Rapidly Defining a Lean CMMI Maturity Level 3 Process

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Presentation Objectives

Describe CMMI compliant online HP process
- Outline Components for a cost effective, lean process

Describe HP’s improvement objectives.
- Identify problems addressed by the streamlined CMMI L3 HP process

Describe the approach that was used to achieve CMMI Maturity Level 3.
- Unique techniques for defining & implementing an effective, lean CMMI L3 process in 8 months

Present some challenges and lessons learned.

Answer any questions.
FY05 C&I EAS/Federal Initiatives

**EAS & Public Sector Initiative**

- CMMI L3 Achievement
- Expand Application Services
- Increase Pursuit Capabilities
- Delivery Excellence
- Profit Improvement

**CMMI Relation**

- Development of EAS HPGM-AS methodology, rollout and assessment.
- L3 methodology is unifying force for consistent standards and practices.
- CMMI allows us to pursue opportunities we would not get otherwise
- Better estimation and marketing of services
- Standardization and enforcement of best practices.
- Disciplining delivery execution and preventing margin leakage by fostering reuse and minimizing risk
### 2004

A $1.5 Million dollar, 8 month project started to revise Success Program to meet CMMI level 3 and improve project controls. Some current and new FY05 Federal Contracts at risk without a CMMI level 3 compliant process.

- **Sept** CMMI Level 3 Gap Analysis on Current Methodology
- **Oct - Nov** HPGM-AS Methodology Customizations - define per Sharepoint portals
- **Dec** Pilots Start:
  - PM Orientations/Planning Sessions per project
  - CMMI & Methodology Classroom Training

### 2005

Success Program Office (SEPG team) and Pilot Projects start leveraging Success Program revised with the new CMMI level 3 compliant process

- **Jan** Envisioning & Maintenance Phase Pilots start
- **Feb** Design & Maintenance Phase Pilots
- **Mar** Build & Maintenance Phase Pilots
- **April** Pilots Continue & CMMI Assessment begins
  - **April 29** EAS and Public Sector Achieve CMMI level 3 maturity
Components of the HP CMMI L3 Process

Technology
- Sharepoint based portals:
  - Success Program Office
  - Success Manager
  - Success Reviews
  - HPGM-AS Roadmap
  - RADM Virtualization

Process
- SEI CMMI L3 framework
- HP Global Method Application Services (HPGM-AS - methodology)
- Success Reviews (PPQA audit process)
- Success Manager (Team Collaboration process)
- Adaptive Assets (Knowledge Capture & Reuse process)

People
- Success Program Office (SEPG function)
- SQA Coaches (per team)
- Program Management
- Organization & Culture
## Success Program Office

| EAS HP Global method Application services (HPGM-AS) | • Delivery Workflow portal/process  
• CMMI level 3 compliant  
• Phase deliverables & Signoffs |
| Success Manager | • Team Collaboration web/process  
• Pre-Loaded HPGM-AS  
• Customer accessible |
| Success Reviews | • Process Review (PPQA) portal/process  
• Mentoring Support By Field PMs |
| Adaptive Assets Knowledgebase | • Process and Tech Asset KB portal/process  
• Reuse tool |
| Rapid ADM | • Supports HPGM-AS Configuration Mgt  
• Virtualization and Software Configuration  
• Management (SCM) services |
Welcome to the Success Program Office!

HPGM-AS PROCESS

There are currently no upcoming events. To add a new event, click “Add new event” below.

Announcements

Self-Service Site Creation 7/15/2006 6:13 PM
by svc-sharepoint
Self-Service Site Creation has been enabled for this virtual server. Go to http://h20224.www2.hp.com/_layouts/1033/scsignup.aspx to create a new root Web site.

Submit Success Program Improvement Requests Here! 3/4/2005 10:23 AM
by Julie Kellum
Please go to this link to submit Success Program Improvements: https://h20224.www2.hp.com/Lists/SPO%20Change%20Requests/Sort%20By%20CRPRid.aspx

These are reviewed at the weekly Change Control Board (CCB) meetings by SPO...

by Julie Kellum
Used to track SPO issues, the resolution of some of these may result in a SPO CR/PR Success Improvement Request for the HPGM-AS process, artifacts, or SPO web sites.

SPO Links

- Request Success Manager Team Web Here!
- Submitting Success program Improvements
- SPO Issue Tracking
- SPO Quality Policy Document
- Identifying and Reporting a Security Incident
- HP Security
- CMMI Scope
Success Manager

• Team Collaboration site preloaded with HPGM-AS templates
• Visualization of HPGM-AS to client and team
• Document versioning and email alerts
• Customer accessible
• Required for large & small implementations
Success Reviews

Success Review Home Page
Welcome to the Success Review Home Page! This site defines the PPQA Success Review schedule and lists the results of the PPQA based CMMI audits. In addition, the templates used in Success Reviews are shown in LINKS section.

