CMMI – The Future

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CMMI Transition Status
As reported to the SEI as of 6-30-08

· Training
  · Introduction to CMMI – 88,473
  · Intermediate CMMI – 2,765
  · Understanding CMMI High Maturity Practices – 435

· Partners
  · Introduction to CMMI V1.2 Instructors – 443
  · SCAMPI V1.2 Lead Appraisers – 489
  · SCAMPI V1.2 B&C Team Leaders – 493
  · Certified V1.2 High Maturity Lead Appraisers – 144
  · CMMI-ACQ V1.2 Instructors – 21
  · CMMI-ACQ V1.2 Lead Appraisers – 18
Intro to the CMM and CMMI Attendees (Cumulative) as of 5-31-08
SCAMPI v1.1/v1.2 Class A Appraisals Conducted by Quarter
Reported as of 6-30-08
## Organization Size
Based on the total number of employees within the area of the organization that was appraised

<table>
<thead>
<tr>
<th>Organization Size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 100</td>
<td>45.9%</td>
</tr>
<tr>
<td>101 to 200</td>
<td>19.6%</td>
</tr>
<tr>
<td>201 to 2000</td>
<td>10.2%</td>
</tr>
<tr>
<td>301 to 500</td>
<td>9.6%</td>
</tr>
<tr>
<td>501 to 1000</td>
<td>7.4%</td>
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<tr>
<td>2000+</td>
<td>2.5%</td>
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<tr>
<td>25 or fewer</td>
<td>10.8%</td>
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<tr>
<td>26 to 50</td>
<td>13.5%</td>
</tr>
<tr>
<td>51 to 75</td>
<td>12.9%</td>
</tr>
<tr>
<td>76 to 100</td>
<td>8.8%</td>
</tr>
<tr>
<td>1001 to 2000+</td>
<td>4.8%</td>
</tr>
</tbody>
</table>
Organization Size
Based on the total number of employees within the area of the organization that was appraised

- 1 to 100: 48.3%
- 101 to 200: 20.2%
- 201 to 1000: 7.2%
- 1001 to 2000: 4.1%
- 2000+: 2.2%
- 25 or fewer: 12.0%
- 26 to 50: 14.7%
- 51 to 75: 12.5%
- 76 to 100
- 301 to 500: 8.5%
- 201 to 300: 9.5%
- 501 to 1000: 4.1%
Portfolio of Work

- EXPLORE
- CREATE
  - Research
- APPLY
  - R&D, Pilot Trans.
- AMPLIFY
  - Transition
- SUSTAIN

- “Beyond V1.2”
- CMMI-SVC
- CMMI-ACQ
- CMMI-DEV V1.2
- CMMI-DEV V1.1
Portfolio of Work

- **EXPLORE**
  - “Beyond V1.2”
- **CREATE**
  - CMMI-SVC
- **APPLY**
  - CMMI-ACQ
- **AMPLIFY**
  - CMMI-DEV V1.2
- **SUSTAIN**
  - CMMI-DEV V1.1

**Extend CMMI for Synergy**
- Improving Processes in Small Settings
- Improving Processes using multiple models
  - (PrIME)
Portfolio of Work

CMMI for Services

- CMMI variant for best practices associated with services delivery
- Maintain commonality with development product suite baseline
- Builds upon ISO 20000, BS 15000, ITSCMM, ITIL
- Draft available; final by March 2009
Portfolio of Work

EXPLORE
CREATE
Research
APPLY
R&D, Pilot Trans.
AMPLIFY
Transition
SUSTAIN

“Beyond V1.2”
CMMI-SVC
CMMI-ACQ
CMMI-DEV
V1.2
CMMI-DEV
V1.1

CMMI for Acquisition
• CMMI variant for acquisition and “outsourcing” best practices
• Maintain commonality with development product suite baseline
  • In piloting with government (DoD, civilian agencies) and industry (GM, HP)
Portfolio of Work

CMMI for Development V1.2
- Released in August 2006
- Training fully transitioned to V1.2
- Upgrade materials available via Internet for 80,000 previously trained

“Beyond V1.2” CMMI-SVC CMMI-ACQ CMMI-DEV V1.2

CMMI-DEV V1.1
CMMI for Development V1.1
- Released in 2002
- Appraisal supported through August 2007
- Must reappraise in 3 years using V1.2
Three Complementary “Constellations”

CMMI-SVC

CMMI-SVC provides guidance for those providing services within organizations and to external customers

CMMI-DEV

CMMI-DEV provides guidance for measuring, monitoring and managing development processes

CMMI-ACQ

CMMI-ACQ provides guidance to enable informed and decisive acquisition leadership

16 Core Process Areas, common to all
Acquirer/Supplier Mismatch

- **Mismatch**
  - Mature acquirer mentors low maturity supplier
  - Outcome not predictable

- **Matched**
  - Acquirer and supplier are both high maturity
  - Highest probability of success

- **Disaster**
  - No discipline
  - No process
  - No product

- **Mismatch**
  - Less mature acquirer derails mature supplier; encourages short cuts
  - Supplier compromises processes

**Acquirer**
- High
- Low

**Supplier**
- High
- Low

**Technical & Management Skill**
- Low
- High
Maturity Levels – Important Realities

Know the capabilities of your entire program team

Multiple contractors, each appraised at CMMI Maturity Level 3 does not ensure that your project will execute at Maturity Level 3

- Processes may be incompatible
- Communication may be inadequate

A contractor appraised at Maturity Level 3 does not ensure that project will execute at Maturity Level 3

- Was your team part of the process evaluation?
- Is your team following the processes?

