CMMI Status and Future

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November 2011
Topics

2011 Highlights

SEI Family of Models: Status & Plans

Future of the CMMI Product Suite
2011 Highlights

131,664 students trained in Introduction to CMMI as of 30 September 2011:

- **2011 Delivery:** SEI: 198 Partner: 10,133
- **Total Delivery:** SEI: 7,596 Partner: 124,068

Release of the Resilience Management Model (RMM)

Release of the Smart Grid Maturity Model (SGMM)

CMMI Translations
CMMI Translations

What’s New?

• New Translations
  – CMMI-DEV V1.3 Dutch
  – CMMI-DEV V1.3 French
  – Intro to CMMI-DEV V1.3 course French
CMMI Translations

What’s Next?

- CMMI-DEV V1.3
  - German
  - Korean
  - Portuguese
  - Simplified Chinese
  - Spanish
  - Traditional Chinese

- CMMI-SVC V1.3
  - Arabic

- Intro to CMMI-DEV course
  - German

http://www.sei.cmu.edu/cmmi/solutions/translations/
# CMMI Transition Status
Reported to the SEI as of 10-31-11

## Training

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Cumulative Count</th>
<th>SEI Count</th>
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<tbody>
<tr>
<td>Introduction to CMMI DEV (cumulative/v1.3)</td>
<td>131,345</td>
<td>7,485</td>
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<tr>
<td>Intermediate Concepts of CMMI (cumulative/v1.3)</td>
<td>3,276</td>
<td>54</td>
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<tr>
<td>Understanding CMMI High Maturity Practices (cumulative/v1.3)</td>
<td>682</td>
<td>47</td>
</tr>
<tr>
<td>Acquisition Supplement for Development (cumulative/v1.3)</td>
<td>1,556</td>
<td>208</td>
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<tr>
<td>Services Supplement for CMMI for Development</td>
<td>3,231</td>
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<tr>
<td>Introduction to CMMI for Services</td>
<td>1,094</td>
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<tr>
<td>Development Supplement for CMMI for Services</td>
<td>151</td>
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## Certifications

<table>
<thead>
<tr>
<th>Certification Description</th>
<th>Cumulative Count</th>
<th>SEI Count</th>
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</thead>
<tbody>
<tr>
<td>SEI-Certified Introduction to CMMI for Development Instructors (v1.2/v1.3)</td>
<td>388</td>
<td>386</td>
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<tr>
<td>SEI-Certified Acquisition Supplement for CMMI –DEV Instructors (v1.2/v1.3)</td>
<td>64</td>
<td>70</td>
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<tr>
<td>SEI-Certified Services Supplement for CMMI –DEV Instructors</td>
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<tr>
<td>SEI-Certified Introduction to CMMI for Services Instructors</td>
<td>88</td>
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<tr>
<td>SEI-Certified Development Supplement for CMMI-SVC Instructors</td>
<td>42</td>
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<tr>
<td>SCAMPI-DEV Lead Appraisers (v1.2/v1.3)</td>
<td>421</td>
<td>321</td>
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<tr>
<td>SCAMPI High Maturity Lead Appraisers</td>
<td>140</td>
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<tr>
<td>CMMI-ACQ Lead Appraisers (v1.2/v1.3)</td>
<td>76</td>
<td>53</td>
</tr>
<tr>
<td>CMMI-SVC Lead Appraisers (v1.2/v1.3)</td>
<td>171</td>
<td>138</td>
</tr>
</tbody>
</table>
Introduction to CMMI-DEV Attendees
Cumulative as of 10-31-11
Number of SCAMPI V1.2/V1.3, Class A Appraisals Conducted by Year by Representation* Reported as of 10-31-2011
*Where Representation is reported

- 1600
- 1400
- 1200
- 1000
- 800
- 600
- 400
- 200
- 0

2006 2007 2008 2009 2010 10/31/2011
Topics

2011 Highlights

SEI Family of Models: Status & Plans

Future of the CMMI Product Suite
SEI Family of Models
SCAMPI Appraisal Program

Status

• Release of SCAMPI Lead Appraiser Training (SLAT) course
  • First delivery in September
    – Feedback was positive

