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.

Outline

HP Overview

HP Improvement Objectives

HP Approach

Challenges and Lessons Learned

Questions and Answers

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.

Existing Methods Revised to Meet CMMI Level 3

- 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
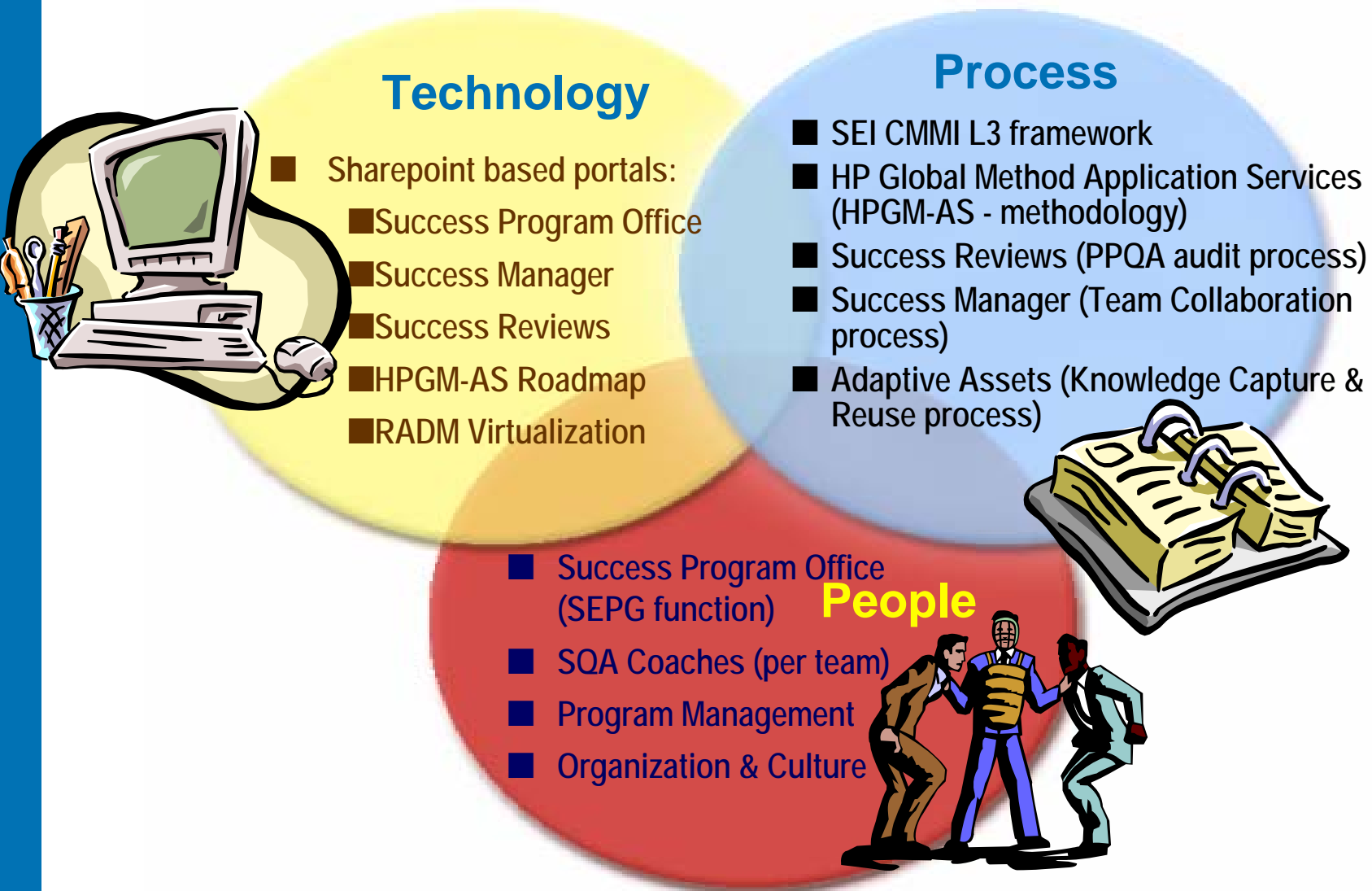 - •CMMI & Methodology Classroom Training

2005

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

Pilots Underway

- 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

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Edit Page

Welcome to the Success Program Office!

Contact:
Brian Erwin, Julie Kellum

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...

