

CMMI

Version 1.2

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Topics

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- CMMI Overview/Aspects
- Version 1.2 Changes
- Sunsetting of Version 1.1
- Training
- Summary

The Concept of Maturity: Why CMMI?

The Concept of Maturity (1)

- Immature organizations can be successful on occasion, but ultimately run into difficulties because
 - Success depends on “heroics” which cannot be guaranteed to be repeated
 - Success depends on having the same people on the team, whereas the industry employee turnaround is high

The Concept of Maturity (2)

- Immature organizations
 - Processes are improvised
 - Reactive, not proactive
 - Cost overruns and delays are frequent
 - Quality is unreliable

The Concept of Maturity (3)

- Processes are managed throughout the organization
- Quality is assessed quantifiably
- Schedules and budgets are based on historic performance

Mature organizations are more cost effective in the long term

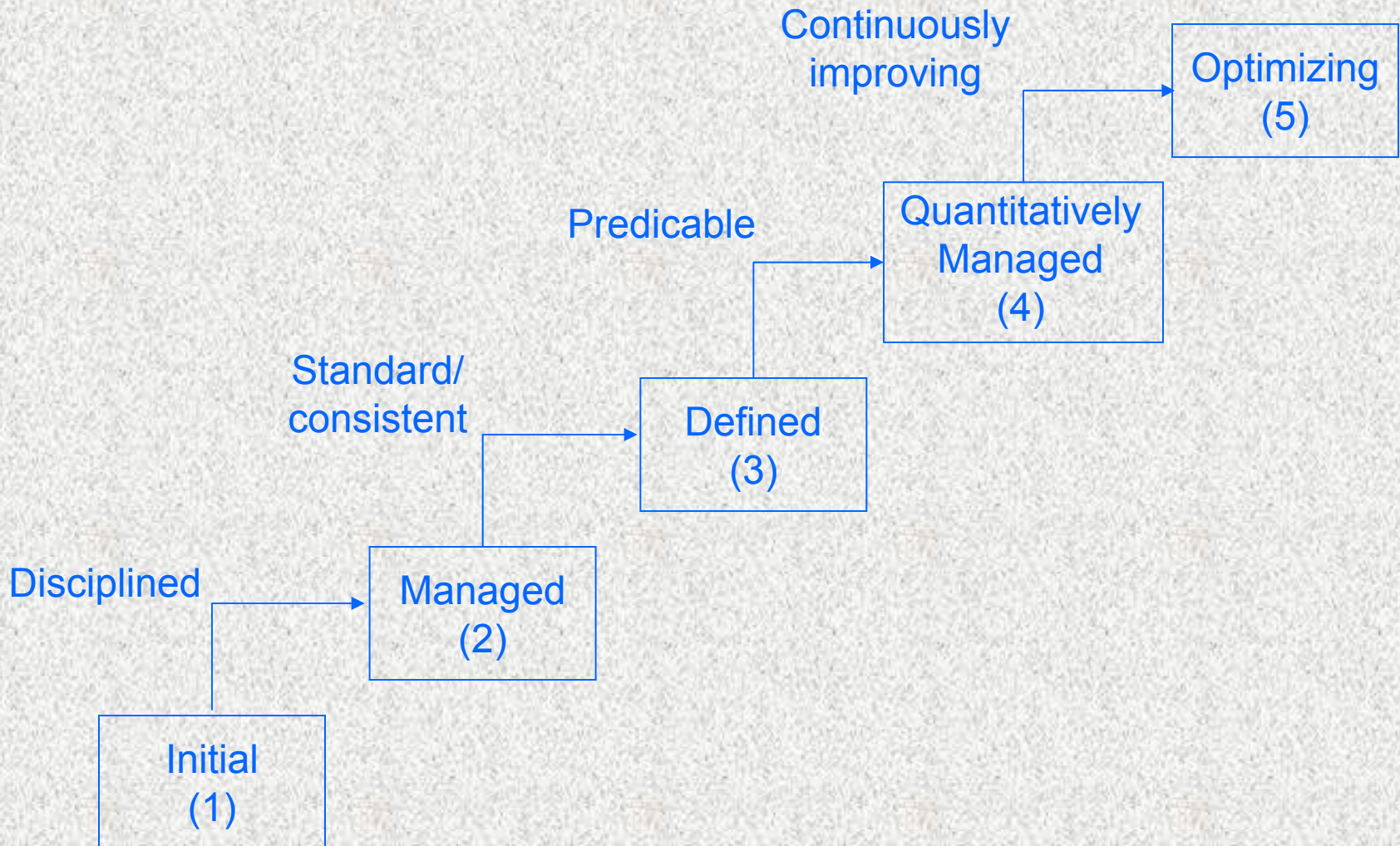
CMMI ROI

| Performance Category | Median | Number of Data Points | Low | High |
|-----------------------------|---------------|------------------------------|------------|-------------|
| Cost | 20% | 21 | 3% | 87% |
| Schedule | 37% | 19 | 2% | 90% |
| Productivity | 62% | 17 | 9% | 255% |
| Quality | 50% | 20 | 7% | 132% |
| Customer Satisfaction | 14% | 6 | -4% | 55% |
| Return on Investment | 4.7 : 1 | 16 | 2 : 1 | 27.7 : 1 |

