

Taking the Plunge with the CMMI for Acquisition

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Content

- The Organization
 - The Appraisal
 - The Process Improvement Plan
 - Lessons Learned
 - Summary

The Organization

- Responsible for technical aspects of systems procurement
- Several engineering departments and one testing and quality department
- Some departments also develop systems
- ISO certified
- Some suppliers are at CMMI Maturity Level 3

The Organization's Projects

- Large number of small projects
- Small number of large programs that involve several departments
- Multidisciplinary systems

Employee Characterizations

- Under pressure
- Responsible for large number of projects or large projects
- Minimum resources
- High turnaround of staff
- Most of the employees are young and without experience
- Tired of ISO or processes

Motivation for the Appraisal

- Purpose
 - Check if the CMMI for Development can be used to improve processes
- Rationale
 - ISO does not provide the required results
 - Suppliers are using the CMMI

Based on the gaps that will be identified, the organization will decide if the model fits its needs

Reasons for Using the CMMI for Acquisition Draft Model

- Main business of the organization
- Using the draft model was less risky than using the development model
- No external requirement
- Not a formal SCAMPI

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The Appraisal

- Sponsor
 - The CEO of the organization
- Scope
 - Procurement projects
 - All engineering departments and the testing and quality department
- Reference Model
 - CMMI for Acquisition draft model/2006
- SCAMPI Methods
 - Class B compatible with focus on interviews

Selected Process Areas

Project Management

- Project Planning
- Project Management and Control
- Requirements Management

Support

- Configuration Management,
- Process and Product Quality Assurance
- Measurements and Analysis

Acquisition

- Supplier Solicitation and Agreement Development
- Acquisition Management
- Acquisition Requirements Development
- Acquisition Technical Solution
- Acquisition Verification
- Acquisition Validation

- Product Integration was added but later was found to be irrelevant

The Appraisal Activities

Preparations

- Planning
- An overview to senior management
- Appraisal Team Training
- Participant Briefing
- Questions scripting

Conducting

- Document Review
- Interviews
- Characterization

Reporting

- Results Reporting
- Program Planning
- Lessons Learned

Appraisal Team

- QA personnel
- Representatives from the engineering departments
- All participated in the formal Introduction to the CMMI training
- Some participated in the Intermediate course
- No real experience with implementing the CMMI
- No familiarity with the CMMI for Acquisition

Team Training

- Overview of the CMMI
- “Intro like” for the relevant acquisition process areas
- SCAMPI method
- Questions Scripting
- Refreshing
- Worked very smoothly
- Additional questions were added

Questions Scripting

- New Questions
 - New process areas, new practices
- Supplier questions
 - Where appropriate
 - Example
 - How do you monitor acquirer risks
 - How do you monitor supplier risks

Appraisal Planning

- Longer time was allocated for:
 - Interviews
 - Document review
 - Characterization

Interviews

- Focus on project and program managers from the different departments
- All levels of employees and roles:
 - CEO
 - Department managers
 - Section managers
 - Program managers
 - Project managers
 - Experiment managers
 - QA managers
 - QA engineers
 - Planners
 - Measurements and analysis experts

Document Review

- Organizational Level
 - In advance
- Project Level
 - Collected during the interviews and reviewed after the interviews

