needs of the State's Medicaid operations leveraging as much as possible the investments the State has made in the development of the Health Services Enterprise Program Platform

## Focus of Enhanced Vendor Management Vermont Health Services Enterprise Program, Cont'd

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- It was the State's intention to move forward with the Health Services Enterprise Program with a single vendor, if possible, to build out the envisioned enterprise
- VHC was pursued through a transfer solution approved by CMS with CGI to ensure that the October 2013 milestone was achieved.
- Through a competitive procurement process, approved by CMS, CGI has been identified to build out the IE Solution and the HSE Platform.
- Both current HSE Program workstreams are using the same Oracle SOA standards and requirements and it is anticipated that the Medicaid Operations technology modernization workstream will leverage as much as possible the same Oracle SOA standards and technology stack
- Due to the decision to include components of the IE Solution and HSE Platform in the VHC agreement, the State faces significant risks to the success of the Program's strategy if there is not an integration of the CGI development efforts into a single enterprise approach:
  - Maintaining the current level of enhanced FFP as defined in the IAPD
  - Less than effective integrated enterprise approach as envisioned by the State for the Health Services Enterprise Program's technical solutions
  - Challenges to the oversight and accountability of CGI's workstreams
  - Duplication of efforts and higher potential of future rework
- A robust Vendor Management effort must be established as an "enterprise" approach through the State's HSE Program PMO (Program Management Office) focusing on all of the workstreams under the State's HSE Program PMO

# Benefits of an Integrated Enterprise Approach to Vendor Management

## Risks, Cost, Schedule, Scope and Accountability – Vendor Management to These Benefits

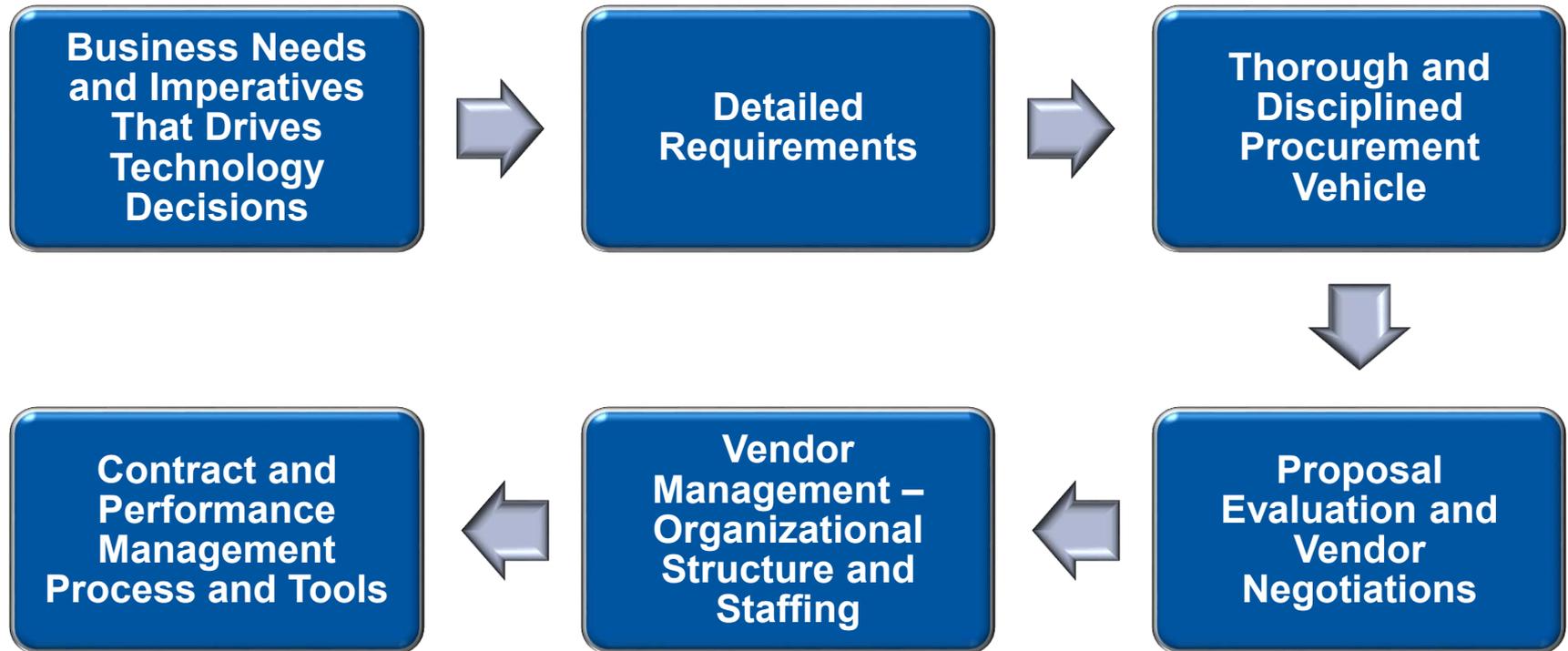
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- Aligns with the original enterprise (jumbo) IAPD and reduces the need for additional cost allocation and potential of lowering the 97/3 FFP for the full program
- Ensures the effective sequencing of the development efforts for the full enterprise and the establishment of the Health Services Enterprise Platform's (defined in the IE / HSE Platform RFP) common, discrete, discoverable SOA services essential to support the full enterprise of the State's healthcare and human services programs and the envisioned "single payer" system
- The CGI IE / HSE Platform proposal has been well vetted regarding scope, methodology, approach and alignment with the State's architectural standards and functional and non-functional requirements
- Ensures an integrated approach and allocation of State and vendor resources essential to meet federally mandated milestones and full leveraging of the enhanced FFP by December 2015
- Maximizes the containment of risks for a project of this size and complexity and minimizes duplication of efforts, systems integration and interface issues and future rework
- More focused and effective vendor and contract management and accountability of the vendor's design, development and implementation efforts by the Health Services Enterprise Program Management Office (PMO) and staff
- Provides for greater efficiency in the allocation and use of State and vendor resources across the Health Services Enterprise Program workstreams