Announcements

Success Review Schedule
by Julie Kellum
5/8/2006 4:11 AM
Latest schedule for all CMMI project and SP0 PPQA audits: https://h20224.www2.hp.com/C15/Success%20Review%20Summary/AllItems.aspx

Auditors Place Results here
by Julie Kellum
8/12/2005 9:42 AM

Success Review R2v6 Process
by Julie Kellum
6/15/2005 6:38 AM
PPQA-based process that outlines how audits will be performed to monitor and control HPGM-AS process compliance by project's that fall within the CMMI scope area

Success Review Findings
by Julie Kellum
3/15/2005 6:02 AM
Latest CMMI PPQA Success Review audit findings:
https://h20224.www2.hp.com/C2/SuccessReviews/Lists/NC%20List/AllItems.aspx

Add new announcement

Links

Success Review Reports:
Success Review Summary
Archive of Records while Audits
Organizational QA Plan
Success Review Template
Organizational QA Plan (t)
Success Review Kickoff M
Planning (for Interviewww)
Success Review Report (t)
Success Review Summar
Success Review Plan (t)
SP0 Audits of Success Re
BSI - Online Course - "Es
Sample Questions Check!
Success Program Improv
HP leverages the Adaptive Assets KB web to provide reusable design patterns, code and process to projects. It improves quality and cost effectiveness of new solutions being developed.

**Announcements**

*Welcome!*  
by Brian Erwin  
*Charter*  
Our charter is to search for and harvest reusable code and best practices throughout HP.

*Mission*  
Our mission is to drive the harvesting and marketing of HP coding and best practice assets. These assets include non-customer specific...

**Area Contents**

**Software**
- .NET Technologies
- Middleware
- J2EE
- Mobile
- Web Services
- Best Practices
- Collaboration
- Databases

**Hardware**
- Desktop
- Server

**HPGM-AS Process**
- Non-CMMI Samples
- Non-CMMI Best Practices
- Non-CMMI Logistics Path Samples
- HPGM-AS Release Archive
- HPGM-AS Assessments
- HPGM-AS Lessons Learned
- HPGM-AS Metrics
- HPGM-AS Training
- HPGM-AS Peer Review Analysis
- HPGM-AS SPO Status Reports
- HPGM-AS Estimation
- HPGM-AS Project Plan Approvals

**Asset of the Month**
- AgFirst Front-End Architecture

**Most Popular Assets**
- BizTalk Automatic Canned Function Build
- Capacity Planning
- Data Dictionary Browser

**Premium Assets**
- BizTalk Automatic Canned Function Build
- Build Assistance Tool
- CryptoModel block
- Finite State Machine component
- Logistic demand tools
Success Program Office (SPO) website for managing CMMI initiative

**HPGM-AS Release Schedule**

<table>
<thead>
<tr>
<th>Title</th>
<th>Release Link</th>
<th>Release Date</th>
<th>Release CRs</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1.5 HPGM-AS</td>
<td>R1.5</td>
<td>12/1/2004</td>
<td>n/a</td>
</tr>
<tr>
<td>R2.6 HPGM-AS</td>
<td>R2.6</td>
<td>4/18/2005</td>
<td>CLICK Here for list of CRs for this Release</td>
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<tr>
<td>R3.0 HPGM-AS</td>
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<td>9/30/2005</td>
<td>CLICK Here for list of CRs for this release</td>
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<tr>
<td>R4.0 HPGM-AS</td>
<td>TBD</td>
<td>10/28/2005</td>
<td>CLICK here for list of CRs for this Release</td>
</tr>
</tbody>
</table>

**SPO Workbench**

<table>
<thead>
<tr>
<th>SPO Id</th>
<th>Category</th>
<th>SPO Activity LINK</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>310</td>
<td>Training</td>
<td>Individual Training Plans</td>
<td>HP Performance Plans - Contains Training Plans</td>
</tr>
<tr>
<td>330</td>
<td>Training</td>
<td>Training Effectiveness Analysis</td>
<td>Contains quarterly assessment of training feedback and effectiveness</td>
</tr>
<tr>
<td>300</td>
<td>Training</td>
<td>Training Feedback Forms</td>
<td>Training feedback form used for eliciting feedback - used in Training</td>
</tr>
<tr>
<td>290</td>
<td>Training</td>
<td>Training Records</td>
<td>Contains the SPO Training records on process training completed as well</td>
</tr>
<tr>
<td>370</td>
<td>PPQA</td>
<td>QA Plan (Success Review)</td>
<td>Online Schedule and status of Success Review audits planned; Used by</td>
</tr>
</tbody>
</table>

**Primary SPO Links**

- SPO Action Items
- SPO Change Requests/Problem Reports (CR/FR)
- SPO Issues
Welcome to the Rapid ADM!