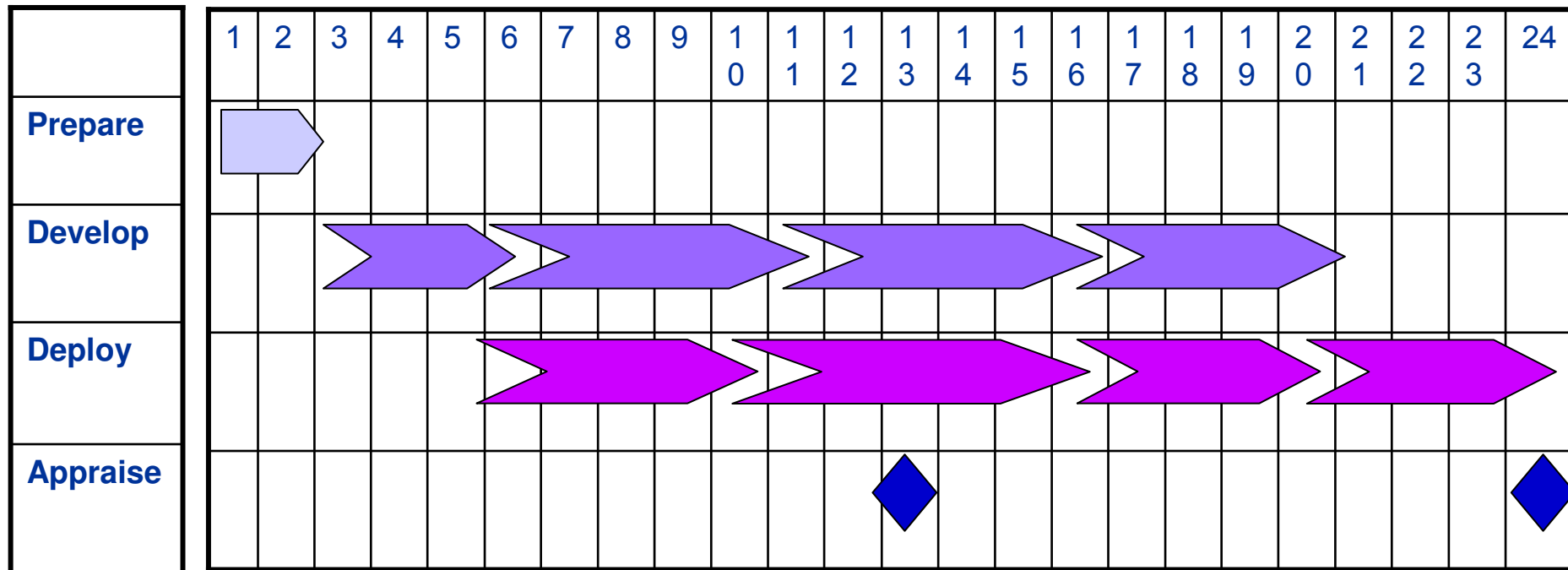
Major Appraisal Findings

- Less gaps were found in the solicitation and supplier selection processes due to regulations
- Suppliers performed some of the supplier activities as a result of limited resources
 - Customer and Product Requirements specification
 - Risk management
 - Verification
 - Configuration management
- Process Quality Assurance for the suppliers focused on the suppliers' production processes
- Some practices were not applicable since the organization is not responsible for the financial aspects

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Program Schedule



Program Increments

INCREMENT	Process	PA
I	Product development and deployment Life Cycle Process Improvement	OPD, OPF
II	Quality Assurance Technical Specification Definitions Change Management Configuration Management Project Management Acquisition Management	PPQA ARD, ATS REQM CM PP, PMC, IPM, AM
III	Self-Product Development and Deployment Life Cycle Measurements SOW Development Supplier Selection Design Evaluation	MA, SSAD, ATS
IV	Off-The-Shelf Procurement and Deployment Life Cycle Risk Management Decision Analysis and Resolution Training Verification & Testing	DAR OT AVER, AVL

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The Organization and the Model

- ✓ The model was found appropriate
- ✓ It seems the model has advantages over the ISO-9000 or the CMMI for Development

SCAMPI Results – The Organization vs. Other Organizations

- Similar problems to those of low maturity development organizations
 - Project Planning
 - Quality Assurance
 - Measurements and Analysis
 - Generic Practices
- Model adaptations to organization's terminology
 - Not a standard development organization

Concerns with the Model

- Organizations responsible for the technical aspects of the acquisition
- Using the CMMI for Acquisition for acquirers with suppliers using the CMMI for Development
- Division of process areas into Maturity Levels
- Model categories
- Dealing with one source

Acquisition with Development Model Concerns

- Number of Documents
 - Acquirer
 - Customer requirements
 - System requirements
 - Supplier
 - Customer requirements
 - System requirements
- Tool Integration
 - E.g. project planning, configuration management, etc.

Program Planning

- The same methods and approaches used for development organizations
 - Structure, incremental improvement

Side Effects

- Development organizations can use the Acquisition Requirements Development (ARD) and Acquisition Technical Solution (ATS) as a guideline to implement the Supplier Agreement Management (SAM) processes

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Summary

- Model
 - Transition was not difficult
- SCAMPI method
 - Worked
 - Additional time was required
- Planning
 - Similar approach

The CMMI for Acquisition Model and the SCAMPI method can be effectively used by acquisition organizations to:

- Find opportunities for improvement
- Guide the planning of the process improvement program

- Thanks and see you at SEPG 2009
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