



CMMI A-Specification

Version 1.6

February 6, 2004

This document is controlled by the CMMI Steering Group.

CHANGE PAGE HISTORY

A. Changes From Version 1.3 to Version 1.4 (April 19, 1999):

The following changes were made as a result of a testability review with the CMMI Product Development Team on 3/4/99. Changes are shown in pairs-- those made in both Sections 3 and 4 are shown here together to more easily reflect the change in QA Requirements (Section 4). Further clarifications were added at the Steering Group meeting on April 19, 1999.

1. Section 3.1.1 was modified to remove the word “tailorable”. Tailorability is separately specified in Section 3.2.2.
Section 4.1.1 was modified to remove reference to tailoring.
2. Section 3.1.2 was not changed.
Section 4.1.2 was corrected to match the terminology used in Section 3.1.2.
3. Section 3.1.3 was not changed.
Section 4.1.3 was changed to clearly state that the glossary is the product to be analyzed.
4. Section 3.1.4 was not changed.
Section 4.1.4 was changed for clarity.
5. Section 3.1.5 was not changed.
Section 4.1.5 was changed for clarity.
6. Section 3.2.1 word “consistent” added.
Section 4.2.1 word “consistent” added.
7. Section 3.2.4 removed the term “initial release” to eliminate confusion.
Section 4.2.4 not changed
8. Section 3.3.2 was restated for clarity.
Section 4.3.2 was reworded for clarity.
9. Section 3.3.3 was changed to replace the word “support” to “produce” and added the word “Engineering” to Software to match the CMMI product titles.
Section 4.3.3 was changed to be consistent with 3.3.3.
10. Section 3.4.1 was changed to remove an untestable requirement to be “based on organizational use”
Section 4.4.1 was changed to be consistent with 3.4.1.
11. Section 3.4.2 was changed to add “within a representation” to match testability.
Section 4.4.2 was changed to be consistent with 3.4.2.
12. Section 3.4.3 was not changed. Section 4.4.3 was reworded for clarity.
13. Section 3.4.4 was changed to move the requirement to be consistent to Section 3.2.1 because it was more appropriately included with the Product Suite requirements.
Section 4.4.4 was changed to remove the redundant listing of products and reworded.
14. Section 3.4.6 was added to provide consistent designations for CMMI models.
Section 4.4.6 was added to verify 3.4.6.
15. Section 3.5.1 was changed to encompass all assessment products not just the assessment method.
Section 4.5.1 was changed to be consistent with Section 3.5.1.

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16. Section 3.5.2 changed the words “common assessment methodology” to “comprehensive assessment method”.
Section 4.5.2 changed for clarity.
17. Section 3.5.3 changed the words “common assessment methodology” to “comprehensive assessment method”.
Section 4.5.3 changed for clarity.
18. Section 3.5.4 changed the words “common assessment methodology” to “comprehensive assessment method”.
Section 4.5.4 changed for clarity.
19. Section 3.5.5 was not changed.
Section 4.5.5 was change to match the requirement stated in Section 3.5.5.
20. Section 3.5.6 was not changed.
Section 4.5.6 changed the words “assessment methodology” to “comprehensive assessment method”.
21. Section 3.5.7 was modified to match Section 3.2.4.
Section 4.5.7 was modified to match the text of the requirement stated in Section 3.5.7.
22. Section 3.5.8 was changed to reflect “The comprehensive assessment method” wording used throughout.
Section 4.5.8 was changed to match the same wording.
23. Section 3.6.1 was changed to remove the untestable requirement for efficiency and specify the requirement in terms of learning objectives.
Section 4.6.1 was changed to reflect the change to Section 3.6.1.
24. Section 7 was changed to include the impacts of the changed verification methods as a result of changes in Sections 3 and 4.
25. Defined Capability Maturity Model Integration - Models and adopted acronym CMMI-M when referring to multiple CMMI models.
26. Global change – replaced term “CM” with “model”.
27. Global change - replace term “recommended staging” with “equivalent staging”.
28. Section 3.5.6 was changed to add “and maturity level ratings” after the word “findings”.
Section 4.5.6 was changed to add “and maturity level ratings” after the word “findings”.

B. Changes From Version 1.4 to Version 1.5 (December 15, 2000): - not released

These are running changes made during a continued update process to reflect the addition of Acquisition and Supplier Sourcing, along with Model coverage clarifications, from Dec 2000 to March 2001. This Version was never formally approved nor released.

