



Boldly Going Where Few Have Gone Before – SCAMPISM C Appraisal Using the CMMI[®] for Acquisition

Carol Klingler & John Kennedy

klingler@mitre.org; jkennedy@mitre.org

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Agenda

- Introduction
- Background
- CMMI-ACQ Process Areas
- Lessons Learned
- Recommendations to CMMI-ACQ Developers

Introduction

- **This presentation describes lessons learned in performing successful SCAMPI C appraisals using the CMMI for Acquisition (CMMI-ACQ)**
- **The presentation is based on the authors' experience in performing SCAMPI C appraisals and process improvement on a number of organizations using the CMMI-ACQ**
- **The presentation will emphasize practical guidance that can be used by others performing appraisals against CMMI-ACQ**

CMMI – Capability Maturity Model Integration

SCAMPI – Standard CMMI Appraisal Method for Process Improvement

Background (1 of 2)

- The authors have been involved in process improvement initiatives in government and contractor organizations
- We had been applying the CMMI for Development (CMMI-DEV) to address acquisition/program office process improvement needs
 - Terminology not familiar to acquisition offices
 - Does not include some areas important to acquisition offices, such as solicitation
- We switched emphasis to CMMI-ACQ Version 1.2 when released in November 2007, since we were mainly working with acquisition offices
- We found that, for acquisition offices, CMMI-ACQ is more applicable and easier to understand
 - Uses acquisition terminology
 - Includes process areas specific to acquisition offices

Background (2 of 2)

- We performed one of the first SCAMPI Cs appraisals against CMMI-ACQ in early 2008
 - Performed on a program office
 - Purpose was to determine areas for process improvement
- We have continued to use the CMMI-ACQ for acquisition office process improvement and appraisal

CMMI-ACQ Process Areas

Level	Focus		Process Areas
5 Optimizing	Continuous Process Impvt		Causal Analysis and Resolution Organizational Innovation & Deployment
4 Quantitatively Managed	Quantitative Management		Organizational Process Performance Quantitative Project Management
3 Defined	Process Standardization		Acquisition Technical Management Acquisition Validation Acquisition Verification Decision Analysis and Resolution Integrated Project Management Organizational Process Definition Organizational Process Focus Organizational Training Risk Management
2 Managed	Basic Project Management		Agreement Management Acquisition Requirements Development Configuration Management Measurement and Analysis Project Monitoring and Control Project Planning Process and Product Quality Assurance Requirements Management Solicitation and Supplier Agreement Development
1 Initial			

Lessons Learned Topics

- **Applicability of CMMI-ACQ to acquisition offices**
- **Appraisal team experience needs for CMMI-ACQ versus CMMI-DEV**
- **Potential CMMI-ACQ areas of confusion**
- **Preparing the appraisal team for using the CMMI-ACQ**
- **Applicability of CMMI-ACQ to different organizations involved in the acquisition**
- **Areas of CMMI-ACQ that may be performed by outside organizations**

Applicability of CMMI-ACQ to Acquisition Offices

- **CMMI-ACQ is an excellent model for process improvement and appraisal in an acquisition office**
 - In the core process areas, CMMI-ACQ includes direction on how to apply to an acquisition office
 - Configuration Management and Quality Assurance are included, unlike the earlier SA-CMM
 - CMMI-ACQ uses acquisition terminology which makes the model understandable by acquisition office staff
 - CMMI-ACQ provides process areas specific to acquisition

SA-CMM – Software Acquisition Capability Maturity Model

Appraisal Team Experience Needs for CMMI-ACQ versus CMMI-DEV

- **SCAMPI A Method Definition Document, Version 1.2, states the management and engineering experience needed by a SCAMPI A team**
 - Requirements for appraisal team members do not vary depending on the CMMI model being appraised
 - Experience requirements are the same for CMMI-DEV and CMMI-ACQ
- **However, experience needs differ for a CMMI-ACQ appraisal**
 - Extensive acquisition experience is more important than extensive engineering experience
 - For an appraisal on a government program office, appraisal team members need to understand that environment
- **The SCAMPI A methodology requirements for appraisal team members should be updated**

CMMI-ACQ Considerations for Appraisal Team Members New to the Model (1 of 2)