Reported on December 15, 2005. Table summarizes quantitative information taken from 25 organizations that have reported results that can be expressed as performance changes over time. (Other companies can provide additional data at cmmi-feedback@sei.cmu.edu)

CMMI Overview/Aspects

CMMI: Framework for Maturity



Continuous vs. Staged Representation

- Continuous
 - Allows selection of individual Process Areas (Pas)
 - Provides easy migration from Electronic Industries Alliance Interim Standard (EIA/IS) 73.1 to CMMI
 - Affords easy comparison of process improvement to ISO/IEC 15504
- Staged
 - Provides sequence of improvements
 - Provides easy migration from earlier CMM implementations
 - Provides a single rating that summarizes appraisal results

Process Areas (PAs)

- Except for Level 1, each maturity level is decomposed into Process Areas
- Version 1.2 has been extended to cover some PAs that are involved with developing and maintaining software, but not covered in previous versions

CMMI Structure

- Maturity Levels
 - Process Areas
 - Goals
 - Generic Practices (GPs)
 - Specific Practices (SPs)

PAs

- Level 2: Managed
 - Requirements Management
 - Project Planning
 - Project Monitoring and Control
 - Supplier Agreement Management
 - Measurement and Analysis
 - Process and Product Quality Assurance
 - **Configuration Management**

PAs (cont.)

- Level 3: Defined
 - Requirements Development
 - Technical Solution
 - Product Integration
 - Verification
 - Validation
 - Organizational Process Focus
 - Organizational Process Definition
 - Organizational Training
 - Integrated Project Management
 - Risk Management
 - Decision Analysis and Resolution

PAAs (cont.)

- Level 4: Quantitatively Managed
 - Organizational Process Performance
 - Quantitative Project Management
- Level 5: Optimizing
 - Organizational Innovation and Deployment
 - Causal Analysis and Resolution

PAAs, IPPD Model Only

- Integrated Project Management for IPPD
- Integrated Teaming
- Organizational Environment for Integration

GPs

- Level 2
 - 2.1: Establish an Organizational Policy
 - 2.2: Plan the Process
 - 2.3: Provide Resources
 - 2.4: Assign Responsibility
 - 2.5: Train People
 - **2.6: Manage Configurations**
 - 2.7: Identify and Involve Relevant Stakeholders
 - 2.8: Monitor and Control the Process
 - 2.9: Objectively Evaluate Adherence
 - 2.10: Review Status with Higher-Level Management

GPs (cont.)

- 3.1: Establish a Defined Process
- 3.2: Collect Improvement Information

Version 1.2 Changes

Version 1.2 Changes: Model Content

- Expansion of best practices into areas such as services and acquisition
- Eliminating the concept of advanced practices
- Simplifying the Integrated Project and Process Development (IPPD) material
- Incorporating an extension for Supplier Sourcing (SS)
- Incorporating an extension for Services

Version 1.2 Changes: Supplier Sourcing Extension

- Additional PA: Integrated Supplier Management (ISM)
- Additional amplifications in other PAs
- Additional informational material in model
- Piloted in Version 1.02d (December, 2000)

Version 1.2 Changes: Services Extension

- Candidate PAs
 - Service Request and Incident Management
 - Capacity Management
 - Availability Management
 - Service Continuity Management
 - Release Management
 - Service Delivery
 - Resource Management

Version 1.2 Changes: Services Extension (cont.)

- Discern process areas and practices performed by a wide variety of services
- Select model language that communicates to the service industry but causes as small an impact as possible to existing model content
- Maximize coordination with existing services organizations
- Manage the size and complexity of the services model
- Effectively coordinate common CMMI content with the emerging Version 1.2
- Support organizations that perform both development and service delivery

Version 1.2 Changes: Format

- Single-book format for both staged and continuous representations
- Adding hardware-related examples

Version 1.2 Changes: SCAMPI Appraisal Method

- Removing the requirement for instruments (e.g., surveys)
- Guidance for alternative practices
- Limits for the maximum length of appraisals
- Defining requirements for sampling and incremental appraisals

Version 1.2 Changes: SCAMPI Appraisal Method (cont.)