1. Added paragraph 8 DISCIPLINES COVERED AND COMBINATIONS REQUIRED TO BE PRODUCED to describe the CMMI Models to be produced in a manner that would allow easy addition of other disciplines and concepts.
2. Moved Software Acquisition CMM from 2.3 Reference Documents to 2.2 Source Document.
3. Added a definition of Acquisition (2.4.22).
4. Altered 3.1.2 to more generally cover disciplines and concepts to be added.

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5. Deleted the list of CMMI Models in par 3.2.4 and referred to the list in Paragraph 8.
6. Deleted the lists of discipline and concepts in par 3.3.3 and referred to paragraph 8.
7. Deleted paragraphs 3.4.4 and 3.4.5 because the priority order has been overtaken by events.
8. The description of model designations in Par 3.4.4 is changed to better handle multiple disciplines and concepts.
9. In par 4.1.1 the one combination of disciplines has been changed to an example.
10. Par 4.4.5 has been expanded to accommodate many additional disciplines.
11. Removed note 6.4

C. Changes from Version 1.5 to Version 1.6 (Jan 2004)

These changes reflect the updates reconciling the various differences proposed to reflect the final configurations of the CMMI Product Suite, and the final reconciliation of version 1.5 proposed changes, as approved at the January 29, 2004 Steering Group meeting.

1. Changed the word “assessment” to “appraisal” to reflect CMMI application (global)
2. Added the definition of ‘appraisal’ to section 2.4.18 for completeness.
3. Removed the term development from Functional Requirements section and Table 7 header.
4. Added definition of Supplier Sourcing as paragraph 2.4.24.
5. Modified Section 8 to include Supplier Sourcing in place of the term Acquisition and SS in place of A and added a stand alone A version after Note
6. Added CMMI Acquisition Module requirements to Sec 3.4
7. In Section 8, changed existing Note to read ‘Note 1’
8. Moved Appraisal Requirements from Product Suite category (3.2) to standalone category (3.5); renumbered existing 3.5 and 3.6 as 3.6 and 3.7 respectively
9. 9 Added SCAMPI and MDD to Acronym list and added SCAMPI to Product Suite description 3.2.4
10. changed “service mark” to “circle-r” trademark for CMM, CMMI (global)
11. changed Sec 8.0 list from “Required Combinations” to “Allowable Models & Combinations for Maturity Level and Benchmarking”
12. Added “Common Process Areas” definition
13. Updated Appraisal definition

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List of Acronyms

| | |
|----------|--|
| C4I | Command, Control, Communications, Computers, and Intelligence |
| CBA IPI | CMM-Based Appraisal for Internal Process Improvement |
| CCB | Configuration Control Board |
| CM | Capability Model |
| CMM | Capability Maturity Model |
| CMMI | Capability Maturity Model Integration |
| CMMI-M | Capability Maturity Model Integration-Model |
| CMU | Carnegie Mellon University |
| CONOPs | Concept of Operations |
| DoD | Department of Defense |
| EIA | Electronic Industries Association |
| FAA-iCMM | Federal Aviation Administration Integrated Capability Maturity Model |
| IEC | International Electrotechnical Commission |
| IPD-CMM | Integrated Product Development Capability Maturity Model |
| IPPD | Integrated Product and Process Development |
| ISO | International Standards Organization |
| MDD | Method Definition Document |
| OSD | Office of the Secretary of Defense |

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| | |
|--------|--|
| SA-CMM | Software Acquisition Capability Maturity Model |
| SEI | Software Engineering Institute |
| SCAMPI | Standard CMMI Appraisal Method for Process Improvement |
| SG | Steering Group |
| TEMP | Test and Evaluation Master Plan |

The following specification is for the CMMI® Product Suite. The specification defines the scope, lists applicable documents, defines the requirements the CMMI Product Suite must meet to be considered acceptable, identifies the methods for verifying achievement of the requirements, provides packaging information and general notes.

1. Scope

- 1.1 Identification.** This specification defines the requirements for a Capability Maturity Model Integration (CMMI) Product Suite.
- 1.2 Description.** The CMMI Product Suite provides industry and government a set of integrated products to support process and product improvement. By reducing redundancy and complexity with the separate use of multiple Capability Maturity Models (CMMs) and related Capability Models (CMs) the CMMI-Models (herein referred to as “models”), and the other CMMI products should improve efficiency of and the return on investment for process improvement. The resulting CMMI products will be tailorable to an organization’s mission/business objectives.
- 1.3 Overview.** There are several existing, widely known models. Some of the individual discipline models, when used in combination offer redundant and inconsistent guidance. The content and characteristics of these models provide a basis for the CMMI Product Suite. Integrating the development characteristics and delivery methods of these and future models will enable users to reduce the cost of performing appraisals and implementing improvements. The initial CMMI Product Suite includes a framework for generating CMMI products to meet business objectives/mission needs, and a set of CMMI products produced by the framework. The framework includes common elements and best features of the current models as well as rules and methods for generating CMMI products. Discipline specific elements of the CMMI Product Suite will provide the user with the ability to select elements applicable to specific situations. The CMMI Product Suite will consist of:
- Framework
 - Capability Maturity Model-Integration Models (CMMI-M)
 - Training Products
 - Appraisal Products
 - Glossary