- Appraisal leads should keep the differences between CMMI-DEV and CMMI-ACQ in mind when training team members familiar with CMMI-DEV but new to CMMI-ACQ. Reinforcing training may be needed in
 - New process areas
 - Core process areas that will be applied differently in CMMI-ACQ
- Core process areas from CMMI-DEV have a different focus. For example
 - Project Monitoring and Control is focused on the acquisition office itself, while Agreement Management is focused on monitoring the contractor
 - Process and Project Quality Assurance must now be performed on acquisition office processes and products (including any acquisition office support contractor processes and products)

CMMI-ACQ Considerations for Appraisal Team Members New to the Model (2 of 2)

- **Project documentation may be relevant to multiple process areas**
 - Also occurs in CMMI-DEV appraisals
 - Example: Project Plan may contain documentation that applies to Project Planning and to Solicitation and Supplier Agreement Development

Preparing the Appraisal Team for Using the CMMI-ACQ (1 of 2)

- **Added complexity with focus on the acquisition office versus a software development organization**
- **Acquisition offices usually hire contractors for both**
 - Performing acquisition functions
 - Performing systems development
- **May add to number of interviews conducted and documentation reviewed during appraisal**
 - Tasks performed by acquisition office staff
 - Tasks performed by acquisition office support contractor
 - Tasks performed by systems development contractor (e.g., action items from review meetings tracked by contractor for the acquisition office)

Preparing the Appraisal Team for Using the CMMI-ACQ (2 of 2)

- We often found that practices were satisfied for activities performed by the acquisition office support contractor, but not satisfied for activities performed by acquisition office staff. Examples included
 - Development of schedule
 - Configuration management
- The above points need to be kept in mind when preparing for and performing a SCAMPI against the CMMI-ACQ

Applicability of CMMI-ACQ to Organizations Involved in the Acquisition (1 of 3)

- **Applicability of CMMI-ACQ practices to the various organizations involved in the acquisition not always clear**
 - Acquisition office staff
 - Acquisition office support contractor
 - Systems development contractor
- **Introductory notes in some process areas mention that the process area can be applied to both the acquirer and the supplier/contractor**
- **There is little guidance in each specific practice as to who the practice should be applied to in order to satisfy the specific practice**
- **What is necessary to satisfy the goals?**

Applicability of CMMI-ACQ to Organizations Involved in the Acquisition (2 of 3)

- **Configuration Management (CM) was especially confusing to team members**
 - **Introductory notes state that “Acquired products may need to be placed under CM by both acquirer and supplier”**
 - **Informative text under specific practices does not elaborate**
 - **What products need to be under CM for CM goals to be satisfied?**
 - **Acquirer products?**
 - **Contractor products that are delivered to the acquirer?**
 - **Contractor internal products?**

Applicability of CMMI-ACQ to Organizations Involved in the Acquisition (3 of 3)

■ Example

- Contractor performs CM on the product while under development
 - Separate organization (not the acquisition office) performs CM on the product when fielded
 - Does the acquisition office also have to perform CM of the product?
- During appraisal team training, discuss applicability of CMMI-ACQ practices to organizations involved to obtain consistency during the appraisal

CMMI-ACQ Process Areas may be Performed by Outside Organizations

- Process areas performed by an outside organization, possibly at a different location from the acquisition office, may be difficult to appraise since interviewees and documentation may not be readily available
- Need to ask sponsor whether tasks are performed by separate organizations during appraisal planning
- Will need to interview staff and review documentation from these other organizations to appraise the practices
- Examples
 - Many Solicitation and Supplier Agreement Development practices may be performed by a procurement office
 - Operational test planning and operational testing may be performed by a testing organization

Recommendations to CMMI-ACQ Model Development Team

- **Add text to better explain what is needed to satisfy goals**
 - Acquirer satisfaction of practices
 - Supplier satisfaction of practices
- **Add additional informative material to explain how practices apply to acquisition**
 - Especially needed in core processes areas
 - More examples would be helpful
- **Add more specific informative material to the generic practices**
 - Examples and notes on how to apply to specific process areas
 - Moving generic practices into each process area would make their applicability to each process area more apparent
 - Easier for appraisal team members to find materials
 - More apparent to staff using CMMI-ACQ for process improvement

Questions?