Submit SPO Issues Here!   3/4/2005 10:23 AM
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
https://h20224.www2.hp.com/Lists/SPO%20Issue%20Tracking/AllItems.aspx

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

tps://h20224.www2.hp.com/default.aspx   Local intranet

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Address   https://h20224.www2.hp.com/sites/ProjectsCMMi/SuccessPath_HPGM-AS_Roadmaps/Roadmap_v6/default.aspx   Go   Links

Home   Documents and Lists   Create   Site Settings   Help   Up to Success Manager HPGM-AS Roadmaps

HPGM-AS Roadmap R2.6
Home

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Second Release of HP Global Method for Application Services which is a level 3 CMMI application development methodology supporting iterative, waterfall and maintenance lifecycles in HP's Consulting and Intergration (C&I) area

Documents

HPGM-AS ZIPed Templates

Pictures

Lists

New Projects START HERE

Lifecycles

ENVISIONING PHASE

DESIGN PHASE

BUILD PHASE

ARTIFACTS

Project Planning (PP)

Project Management (PMC)

Configuration Management (CM)

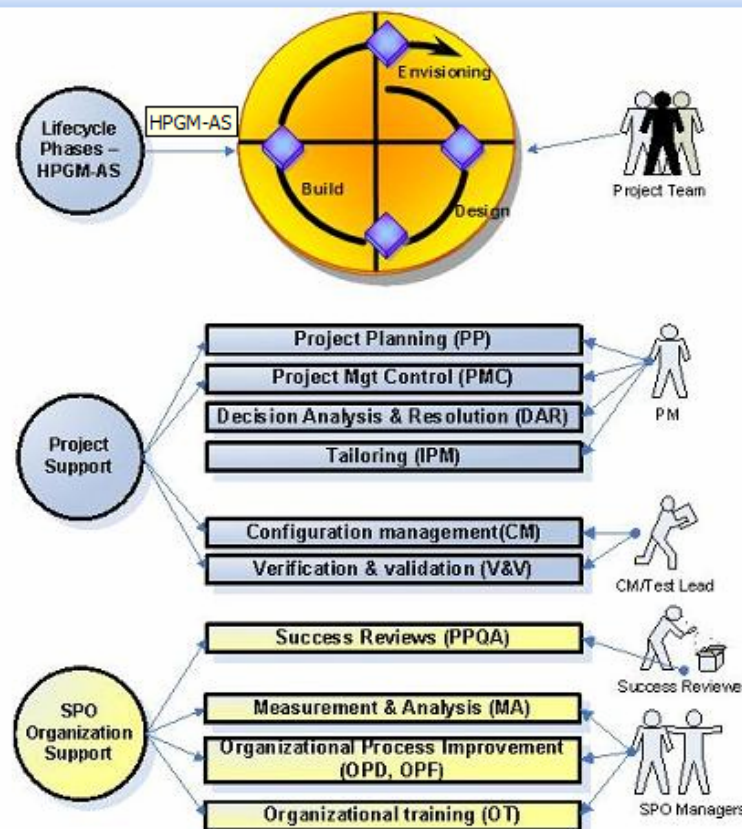Verification and Validation (V&V)

Peer Review (V&V)

Decision Analysis Resolution (DAR)

Tailoring (IPM)

SPO Success Reviews (PPQA)

HPGM-AS ▼

CMMI Links ▼

- SUBMIT Success Program Improvements Here!
- Adaptive Assets
- Success Reviews
- CMMI project webs (currently USPS only - special clearance required)
- HPGM-AS Lifecycles Overview
- SPO Portal
- SPO Lessons Learned Analysis
- HPGM-AS Impact Analysis Tool
- SPO Configuration Management Plan
- SPO Training Plan
- SPO Improvement Plan (SIP)
- SPO Quality Policy
- SPO Quality Assurance (QAP) Plan
- CMMI Scope & Design Decisions

⊡ Add new link

Contacts ▼

Last Name	First Name	Role
Galvan	Carlos	April 18-29 Lead CMMI Assessor
Erwin	Brian	Centers of Excellence Manager

Done   Local intranet

start   3 Microsof...   5 Microsof...   Training 20...   HP4 2006   Home - HPG...   10:46 PM

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Success Program Office
Success Reviews

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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.