2. Applicable References

2.1 Applicable Documents

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2.1.1 DoD Directive 5000.1, “Defense Acquisition.”

2.2 Source Documents

2.2.1 Software CMM (Version 2.0 Draft C).

2.2.2 Systems Engineering Capability Model (EIA731, Draft Version 1.0).

2.2.3 IPD CMM (Version 0.98).

2.2.4 Software Acquisition CMM (SA-CMM, Version 1.02)

2.3 Reference Documents

2.3.1 Applicable ISO/IEC documents, including ISO/IEC 12207 and ISO/IEC 15504.

2.3.2 FAA-iCMM version 1.0 (Nov 1997).

2.3.3 The Common CMM Framework (Draft E).

2.3.4 IPPD Guide (Feb 1996).

2.3.5 Masters S., Bothwell, C., CMM Appraisal Framework (CMU/SEI-95-TR-001).

2.3.6 Dunaway, D., Masters, S., A CMM-Based Appraisal for Internal Process Improvement (CBA IPI): Method Description (CMU/SEI-96-TR-007).

2.3.7 Program Managers Guide to Software Acquisition Best Practices (Version V.2, April 1997)

2.3.8 Improved Software Acquisition Process, integrated into the systems engineering process, in the Defense Acquisition Deskbook (Version V2.3, March 1998).

2.4 Definitions

2.4.1 In this document “discipline” is a body of knowledge and practice, such as Systems Engineering or Software Engineering, applied in the development of systems, products, or services.

2.4.2 In this document, “functional processes” refers to groups of like activities such as Configuration Management.

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- 2.4.3 In this document “domain” denotes the application area of the system under development, such as: C4I, aeronautical systems, avionics, armament, space and missile systems, and banking.
- 2.4.4 In this document “CMMI framework” includes common elements and best features of the current models as well as rules and methods for generating models, appraisal methods (including associated artifacts) and training material.
- 2.4.5 In this document “Integrated Product and Process Development (IPPD)” denotes a management technique that simultaneously integrates all essential acquisition activities through the use of multidisciplinary teams to optimize the design, manufacturing and supportability processes. IPPD facilitates meeting cost and performance objectives from product concept through production, including field support.
- 2.4.6 In this document “common processes,” such as Configuration Management, are those processes that would be used across all disciplines.
- 2.4.7 In this document the term “staged representation” denotes a model structure that includes organizational maturity levels based on groupings of process areas.
- 2.4.8 In this document the term “continuous representation with equivalent staging” denotes a model structure of processes that provide a continuum of increasing capability for each process area along with a recommended grouping of process areas.
- 2.4.9 In this document “Capability Maturity Model – Integrated (CMMI) Product Suite” denotes the structure, content, and products that tie the elements of the models in the Source Documents into a single unified model. (See Sec 2.2, Source Documents)
- 2.4.10 Applicable documents are those DoD policy documents that the CMMI Product Suite must be consistent with and support.
- 2.4.11 Source documents are the starting point for the CMMI Product Suite development. This information can be modified and extended to meet the CMMI requirements.
- 2.4.12 Reference documents describe relevant background and related materials that may be used, as appropriate and helpful, in developing the CMMI Product Suite.