An acquisition organization without mature processes can hurt a mature contractor
Visibility into the Team’s Capability

Operational Need

Acquirer

CMMI-ACQ

Acquisition Planning  RFP Prep.  Solicitation  Source Selection  Program Leadership Insight / Oversight  System Acceptance  Transition

CMMI-DEV

Plan  Design  Develop  Integrate & Test  Deliver

Developer

Software Engineering Institute  Carnegie Mellon

CMMI, Census
Phillips, Sept 11, 2008
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CMMI-ACQ v1.2
Acquisition Category Process Areas

- Solicitation & Supplier Agreement Development
- Agreement Management
- Acquisition Requirements Development
- Acquisition Technical Management
- Acquisition Validation
- Acquisition Verification

CMMI Model Framework (CMF)
16 Project, Organizational, and Support Process Areas
CMMI-SVC v0.5 Reuse

CMMI for Services Constellation = 22 PAs + 3 Optional PAs

CMMI-SVC = 22 PAs

Service PAs

Shared PAs (SAM)

Service Addition PAs

Service Modifications:
- 21 amplifications in 7 PAs
- 5 added references
- 1 modified PA (REQM)
  - 1 specific goal
  - 2 specific practices

77% of CMMI-DEV PAs are reused;
% of Corporate Investments are potentially reusable!
CMMI-SVC Process Areas

Process Management
- Organizational Innovation and Deployment (OID)
- Organizational Process Definition (OPD)
- Organizational Process Focus (OPF)
- Organizational Process Performance (OPP)
- Organizational Service Management (OSM)
- Organizational Training (OT)

Service Support
- Causal Analysis and Resolution (CAR)
- Configuration Management (CM)
- Decision Analysis and Resolution (DAR)
- Measurement and Analysis (MA)
- Problem Management (PRM)
- Process and Product Quality Assurance (PPQA)

Service Establishment and Delivery
- Incident and Request Management (IRM)
- Service Delivery (SD)
- Service System Development (SSD)
- Service Transition (ST)

Project Management
- Capacity and Availability Management (CAM)
- Integrated Project Management (IPM)
- Project Monitoring and Control (PMC)
- Project Planning (PP)
- Requirements Management (REQM)
- Risk Management (RSKM)
- Quantitative Project Management (QPM)
- Service Continuity (CON)
- Supplier Agreement Management (SAM)
Who is the audience?

Broad spectrum of service providers
Primarily intended for industry use, just like CMMI-DEV
Focus on current CMMI users

- PAMS – Professional, Administrative, Management Support
- R & D – Research and Development
- FRS – Facilities Related Services
- ERS – Equipment Related Services
- CRS – Construction Related Services
- ICT – Information and Communications Technology

Source: FY06 Federal Procurement Data System

Who is the audience?

- Service Sector Weights
  - 0%
  - 5%
  - 10%
  - 15%
  - 20%
  - 25%
  - 30%

- PAMS
- R & D
- FRS
- ERS
- CRS
- ICT
- Other
- Medical
Planned Elements – Multi-Model

• Improving the interfaces is of interest to both government and industry....
Multiple models complicate process improvement – but make it much more powerful by addressing specific needs in various environments.

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- Governance
  - Organizational infrastructure and readiness (including business practices, engineering practices, change/improvement practices)

- Tactical
  - Procedural – both for improvement tasks and for engineering tasks

- Enterprise/non-domain specific
  - EQFM Excellence Framework
  - Lean
  - FDA/510K
  - Six Sigma
  - ISO 9000

- Domain specific
  - P-CMM
  - ISO 12207
  - COBIT
  - ITIL
  - SWEBOK

- Increasing decision authority of engineering process group

- Agile
  - IDEAL
  - ATAM

- Lean
  - TSP

- Six Sigma
  - PSM

- Increasing decision authority of engineering process group
CMMI

Planned Elements – Small Settings

Understanding of problems

Understanding and ability to execute solutions

Scenarios

How to build and sustain an improvement effort

How to best use the model (of your choice) to guide improvement

IPSS Field Guide

Already lots of work in this area
Planned Elements – Small Settings

Scenarios of Performance Needs

Process Competencies
CMMI

Planned Elements – Small Settings

IPSS Field Guide

- Developing & Sustaining Sponsorship & Ownership
- Developing & Measuring Realistic Goals
- Developing & Sustaining a PI Infrastructure
- Defining/Describing Processes
- Deploying New or Improved Processes
- Determining Improvement Progress

Foundational competency
Implementation competency
Planned Sequence of Models

- CMMI V1.1
- CMMI-AM
- SA-CMM
- CMMI-DEV V1.2
- GM IT Sourcing
- CMMI-ACQ
- CMMI-SVC
- CMMI V1.2A
- CMMI V1.3

- Released November 2007
- Late 2008
- Late 2009
- March 2009

- Late 2008
- Released November 2007
Contact Information

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