Contact:
Debra Henrichs

Announcements

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

Auditors Place Results here   8/12/2005 9:42 AM
by Julie Kellum
https://h20224.www2.hp.com/C2/SuccessReviews/Document%20Library/Forms/AllItems.aspx

Success Review R2v6 Process   6/15/2005 6:38 AM
by Julie Kellum
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

https://h20224.www2.hp.com/sites/ProjectsCMMi/SuccessPath_HPGM-AS_Roadmaps/Roadmap_v6/Lists/Process%20and%20Product%20Quality%20PPQA%20%20INSHORE/ByActivityId.aspx

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

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Links

Success Review Reports &

Success Review Summar

Archive of Records while
Audits

Organizational QA Plan

Success Review Template

Organizational QA Plan (t

Success Review Kickoff M

Planning (for Intervieww)

Success Review Report (t

Success Review Summar

Success Review Plan (ten

SPO Audits of Success Re

BSI - Online Course - "Es

Sample Questions Checkl

Success Program Improv

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https://h20224.www2.hp.com/AdaptiveAssets/default.aspx

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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.

Contact:
Brian Erwin

Announcements

Welcome!   9/1/2004 9:56 AM
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

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 Functoid Builde

■ Capacity Planning

■ Data Dictionary Browser

Premium Assets

■ BizTalk Automatic Canned Functoid Builde

■ Build Assistance Tool

■ CryptoModel block

■ Finite State Machine component

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Success program Office (SPO) web site for managing CMMI intiative

Contact:
Julie Kellum

HPGM-AS Release Schedule

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

⊡ Add new announcement

Primary SPO Links

SPO Action Items

SPO Change Requests/Problem Reports (CR/PR)

SPO Issues

⊡ Add new link

SPO Workbench

📑 New Item | 🔽 Filter

SPO Id	Edit	📎	Process Area	Category	SPO Activity LINK	Note
310	📝		OT	Training	Individual Training Plans	HP Performance Plans - Contains Training Plans
330	📝		OT	Training	Training Effectiveness Analysis	Contains quarterly assessment of training feedback and effectiveness an communication of analysis to the SMSC
300	📝		OT	Training	Training Feedback Forms	Training feedback form used for eliciting feedback - used in Training Effectiveness Analysis - Note that original feedback forms kept on file for
290	📝		OT	Training	Training Records	Contains the SPO Training records on process training completed as well links to Learn @HP which provides online training records for all employee Learn @ HP is leveraged to track training for skills outside of the HPGM-p training requirements
370	📝		PPQA	Success	QA Plan (Success Review)	Online Schedule and status of Success Review audits planned; Used by th

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Rapid ADM

| ome | QA | Technology |

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Welcome to the Rapid ADM!   ▾

e Americas Rapid ADM supports development and QA environments by providing pid environment provisioning services. A new environment can be built in as little as 0 minutes with the operating system and development tools installed and ready to e.

oday, we support:

perating Systems: Windows 2003 and Red Hat Linux

atabases: SQL Server and Oracle

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

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

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

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

tp://16.114.12.104/RADMPortal/WebPages/SPO/GettingStarted.aspx? ferrer=https://h20224.www2.hp.com/C10/RADM/default.aspx

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

urs,

Links   ▾

- GDIS 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

RapidADMSolutionFlyer

Tetrix Animated Slideshow

Tetrix Overview v3

one   Local intranet

Outline

HP Overview

HP Improvement Objectives

HP Approach

Challenges and Lessons Learne

Questions and Answers

Success Program Vision

- Using a sales and delivery <u>integrated</u> 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

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HP Approach

Leverage existing HP processes and templates:

- Success Program
- HP India (CMMI Maturity Level 5)
- HP Global Methods for Application Services (HPGM-AS)
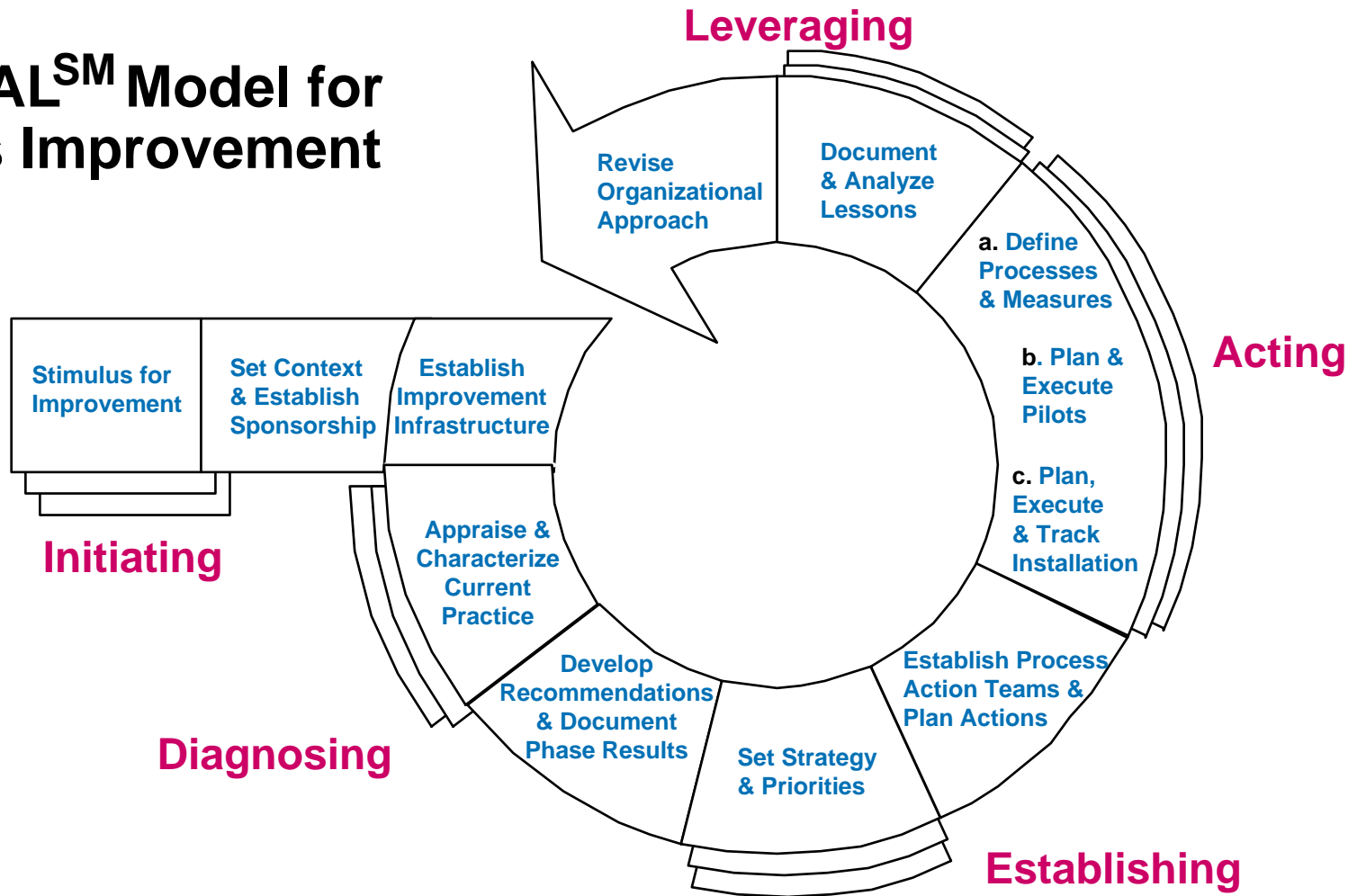- HPGM for Project Management (HPGM-PM)

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

Leverage Best of breed IP from HP

SEI IDEAL^{SM} Model

SEI IDEAL^{SM} Model for Process Improvement

Leveraging

Revise Organizational Approach

Document & Analyze Lessons

a. Define Processes & Measures

b. Plan & Execute Pilots

Acting

c. Plan, Execute & Track Installation

Stimulus for Improvement

Set Context & Establish Sponsorship

Establish Improvement Infrastructure

Initiating

Appraise & Characterize Current Practice

Develop Recommendations & Document Phase Results

Establish Process Action Teams & Plan Actions

Diagnosing

Set Strategy & Priorities

Establishing

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

Tailored SEI IDEAL^{SM} 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 ~25web pages in size.

HP incorporated best practices in process definition
- e.g., "Defining Short, Usable Processes and Procedures", CrossTalk, Olson, Timothy G., June 2006.