- Expanding the scope of readiness reviews to include the readiness of the organization, the team, and logistics
- Requiring the sponsor's signature on the Appraisal Disclosure Statement
- Limiting validity of appraisal results to three years

Version 1.2 Changes: Training

- Updating course materials to reflect Version 1.2 changes
- Improving clarity and consistency of training materials
- Single integrated course to be used for continuous and staged representations

Sunseting of Version 1.1

Schedule

- December, 2005 – SW CMM and related products fully retired
- August, 2006 – Version 1.2 to be released
- December 31, 2006 – Sunset of training for Version 1.1; training for Version 1.2 only to be given from this point
- December 31, 2007
 - Results from all SW/SE-CMM appraisals expire
 - Appraisals from this point may be conducted for Version 1.2 only

Version 1.1 Appraisals

- Results from appraisals using Version 1.1 will be accepted during the sunset period (but not after 12/31/07)
- Results from appraisals using a mixture of Versions 1.1 and 1.2 will be accepted during the sunset period (but not after 12/31/07)
- Three-year maximum validity will be instituted for *all* appraisal results upon the release of Version 1.2 (i.e., it will apply to Version 1.1 appraisal results as well)

Appraisal Results: Validity Expiration

- SEI maintains a datapool of appraisal results (<http://seir.sei.cmu.edu/pars/>)
- Appraisal results will be removed from the datapool at the expiration of three years from the date of the appraisal
 - For Version 1.1 appraisals, the expiration will be calculated at the end of three years or at one year after the release of Version 1.2, whichever is later
- SEI will notify an organization at the two-year point that the appraisal results will expire after one year

Training

Training Schedule: Introduction to CMMI

- January 11-13, 2006 (SEI Pittsburgh, PA)
- February 14-16, 2006 (SEI Pittsburgh, PA)
- March 15-17, 2006 (SEI Frankfurt, Germany)
- March 28-30, 2006 (SEI Arlington, VA)
- April 26-28, 2006 (SEI Arlington, VA)
- May 23-25, 2006 (SEI Pittsburgh, PA)
- June 21-23, 2006 (SEI Arlington, VA)
- July 11-13, 2006 (SEI Pittsburgh, PA)
- July 12-14, 2006 (SEI Frankfurt, Germany)
- August 9-11, 2006 (SEI Pittsburgh, PA)
- September 19-21, 2006 (SEI Arlington, VA)
- October 24-26, 2006 (SEI Pittsburgh, PA)
- November 8-10, 2006 (SEI Arlington, VA)
- November 22-24, 2006 (SEI Frankfurt, Germany)
- December 18-20, 2006 (SEI Pittsburgh, PA)

Training Schedule: Intermediate

January 16-20, 2006 (SEI Frankfurt, Germany)
January 23-27, 2006 (SEI Pittsburgh, PA)
February 13-17, 2006 (SEI Arlington, VA)
February 27-March 3, 2006 (Nashville, TN)
March 20-24, 2006 (SEI Pittsburgh, PA)
March 27-31, 2006 (Paris, France)
April 3-7, 2006 (SEI Arlington, VA)
May 8-12, 2006 (SEI Pittsburgh, PA)
May 15-19, 2006 (Copenhagen, Denmark)
June 5-9, 2006 (SEI Pittsburgh, PA)
June 26-30, 2006 (SEI Frankfurt, Germany)
July 24-28, 2006 (London, England)
July 24-28, 2006 (SEI Pittsburgh, PA)
August 21-25, 2006 (SEI Arlington, VA)
September 11-15, 2006 (SEI Arlington, VA)
September 25-29, 2006 (Rome, Italy)
October 2-6, 2006 (SEI Pittsburgh, PA)
October 23-27, 2006 (Madrid, Spain)
November 13-17, 2006 (SEI Pittsburgh, PA)
November 27-December 1, 2006 (Paris, France)
December 4-8, 2006 (SEI Arlington, VA)

Training Schedule: Lead Appraiser

January 23-27, 2006 (SEI Arlington, VA)

February 6-10, 2006 (Paris, France)

May 22-26, 2006 (SEI Pittsburgh, PA)

September 18-22, 2006 (SEI Pittsburgh, PA)

October 9-13, 2006 (SEI Frankfurt, Germany)

December 4-8, 2006 (SEI Pittsburgh, PA)

Additional Course Information

- Courses can also be taken via E-mail at approved customer sites:
 - course-info@sei.cmu.edu (E-mail)
 - 412-268-7622 (phone)
- Introduction
 - Industry: \$1650
 - Government: \$1320
 - Academic: \$1320
- Intermediate
 - Industry: \$2750
 - Government: \$2200
 - Academic: \$2200
- Lead Appraiser
 - Industry: \$4200
 - Government: \$3360
 - Academic: \$3360

Summary

- Version 1.2 designed to make transition from previous versions as simple as possible
- Use of model extensions to make the model more flexible
- Will be released 8/06
- Previous versions to be retired so that all participants will eventually be adhering to a single model
- Addition of three-year validity rule for appraisals