Comparing Maturity Models: CMMI®, OPM3® and P3M3®

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Angela Tuffley, Software Quality Institute

For more OPM3 papers see: www.mosaicprojects.com.au/Resources_Papers.html#OPM3

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P3M3 is a mark of Office of Government Commerce UK (OGC)

Why Maturity Models?

• Assessing an organisation’s capability against recognised maturity models can provide:
  – Substantial ROI (estimated >4:1)
  – A known and independently verified maturity
  – A prioritised roadmap to get to the next level
  – Comparison with other organisations
Why Maturity Models?

- Research shows that organisations who improve their process maturity gain:
  - improved schedule and budget predictability
  - improved cycle time
  - increased productivity
  - improved quality (as measured by defects)
  - increased customer satisfaction
  - improved employee morale
  - increased return on investment
  - decreased cost of quality

Carnegie Mellon University: data provided by Angela Tuffley, Software Quality Institute

Today’s Focus

- Three Maturity models will be compared on the basis of:
  - Maturity Criteria
  - Functional Criteria
- These models are:
  - OPM3 from PMI
  - CMMI from Software Engineering Institute (SEI): Carnegie Mellon University
  - P3M3 from Office of Government Commerce UK (OGC)
The Starting Point

- PMI engaged a number of international model experts
  - In Australia
    - Angela Tuffley
      - CMMI
    - Lynda Bourne
      - OPM3 and PMBOK
- Spreadsheets distributed to experts to record their reviews
  - Comparison of specific aspects of both models

Disclaimer

- The following comparisons between CMMI and OPM3 are based on the results of this work
  BUT
  - The information presented here is based on a different approach and different evaluation methodology
Representations of Maturity

- **CMMI**
  - Staged (Levels 1-5)
  - Continuum
- **OPM3**
  - Continuum
- **P3M3**
  - Staged (Levels 1-5)
- Certifications cover all or part of an organisation

**CMMI**

- The Capability Maturity Model Integration (CMMI)
  - Developed by the Software Engineering Institute (SEI)
  - Assist organisations to improve processes for developing and maintaining the products and services of the organisation
- Focus on disciplines:
  - Software and systems engineering
  - Integrated product and process development
CMMI Representations

**CMMI Representations**

- **Continuous Representation**
- **Staged Representation**

**Maturity Levels**
- **Performing**
- **Managed**
- **Defined**
- **Quantitatively Managed**
- **Optimizing**

**Process Area**
- PA1
- PA2
- PA3
- PA4

OPM3

- The Organizational Project Management Maturity Model (OPM3)
- Developed by the Project Management Institute (PMI)
- Assists organisations improve capabilities for managing projects, programs and portfolios, leading to business improvement.
- Developed from PMI’s standards:
  - PMBOK, and the standards for Program Portfolio Management
OPM3 reports

P3M3

- Portfolio, Programme and Project Management Maturity Model (P3M3)
- Developed by UK Government’s Office of Government Commence (OGC)
- Portfolio, programme and project management are nested within the P3M3 model, building on:
  - PRINCE2 (for projects)
  - Managing Successful Programmes (MSP)
Comparing Maturity Models: CMMI®, OPM3® and P3M3®

### P3M3 overview

<table>
<thead>
<tr>
<th>Portfolio, Programme and Project Management Maturity Model (P3M3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Programme Management</td>
</tr>
<tr>
<td>B. Operations and Project Management</td>
</tr>
<tr>
<td>C. Project Management</td>
</tr>
<tr>
<td>D. Product Management</td>
</tr>
<tr>
<td>E. Procurement Management</td>
</tr>
<tr>
<td>F. Human Resources</td>
</tr>
<tr>
<td>G. Change Management</td>
</tr>
<tr>
<td>H. Programme Management Control</td>
</tr>
<tr>
<td>I. Portfolio Management Control</td>
</tr>
<tr>
<td>J. Programme Management Control</td>
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</tbody>
</table>

### Maturity Criteria Results

<table>
<thead>
<tr>
<th>Criteria</th>
<th>CMMI</th>
<th>OPM3</th>
<th>P3M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
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</tr>
<tr>
<td>Explanation of Model Architecture</td>
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<tr>
<td>Explanatory Text</td>
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<td>Exists</td>
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<td>Assessment</td>
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<td>Exists</td>
<td>Exists</td>
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<tr>
<td>Improvement</td>
<td>Exists</td>
<td>Exists</td>
<td>Exists</td>
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<tr>
<td>Multiple Representations</td>
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<td>Compatibility</td>
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Comparison model in this and succeeding slide provided by Angela Tuffley, Software Quality Institute
### Function Criteria Results

<table>
<thead>
<tr>
<th>Function Criteria</th>
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<th>OPM3</th>
<th>P3M3</th>
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</thead>
<tbody>
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<td>Program Management</td>
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<td>Project v. Program</td>
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<td>Manage Related Projects</td>
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<td>Program Management Processes</td>
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<td>Role of Program Manager</td>
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<td>Portfolio Management</td>
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<td>Project Selection</td>
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<td>Review Projects against Continue or Terminate Criteria</td>
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<td>Role of Project Manager</td>
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<td>Project Management in Context of General Management</td>
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<tr>
<td>Organizational Project Management Processes</td>
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</tbody>
</table>

### Conclusions

- **CMMI** offers two approaches to maturity assessment:
  - Staged and continuous
- **OPM3** offers reports on:
  - A continuum of best practice
  - By project, program, portfolio
  - Stages of improvement (S, M, C, I)
- **P3M3** offers reports by stages over all three domains
Conclusions

• CMMI (and predecessors) has been used by organisations for many years
  – Statistical proof of effectiveness

• OPM3 offers most comprehensive assessment and reporting
  – Supported by software (OPM3 ProductSuite)

• P3M3 offers a staged approach that supports an organization’s journey through progressive maturity in all three domains

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Questions Please

Useful links:

PMI OPM3: http://opm3online.pmi.org/

CMMI: http://www.sei.cmu.edu/cmmi/

OGC (UK) Portfolio, Programme & Project Management Maturity Model (P3M3) -

For more information on OPM3 see:

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