The Americas Rapid ADM supports development and QA environments by providing rapid environment provisioning services. A new environment can be built in as little as 10 minutes with the operating system and development tools installed and ready to use.

Today, we support:

Operating Systems: Windows 2003 and Red Hat Linux

Databases: SQL Server and Oracle

Tools: Visual Studio, Eclipse, QA Center, Rational Suite, BEA Weblogic, and MS Office

Rapid ADM is a division of HP C&I EAS, managed by Brian Erwin, and provides both HP internal and external application teams with tools and consulting services.

If you are interested in getting started using Rapid ADM to provide a dynamic dev/test environment for your team, start by completing the qualification worksheet below and send the service brief for an overview of our offerings. Then, do one of the following:

For EAS and ENI teams, click on the following link:


For other HP teams, fill out a Service Quote Request form and follow the enclosed directions to get off the ground quickly with your own VMs!

Yours,

Links
- GDMS VM Service Offerings
- HPS Knowledge Network
- Podcasts (RADM is Episode #6)

Related Sites
- Test and Development Team Site
- Virtual Desktop System
- Tycoon
- TSG ESS VMware from HP - Tools
- Virtual Iron

Online Videos
Name
Introduction to Tetrix
Tetrix Administrative Features

Marketing
Name
Rapid ADM External Overview
Rapid ADM in HP-IT
Rapid ADM Sales Quick Start
Rapid ADM Value Proposition
RapidADM Solution Flyer
Tetrix Animated Slideshow
Tetrix Overview v3
Outline

HP Overview

HP Improvement Objectives

HP Approach

Challenges and Lessons Learned

Questions and Answers
Success Program Vision

• Using a sales and delivery integrated approach, leverage existing, as well as grow new process and technical Adaptive Assets to:
  – Increase ability to compete in Federal bids through CMMI Level 3 compliance
  – Win more business through improved differentiation
    • IBM differentiation point
  – Increase Success of Projects
    • Synergistic Teams
    • Referencable Clients
    • On Time
    • In Budget/Profitable
    • Effective HP Global Methods Applied
Success Program ➔ What & Why

• Collection of specific process and technical assets used in pre-sales for differentiation and in delivery to increase project success

• CMMM Maturity Level 3 compliant to meet Federal bid requirements

• Externally accessible outside HP Firewall by delivery teams

• Major Areas:
  ─ Success Path HPGM-AS
  ─ Success Manager
  ─ Success Reviews
  ─ Adaptive Assets KB
  ─ Communities & Forums

• Best of breed IP from HP
Outline

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Leverage existing HP processes and templates:
- Success Program
- HP India (CMMI Maturity Level 5)
- HP Global Methods for Application Services (HPGM-AS)
- HPGM for Project Management (HPGM-PM)

Deploy Tailored SEI IDEAL℠ Model and reuse existing processes to be CMMI compliant.

Leverage Best of breed IP from HP
SEI IDEAL SM Model for Process Improvement

- Stimulus for Improvement
- Set Context & Establish Sponsorship
- Establish Improvement Infrastructure
- Appraise & Characterize Current Practice
- Develop Recommendations & Document Phase Results
- Set Strategy & Priorities
- Establish Process Action Teams & Plan Actions
- a. Define Processes & Measures
- b. Plan & Execute Pilots
- c. Plan, Execute & Track Installation

Leveraging
- Revise Organizational Approach
- Document & Analyze Lessons

Acting

Initiating

Diagnosing

Establishing

• SM IDEAL is a service mark of Carnegie Mellon University; Slide Adapted from SEI
Tailored SEI IDEALSM Model

**Initiating**: Sponsor sold idea to HP senior management.

**Diagnosing**: HP India performed a mini-appraisal (e.g., Class B).

**Establishing**: CMMI Consultant established high-level plan and HP established a CMMI Team.

**Acting**: Architected HP processes to be CMMI compliant in 2 months; Skipped piloting; Trained and implemented experienced projects.

**Success**: Performed independent SCAMPI A.
HP’s “Lean” Process

HP Success Program is a very “lean” CMMI compliant process (about 25% of the size of the HP India process).

The process is completely online, and uses Microsoft SharePoint.