# Vendor Management

Rooted in Meeting Business Needs and Achieving Envisioned Benefits

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# Vendor Management

## Guided and Driven by Detailed Requirements

Business Needs  
and Imperatives  
That Drives  
Technology  
Decisions

Detailed  
Requirements

Thorough and  
Disciplined  
Procurement  
Vehicle

- **Detailed Requirements** – The State’s vision and business needs, guided the IE / HSE Platform procurement effort, led to significant depth of details and traceability for functional and non-functional requirements. These need to be the critical foundation for the PMO Vendor Management effort – and need to be similarly documented and used for the VHC continuing development and deployment and for the Medicaid Operations modernization workstream. ***Vendor management needs to focus on the HSE Enterprise workstreams’ key requirements including:***
  - **Functional Requirements** – Workflows, Use Cases and Traceability Matrices – that follows the life of an eligibility case from Screening to Enrollment to Benefits and Case Management – these tell the Vendor “What” the State requires and should be used throughout the Design Development and Implementation (DDI) process by the State to hold the vendor accountable – these are in place for the IE / HSE Platform as part of the RFP
  - **Non-Functional Requirements (NFR)** – General System Design; Software Requirements; Remediation work; Data Conversion; Implementation (Phasing), Performance, etc. and NFR Traceability Matrix– This tells the Vendor the State’s technical expectations and should be used throughout the Design Development and Implementation (DDI) process by the State to hold the vendor accountable in this domain of requirements – these have been defined for the IE / HSE Platform as part of the RFP
  - **Key Personnel** – As proposed, as interviewed and no substitutions without State Approval (Which was not the case for the Exchange) for each key workstream
  - **Terms / Conditions** – Compliance requirements and Regress for the State for poor performance as has been defined in the legal agreements with the vendor

# Vendor Management Framework

- Effective Vendor Management moves an organization from a silo and “ad-hoc” basis of managing vendors (or being managed by the vendors) to an enterprise program-based focused approach for achieving the State’s business imperatives and fulfilling the defined requirements
- For Vermont, Vendor Management will require at least four (4) distinct process and skills competencies
  - Contract Management
  - Financial Management
  - Performance Management and Risk Management
  - Relationship Management

**Contract Management**

- Change Management
- Issues Management
- Problem Escalation & Resolution
- Audits
- Governance Documentation

**Financial Management**

- Invoice Management
- SLA’s
- Financial Planning
- Pricing Adjustments
- Sanctions and Incentives

**Performance and Risk Management**

- Measurement & Reporting
- Authorizations
- Security
- Architecture
- QA / IV&V Reports and Recommendations
- Risk
- Asset Management

