CMMI® and OPM3® Collaborative Opportunities

CMMI Technology Conference
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November, 2007

“OPM3” is the registered trademark of the Project Management Institute
“CMMI” is the registered trademark of Carnegie Mellon University
3 The state of being fully developed
3 The time after physical growth has stopped

www.dictionary.com

3 Maturity State: An organization’s degree of maturity in organizational project management (OPM3)

3 Maturity Level: Degree of process improvement across a predefined set of process areas in which all goals in the set are attained (CMMI)
More or Less

Mature

LESS!

MORE!
So what type of models are we talking about?
Be precise about models...

3 A small object, usually built to scale, that represents in detail another, often larger object

3 An abstraction of reality

3 worthy of imitation; exemplar behavior

3 representation of something

www.dictionary.com
Put these together and you get ‘maturity models’

- Conceptual framework
- Useful references for process improvement
- Should allow organizations to assess themselves against
- Should be based on broad consensus

A [www.google.com](http://www.google.com) search in April, 2005 provided 268,000 hits when ‘Maturity Model’ was used as the search item… a revised search in October 2007 revealed 2,480,000!
Capability Maturity Models from the SEI and CMU have been around for a while

3 **CMMI for Development Version 1.2** published by SEI and CMU in 2006
   - Replaces Legacy CMMs no longer supported by SEI
   - Incorporates Four Disciplines
     - Systems Engineering
     - Software Engineering
     - Integrated Product and Process Development
     - Supplier Sourcing

3 **CMMI for Acquisition Version 1.2** published by SEI and CMU in 2007
   - Uses Core Model Foundation Material with Acquisition
   - Meant for acquirers instead of developers
Showing the CMMI Staged Representation Maturity Levels helps understand the benefits of CMMI.

- **Initial** (1): Process unpredictable, poorly controlled and reactive
- **Managed** (2): Process characterized for projects and is often reactive
- **Defined** (3): Process characterized for the organization and is proactive
- **Quantitatively Managed** (4): Process measured and controlled
- **Optimizing** (5): Focus on continuous process improvement
Showing the CMMI-DEV process areas provides a perspective on the depth of the material covered:

3 Project Planning
3 Project Monitor & Control
3 Supplier Agreement Management
3 Requirements Management
3 Process and Product Quality Assurance
3 Configuration Management
3 Measurement and Analysis
3 Integrated Project Management
3 Risk Management
3 Organization Process Focus
3 Organization Process Definition
3 Requirements Development
3 Technical Solution
3 Product Integration
3 Verification
3 Validation
3 Decision Analysis and Resolution
3 Organizational Environment for Integration
3 Quantitative Project Management
3 Organizational Process Performance
3 Organizational Innovation and Deployment
3 Causal Analysis and Resolution

Core Model Foundation Process Areas

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Components include process areas, generic and specific goals, and generic and specific practices.

- **Process Area 1**
  - Specific Goals
    - Specific Practices
  - Generic Goals
    - Generic Practices

- **Process Area 2**
  - Specific Goals
    - Specific Practices
  - Generic Goals
    - Generic Practices

- **Process Area n**
  - Specific Goals
    - Specific Practices
  - Generic Goals
    - Generic Practices

3. **CMMI** models also include other informative materials:
   - Typical Work Products
   - Sub-practices
   - References

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OPM3 is the first standard to address organizational project management.

- Published by PMI in December, 2003
- 5 year project with over 800 global volunteers
- Beta-tested by 25 companies in varying industries before release
- First standard to define Organizational Project Management
The application of knowledge, skills, tools and techniques to organizational and project activities to achieve the aims of an organization through projects.

*OPM3®* Knowledge Foundation, p. 5

OPM covers three domains
OPM3 focuses on bridging the gap between an organization’s strategy and successful projects.
The basic OPM3 components are Best Practices, Capabilities, Outcomes, and Key Performance Indicators.
Not all best practices are created equal … some are dependent on others
Project Initiation Process Control: Project Initiation Process controls are established and executed to control the stability of the process.

Stable Project Initiation Process Operations

Implement Project Initiation Process Control Plan

Project Initiation Control Plan

Best Practice

Capability

Capability

Capability

Best Practice

Project Initiation Process Measurement

Best Practice

Project Initiation Process Standardization

©2003 by Project Management Institute
Best Practices are categorized by “PPP” and “SMCI” – more coverage of these best practices leads to higher score.

**Figure 6-3:** Graphical Representation of an Organization’s Overall Position on a Continuum of Organizational Project Management Maturity
In order to determine how organizations can use both CMMI and OPM3, we developed a framework that could be used to compare similar ‘guides’

**Contents**

3 Discipline
- Sales
- Manufacturing
- Engineering
- Project Management
- Marketing
- Legal

3 Domain
- Industry
- Company size

3 Key question:
- Does the content conflict?

**Application**

3 Approach or method

3 Extent of the change
- Which parts of the organization?
- How much will it change the organization?

3 Resources
- Specific tools
- People
- Training
- Expertise

3 Key questions:
- What do I need to do to see benefit from using this guide?
- Where do I get help?

**Results**

3 Key Questions:
- What will be improved?
- How will it be sustained?
- What do I really expect to get out of this?
- What can I expect?
CMMI and OPM3 both cover project management and process improvement without conflict but differently.

3 OPM3 covers the domain of project management
3 CMMI covers a group of process areas covering project management

Some of this other stuff is different!
3 OPM3 distinguishes between project and program management and addresses portfolio management
3 CMMI covers technical disciplines related to acquisition or development
The way organizations think about applying OPM3 or CMMI is similar

3 The SEI often references the IDEAL model when describing how to apply CMMI
3 The OPM3 Cycle is part of the standard

www.sei.cmu.edu/ideal/
The appraisal methods for both models vary in terms of depth and coverage of a maturity level.