HP’s process is only ~25 web pages in size.

HP incorporated best practices in process definition

HPGM-AS CMMI L3 Methodology

- 2 Paths depending on project profile
  - Large HPGM-AS CMMI Implementation
  - Small HPGM-AS CMMI Implementation
  - Excluded are projects required to use the customer’s app dev methodology & staff aug
  - No existing projects asked to convert – new only
  - Large and Small Project implementations differ mainly
    - on use of Success Reviews and Deliverables Required
# HPGM-AS Artifact Comparison Example

<table>
<thead>
<tr>
<th>Small/Low Risk</th>
<th>Large/High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Success Manager site</strong></td>
<td><strong>Success Manager site</strong></td>
</tr>
<tr>
<td><em>(Issues List &amp; Change Req/PR List)</em></td>
<td><em>(Issues List &amp; Change Req/PR List)</em></td>
</tr>
<tr>
<td><strong>Project Plan &amp; Configuration Mgt Plan</strong></td>
<td><strong>Project Plan &amp; Configuration Mgt Plan</strong></td>
</tr>
<tr>
<td><strong>Schedule</strong></td>
<td><strong>Schedule</strong></td>
</tr>
<tr>
<td><strong>Mini-Spec</strong></td>
<td><strong>Bus Req Spec (BRS)</strong></td>
</tr>
<tr>
<td><em>(Contains sections from all of these ➔)</em></td>
<td><strong>Systems Req Spec (SRS)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Systems Architecture (SA)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Detail Design (DD)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>V&amp;V /Test Plan</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Req Traceability Matrix (RTM)</strong></td>
</tr>
<tr>
<td><strong>Peer Review Log/Checklist</strong></td>
<td><strong>Peer Review Log/Checklist</strong></td>
</tr>
<tr>
<td>− <strong>Mini-Spec</strong></td>
<td>− <strong>Project plan, SRS, SA, V&amp;V Plan</strong></td>
</tr>
<tr>
<td><strong>CM Audit Checklists</strong></td>
<td><strong>CM Audit Checklists</strong></td>
</tr>
<tr>
<td>− <strong>Success Manger, Product</strong></td>
<td>− <strong>Success Manager, Code, Product</strong></td>
</tr>
<tr>
<td><strong>Milestone Review Phase Checklists</strong></td>
<td><strong>Milestone Review Phase Checklists</strong></td>
</tr>
</tbody>
</table>
Outline

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Challenges and Lessons Learnt

Questions and Answers
Challenges

- CMMI Resources were reallocated to the new high priorities.
- Resistance to change when people have gone through several changes without tangible results.
- Aggressive schedule
- Unexpected events such as team health and organizational changes
Lessons Learned

• It takes time, senior management support, and mentoring to change behavior

• Traditional Classroom training not enough – critical to have a local resource to mentor team on methodology/CMMi activities and artifacts

• Success Reviews critical for monitoring and mentoring on process use

• Critical to use centralized team collaboration tool for process support (i.e. PPQA, Peer Reviews, Lessons Learned, Issue Tracking/Project Change control, etc)
Lessons Learned

• Spend ample time in planning phase to lock down the scope of the project.
• Obtain and maintain executive sponsorship to keep driving the project on schedule.
• Define Configuration Management early in the process.
• Follow the Configuration Management process.
• There is no substitute for one-on-one mentoring for the late adopters.
• Ensure core team understands the entire process.
• Ensure the process is lean and relevant.
Lessons Learned

- Engage stakeholders throughout the process.
- Third party consultants can provide objective feedback.
- Build a diverse team and leverage diversity.
- Ensure CMMI expert resources are on the team.
- CMMI really does require continuous process improvement.
What Went Well

- Teams reap benefits of Peer Reviews, and Milestone Reviews
- Pilot projects implement a consistent delivery approach
- Improved metrics to track trends across projects
- Integration of virtualization through CM process
- Increased value to customer through improved communications thru SPO:
  - Success Manager Team Webs
  - Status Reporting
  - Automated Issues and Change Request tracking
What Went Well

- Expanded Rollout of Success program to ~300
- Implemented new Success Program processes:
  - HPGM-AS Bid Review (Pre-sales)
  - HPGM-AS Quickstarts (Pre-Delivery, 1 week) → tailoring of the process by SEPG with PM and SA
- Implemented scalable training to replace classroom training:
  - PM CMMI Training Track (14 webinars)
  - Engineering CMMI Training Track (9 webinars)
- Implemented Success Reviews/PPQA based on peer PM resources - not separate SEPG PPQA staff
- Totally integrated into existing funding mechanisms
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Questions?