Plans

• Merger of B&C handbook into the Method Description Document (MDD)
• Completion of On-line SLAT
SCAMPI Appraisals - Organization Type

- Commercial/Internal-Use: 3397
- Contractor (for Military/Government): 667
- Military/Government Agency: 156

Number of Organizations
Size of Appraised Organizations

- 25 or fewer: 20.3%
- 1 to 100: 66.3%
- 101 to 200: 15.1%
- 201 to 300: 5.8%
- 301 to 500: 5.4%
- 501 to 1000: 4.0%
- 1001 to 2000: 1.9%
- 2001 to 2000+: 18.6%
- 2000+: 1.6%
- 76 to 100: 7.6%
- 51 to 75: 12.6%
- 26 to 50: 25.9%
Appraisal Maturity Levels Audited or Reviewed

Audits and Reviews by Maturity Level

- 2007
- 2008
- 2009
- 2010
- 2011

B/C or Review
CMMI-ACQ

Status

• Alex Stall has accepted the product manager role for CMMI-ACQ

Plans

• Define the market(s)
• Define what acquisition is to the non-DoD market
• Increase interest and adoption
CMMI-SVC

Status

- More than 130 appraisals reported
  - 25% increase quarter over quarter in appraisals
- Documented ROI examples from partners
- Five graduate dissertations /theses have been written on CMMI-SVC
- Two books by partners featuring CMMI-SVC have been published, and a third book by a partner is under way
- Over 100 examples submitted about SVC implementation

Plans

- Advanced SVC training
- Produce guidance on high maturity in service settings
- Evaluating new pricing and certification path
- Focus sessions for Partner input
CMMI-DEV

Status

- Ten CMMI translations on-going
- CMMI courses were updated
- Intro to CMMI v1.2 will be retired on November 30, 2011
- 95% of the CMMI-DEV instructors have upgraded to V1.3

Plans

- Incorporate Lean and Agile principles
- Devise lightweight, cost effective solutions
- Selected training to eLearning
- Re-focus use of CMMI on achieving superior attention, motivation, and cooperation to improve performance
People CMM

Status

• Ongoing revisions to model aimed at version 2

Plans

• Continue working on change packages for the next version of the People CMM which will bring the People CMM in line with V1.3 of CMMI
• SEI People CMM SCAMPI
Smart Grid Maturity Model

Status

• Creation of a management tool for the utility industry Smart Grid transformation

• Utilities need to use the SGMM to:
  • Develop effective roadmaps
  • Track progress
  • Understand their posture in comparison to peers

• SEI Training and licensing available
CERT Resilience Management Model (RMM)

Status

• Model v1.1 and appraisal method published
• Introductory courses
  • Model training
  • “How-to” CERT courses
  • Executive workshops
• Advanced courses
  • User Groups
  • Practitioner training
  • Appraisal leader training
  • Instructor training

Plans

• Certifications
  – Lead Appraiser
  – Navigator
  – Coach
  – Instructor
Data Management Maturity Model (DMM)

Status

• Created in collaboration with data practitioners of the financial information industry
• Focus on how to turn ‘art and practice’ into ‘science and discipline’.

Plans

• The final output will be a framework document and accompanying assessment methodology (SCAMPI) for
  • Evaluating the efficiency of data management practices
  • Measuring the maturity of operational integration
  • Establishing best practices that can be adopted in varying domains worldwide
Today’s Discussions...

2011 Highlights

SEI Family of Models: Status & Plans

Future of the CMMI Product Suite
“The best way to predict the future is to invent it!”

Alan Kay, 1971, American computer scientist, researcher, and visionary
Software Has Come of Age

“...we are in the middle of a dramatic and broad technological and economic shift in which software companies are poised to take over large swathes of the economy.”

—Marc Andreessen

“Why Software Is Eating the World”
The Wall Street Journal, August 2011

Transforming into “software” companies:

- Healthcare
- Music companies
- Telecom
- Entertainment Companies
- Booksellers
- Movie production
- Financial services
- Education
- ...
CMMI & TSP are Ranked Top Software Engineering Best Practices!