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
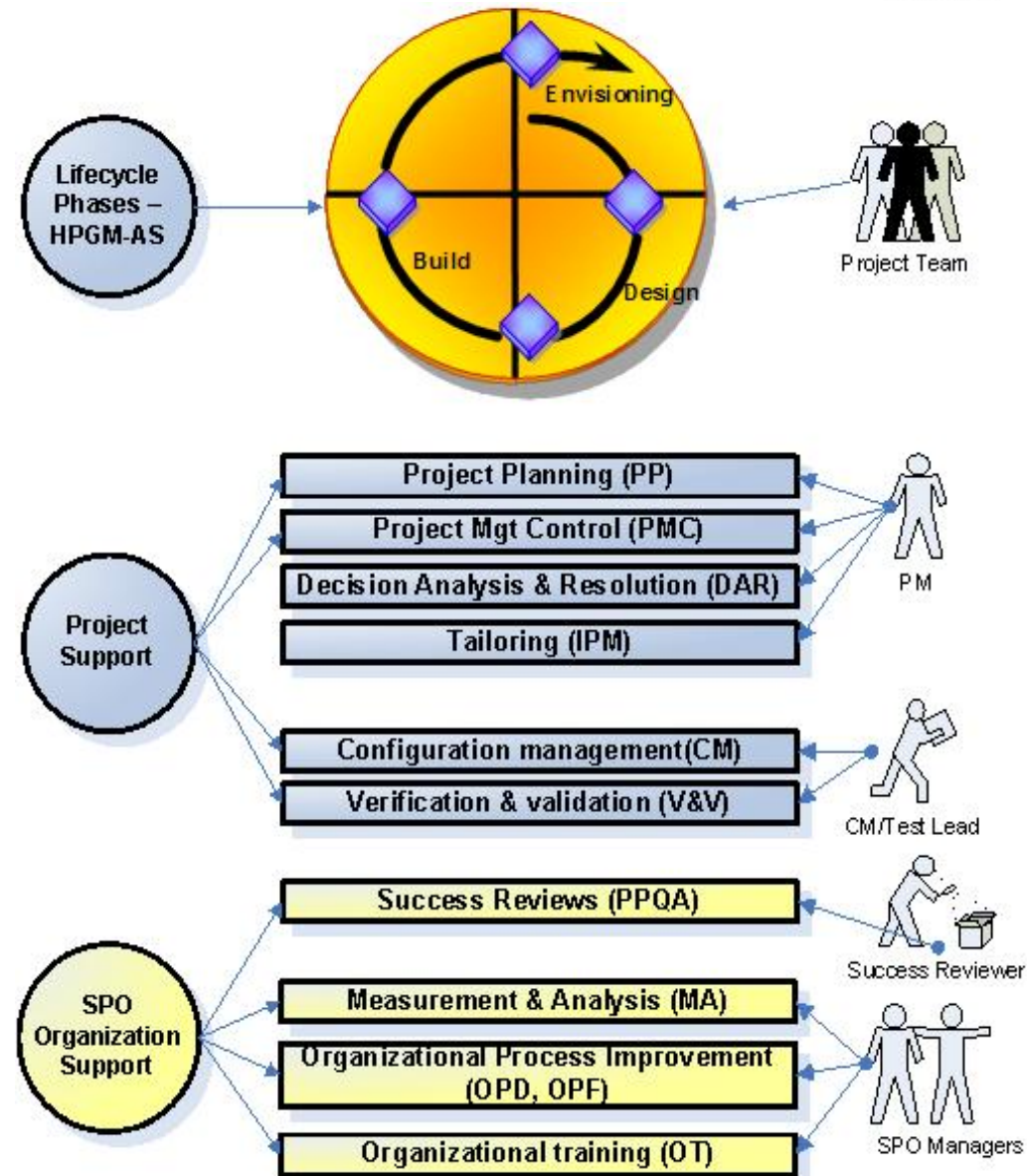
HPGM-AS Artifact Comparison Example

Small/Low Risk	Large/High Risk
Success Manager site (Issues List & Change Req/PR List)	Success Manager site (Issues List & Change Req/PR List)
Project Plan & Configuration Mgt Plan	Project Plan & Configuration Mgt Plan
Schedule	Schedule
Mini-Spec (Contains sections from all of these ➜)	Bus Req Spec (BRS) Systems Req Spec (SRS) Systems Architecture (SA) Detail Design (DD) V&V /Test Plan Req Traceability Matrix (RTM)
Peer Review Log/Checklist 　– Mini-Spec CM Audit Checklists 　– Success Manger, Product Milestone Review Phase Checklists	Peer Review Log/Checklist 　– Project plan, SRS, SA, V&V Plan CM Audit Checklists 　– Success Manager, Code, Product Milestone Review Phase Checklists

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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?