**Relationship Management**

- Governance
  - Coordination of Vendors
  - Workstream Business and Technical Leads
  - End Users
- Demand Management
- State and Federal Regulatory Bodies
- Communications



# Vendor Management Scorecard Example

## Contract Management

1. Disputes open (number & age)
2. Issues open (number & age)
3. Audit status
4. Changes open & closed
5. Modifications/extensions/terminations timeliness

## Financial Management

1. Invoice accuracy
2. Invoice clarity and timeliness
3. Performance sanctions and credits
4. Critical deliverables
5. Unit cost and budget adherence

## Performance and Risk Management

1. Deliverables Expectations Document Compliance
2. QA / IV&V Vendor Reports and Findings
3. Service Level Fulfillment
4. Transition Milestones
5. Availability
6. Maintenance and Operations Support

## Relationship Management

1. End user customer satisfaction
2. Demand management
3. Reporting accuracy and timeliness
4. Collaborative decisions

# Vendor Management Framework Hurdles and Critical Success Factors

Relationship,  
Contract and  
Performance  
Management  
Process and Tools

Vendor  
Management –  
Organizational  
Structure and  
Staffing

## ■ **Critical Success Factors** include:

- Managing the HSE Program Vendor(s) as a program (enterprise) vs. as one-off or “silo” approach
- Effective Governance Structure for Vendor Management
- Allocation of the appropriate level of resources to support the HSE Program’s Vendor Management agenda and goals
- Clear definition of roles and responsibilities within the PMO for Vendor Management

## ■ **Hurdles and Challenges** to effective vendor management include:

- Maintaining an integrated enterprise focus to address the interdependencies of vendor activities and responsibilities across the HSE Program workstreams – avoiding a silo or narrow focus that results in unanticipated risks and consequences
- Commitment from the State to invest in Vendor Management – dollars / people / time / tools – understanding the ROI of making these investments
- Gaining the cooperation and support of the HSE Program’s workstreams business and technical leads
- Providing effective Communication across the HSE Program workstreams’ stakeholders to strengthen vendor management collaboration activities at all levels

## Steps for Establishing a Vendor Management Infrastructure

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### 1. Strategize, Plan and Staff

- Define how Vendor Management will integrate into the State’s HSE Program PMO structure, roles/responsibilities, staffing and resources to put a formal vendor management discipline in place and drive the right behaviors across all HSE Program workstreams – focusing on congruency and coherence of vendor management expectations, monitoring and metrics across the workstreams
- Develop job description for Vendor Manager that includes required skills and qualifications, role and responsibilities and reporting authority
- Assign a Full Time Vendor Manager to the HSE Program PMO – responsible for and empowered to build out the vendor management infrastructure and achieve the vendor management goals for the HSE Program workstreams
- Assess the additional staffing required (develop job descriptions and allocate the resources – full and/or part time - as necessary) for Vendor Management to support the Vendor Manager in the four key Vendor Management domains: 1) Contract Management; 2) Financial Management; 3) Performance Management and Risk Management; and 4) Relationship Management

### 2. Establish Governance Structure

- Develop a clear Vendor Management Charter for HSE Program Vendor Management
- Establish a process for making decisions and assigning decision rights related to Vendor Management
- Agree on authority and flow for decision-making, including Executive Committee expectations and roles
- Implement and set up feedback mechanisms

## Steps for Establishing a Vendor Management Structure, Cont'd

- 3. Execute** - Implement a formal and disciplined Vendor Management effort within the PMO including:
  - Ensure the optimal management of the vendor’s activities for each workstream’s life cycle aligned to vendor contract and State requirements and supporting the interdependencies across workstreams
  - Leverage and/or develop the Vendor Management tools, scorecards and recurring processes to monitor the four Vendor Management Domains – Contract, Finance, Performance & Risk and Relationships
  - Manage scorecard assessments and implement assertive actions for addressing and improving vendor performance, and for identifying, monitoring and mitigating risks in vendor performance
  - Implement vendor relationship activities to strengthen oversight, governance, and partnerships with workstream vendors and State business and technical leads
  - Develop reporting mechanisms and issue reports on Vendor Management activities, findings, accomplishments and risk mitigation efforts to Executive Committee and PMO stakeholders
- 4. Measure and Improve**
  - Establish Key Performance Indicators (KPIs) for each Vendor Management Domain for each HSE Program workstream and the HSE Program as a whole
  - Use KPI’s to track vendor management operations and success as well as areas for improvements and to avoid risks