<table>
<thead>
<tr>
<th>Assessment Type</th>
<th>OPM3</th>
<th>CMMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-Level ≤Short duration</td>
<td>Self Assessment (SAM)</td>
<td>SCAMPI C (or ARC Compliant Gap Analysis)</td>
</tr>
<tr>
<td></td>
<td>≤Comes with OPM3 standard</td>
<td>Organizations can assess whatever areas of risk are most important to them</td>
</tr>
<tr>
<td></td>
<td>≤Shows approximate organizational maturity on overall continuum</td>
<td>Outputs show which model areas are most at risk</td>
</tr>
<tr>
<td></td>
<td>≤151 binary (yes/no) questions</td>
<td>Conducted by as few as one appraiser</td>
</tr>
<tr>
<td></td>
<td>≤Can be performed by anyone</td>
<td>Only one piece of evidence (artifact or verbal affirmation through interview) is required</td>
</tr>
<tr>
<td></td>
<td>≤No specific requirements</td>
<td></td>
</tr>
<tr>
<td>Mid-range</td>
<td>OPM3 ProductSuite Desk Assessment</td>
<td>SCAMPI B</td>
</tr>
<tr>
<td></td>
<td>≤Requires assessor to look at capabilities and outcomes with process owners</td>
<td>Organizations can assess whatever areas of risk are most important to them but often focus on full coverage of a maturity level</td>
</tr>
<tr>
<td></td>
<td>≤Shows approximate organizational maturity if rest of organization is following process</td>
<td>Outputs show which areas are most at risk</td>
</tr>
<tr>
<td></td>
<td>≤Must be performed by a certified ProductSuite Assessor</td>
<td>Must be conducted by a minimum of 2 team members and an authorized team leader</td>
</tr>
<tr>
<td></td>
<td>≤Requires evidence or testimony to demonstrate capabilities and outcomes</td>
<td>Multiple pieces of evidence (artifact or verbal affirmation through interview) are required</td>
</tr>
<tr>
<td>SEI or PMI authorized rating</td>
<td>OPM3 ProductSuite Rigorous Assessment</td>
<td>SCAMPI A</td>
</tr>
<tr>
<td></td>
<td>≤Requires assessor to look at capabilities and outcomes with process owners and practitioners</td>
<td>Organizations coverage of a maturity or capability level</td>
</tr>
<tr>
<td></td>
<td>≤Results in a benchmark of organizational project management maturity</td>
<td>Outputs include a maturity or capability level</td>
</tr>
<tr>
<td></td>
<td>≤Must be performed by a certified ProductSuite Assessor</td>
<td>Must be conducted by a minimum of 4 team members and an authorized lead appraiser</td>
</tr>
<tr>
<td></td>
<td>≤Requires multiple pieces of evidence and testimony to demonstrate capabilities and outcomes</td>
<td>Multiple pieces of evidence (artifact or verbal affirmation through interview) are required</td>
</tr>
</tbody>
</table>

How about combined assessments?
Change management is required for a successful usage of CMMI or OPM3:
- Management Support
- Budget
- Resources
- Time
- Tools

Organizations cannot go directly to best practices overnight.

Both models provide stepping stones to higher levels of maturity.
Users of OPM3 have both reported significant results

3 Users of OPM3 have reported
   Â Higher levels of customer satisfaction
   Â Increase in their PM capabilities and aligned processes to the PMBOK® Guide
   Â Visibility to how well they use their resources once they develop their portfolio management capabilities

3 Users of CMMI have reported
   Â Reduction in software costs either directly by streamlining processes or indirectly by performing less rework.
   Â Productivity increases of 20% to 30% from their engineering staff
   Â Quality objectives were met and the numbers of defects were reduced by using CMMI

3 Organizations that apply both OPM3 and CMMI together can expect results as described above and will most likely see additional benefits such as:
   Â Reviewing the overall portfolio using the best practices from OPM3 and freeing up resources to work on projects leading to innovation while leveraging the process areas from CMMI to execute those projects predictably and successfully
   Â Using the project and program management guidance from OPM3 to figure out how to apply the planning and monitoring and controlling advice that is documented in CMMI and implement it at different levels of the organization
   Â Achieving either OPM3 or CMMI-related objectives (e.g., cost, quality, or schedule improvements) faster than if they would by just considering one model alone because each model can provide a different perspective on the organizational opportunities
**Situation**

- A CMM Maturity Level 3 rated organization with a large number of Project Management Institute (PMI) Certified Project Management Professionals (PMPs) seeking to achieve world class project management processes.

- The organization was acquired so the management team also wanted to demonstrate their overall project management capability and take a lead in the new combined entity to integrate other departments and resources.

**Solution**

- Collaboratively plan for an organizational assessment with the organizational leadership and key team members to ensure the right resources were available at the right time to obtain the data needed to establish a baseline everyone understood.

- Measure and baseline capabilities using the **OPM3®** ProductSuite.

- Train organizational resources on critical areas where gaps were identified from the assessment in order to start the movement toward organizational process improvement and build shared vision for the future processes.

**Benefits**

- By using **OPM3**, company management was able to identify a root-cause problem of a lack of integration between the engineering and sales functions (lack of overall program management).

- The company also improved visibility to the portfolio management process and identified immediate opportunities for improvement.
Using CMMI and OPM3, organizations can do the right projects the right way!
Thank you for the opportunity to talk about CMMI and OPM3!

► Questions?

► Comments?

► Contact Information

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