Start

Size

Small
- Methods
  1) Agile
  2) TSP/PSP
  3) Waterfall
  4) CMMI 1, 2

Medium
- Methods
  1) TSP/PSP
  2) Agile
  3) CMMI 3
  4) RUP

Large
- Methods
  1) TSP/PSP
  2) CMMI 3, 4, 5
  3) RUP
  4) Hybrid

Development practices by size of application[1]

Based on a comprehensive study of 630 organizations and 13,000 projects.
SEI Response: Broader Outreach

Responsibility for improving software development process

- Everyone: 32%
- Process group: 19%
- Project managers: 15%
- Development team: 14%
- Practitioners (e.g., developers, testers): 9%
- Executive management: 6%
- No one: 4%
- Community: 1%
- I don’t know: 1%

Base: 81 IT professionals
Source: 2009 Global Software Development Process Online Survey

Shifting SEI process improvement brand messaging to multiple targets in an organization
New Directions: Multi-Model Implementations

“Forrester Research’s survey of Dr. Dobb’s readers underscores what the SEI and Partners already know: software development process is a multi-model world.”

--SEI Market Insights Research Report

The SEI is developing a common language for development and a way to attain and measure improvement in multi-model environments.

CECOM Application

• CECOM Software Engineering Center is applying CMMI-DEV, CMMI-ACQ, and CMMI-SVC to meet its complex needs.
• “Hybrid” model approach offers each Mission Area Directorate to concentrate on their specific process improvement needs.
New Positioning:

- Drive down the costs of using CMMI by providing innovative technology-supported solutions
  - On-line tools for CMMI Assessments/Appraisals
  - Contextual help for key processes and key practices
  - eLearning (bite-sized CMMI training segments delivered just in time)
  - manage adoption of disruptive technologies (e.g., mobile apps, cloud, social networks, …)
• Marketing/Imaging/Messaging:
  – Initiate faster, better, cheaper thinking without sacrificing quality and brand image
  – Market our products and services as an expert’s toolkit

• Consider approaches to Small and Medium Enterprise market (low cost, high volume, high automation)

• Investigate marrying CMMI with more performance-oriented approaches

• Address Multi model integration for SEPM and NON-SEPM products and performance measures
Program Direction

Better integration of SEI process and measurement products and efforts.

Development of next-generation integrated software models, methods, and practices.

Increased focus on the transition and application of SEI solutions to the problems of industry and the world.

Increased research focus on software engineering methods, models, and measurement practices
One Vision of the Future CMMI Product Suite

Process Integration

- Models, Methods, Standards
  - CMMI, ISO, COBIT, Six Sigma, IT Mark, TSP, AIM, CENELEC, RMM, SGMM, Lean, and Agile, etc.
- Dynamically build models/hybrids of other models, methods, and standards
  - Use only the practices/parts the organization needs
  - Build the appraisal rules
- Performance data submissions as a part of appraisals

Project and Program Management using High Maturity Techniques

Coach/Mentor Credentials for Process Improvement
Moving to the Future

We need to move the technology forward.

We need to capitalize on our strengths:

- Model technology
- Appraisal technology
- Measurement technology
- Process & engineering technologies
  - TSP
  - Architecture
- Trusted broker
  - SAS
  - PARS

Models, Methods, Standards

SAS & PARS

Performance Measurement

Appraisal Rules
Concept - Models

Database
- Hybrid model
  - Tree structure
  - Model references
  - Interpretational/implementation rules
- Performance
  - Work sampling
  - Standard set of measures
- Appraisal rules
  - Generic for whole model
  - Specific for individual practices

Generic appraisal
Implementation quick start
Hybrid Models, Appraisal Rules & Generic Appraisals
Models, standards, methods, etc.

• Existing
  - CMMI – ACQ, DEV, SVC
  - RMM
  - SGMM
  - TSP
  - ISO NNN
  - Six Sigma

• Dynamic
  - From literature
  - Constructs based on existing systems or implementations
    • Agile
For More Information

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