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- 2.4.13 Tailoring is used in this specification to address the selective use of the content of the products generated by the CMMI framework. This selective tailoring is done by the using organization in model product application. The CMMI framework is not tailorable.
- 2.4.14 Common elements as used in this specification refer to those components that are common across the entire CMMI Product Suite.
- 2.4.15 The CMMI Product Suite includes a framework for generating CMMI products to meet business objectives/mission needs, and a set of CMMI products produced by the framework.
- 2.4.16 A Capability Model (CM) for a given discipline is one that describes the process elements for that discipline prior to or outside the framework of the CMMI project. Associated with the model is one or more process assessment method(s) that help determine the current process capabilities and identify the most crucial issues to improve product and process effectiveness.
- 2.4.17 A Capability Maturity Model Integration-Model (CMMI-M) for a given discipline is one that describes the process elements for that discipline as a result of the CMMI project. Associated with each CMMI-Model is an appraisal methodology that characterizes the current process capabilities and identifies areas for process improvement.
- 2.4.18 Appraisal, as used in this specification, means an assessment for internal process improvement or an evaluation for source selection or contract monitoring of an organization for the purpose of determining maturity or capability.
- 2.4.19 Method, as used in this specification, means a specific instance of a methodology's procedures and techniques characteristic of a particular discipline or field of knowledge, e.g., a specific appraisal (or assessment) method such as CBA IPI.
- 2.4.20 Methodology, as used in this specification, means the system of principles, practices, and procedures applied to a specific branch of knowledge, e.g., appraisals.
- 2.4.21 Consistency, as used in this specification, denotes a uniformity, standardization, and lack of contradiction among the documents and products.

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2.4.22 User Beta Test, as used in this specification, includes CMMI pilot tests and subsequent instrumented user evaluations.

2.4.23 In this document "Acquisition" is the discipline used by an organization (or project) to acquire products or services from suppliers outside of the organization (or project)

2.4.24 In this document, "Supplier Sourcing" is the discipline used by an organization (or project) to select and then proactively work with critical suppliers to optimize supplier agreements in the best interest of both the acquirer and supplier.

2.4.25 Common Process Areas (PAs) are those PAs that form the core of an integrated capability maturity model and apply to all disciplines .

3. Functional Requirements

3.1 User Requirements

3.1.1 The CMMI Product Suite shall provide an integrated process improvement tool for the user community.

3.1.2 The CMMI Product Suite shall include integrated models, composed from several disciplines and the IPPD concepts, and shall include the products listed in Paragraph 8.0.

3.1.3 The CMMI Product Suite shall include a glossary that contains definitions for all unique terms.

3.1.4 The CMMI Product Suite shall provide an internally consistent set of common elements that apply to any discipline and must be included in any CMMI product. These products shall be designed to support process improvement activities, including appraisals, which are less costly than performing these activities using independent models.

3.1.5 CMMI products shall be supportable throughout their life cycle, consistent with continuous process improvement principles.

3.1.6 The CMMI Product Suite shall be consistent and compatible with ISO/IEC 15504.

3.2 Product Suite

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- 3.2.1 The CMMI Product Suite will consist of a framework and a set of consistent products generated by using the framework.
- 3.2.2 The products generated from the CMMI framework shall permit tailoring to meet an individual organization’s goals.
- 3.2.3 Tailoring guidance shall be provided as part of the CMMI Product Suite.
- 3.2.4 The CMMI Product Suite shall be composed of the following:
 - Framework
 - Capability Maturity Model Integration models listed in Paragraph 8.0
 - Training Products
 - Capability Model Training
 - Appraisal Training
 - Framework Training
 - Appraisal Products
 - Comprehensive appraisal method including data collection methods, tools, questionnaires and appraisal team qualifications (SCAMPI Method Definition Document)
 - Guidance on partial appraisal methods (including quick-look appraisal, first appraisal, or reappraisal of the organization)
 - Glossary
 - Tailoring guidance
 - Application guidance

3.3 Framework

- 3.3.1 The CMMI framework will contain a definition and criteria for an integrated Model product, and the CMMI products shall be consistent with that definition and criteria.
- 3.3.2 The CMMI framework shall produce the maximum reasonable commonality of process areas across various disciplines.
- 3.3.3 The CMMI framework shall produce the following:
 - A staged representation of each discipline combination listed in Paragraph 8.0
 - A continuous representation with equivalent staging of each discipline combination listed in Paragraph 8.0
- 3.3.4 The CMMI framework shall be designed to accommodate improvements in the CMMI Product Suite.

3.4 Models

- 3.4.1 The set of CMMI products generated by the framework shall include models that cover the common elements and the disciplines selected for inclusion.
- 3.4.2 All models generated from the framework within a representation shall incorporate all common elements.
- 3.4.3 The composition (content) of the models shall be based on practices that are observed, documented, and judged to be effective.
- 3.4.4 The CMMI models listed in par 8.0 and associated appraisal and training materials shall be generated.
- 3.4.5 All CMMI-Models generated from the framework shall have designations consistent with the following:

“CMMI-“ followed by the designators of the disciplines or concepts included separated by slashes I.e. CMMI-SE/SW.
- 3.4.6 There shall also be a CMMI-based Acquisition Module, initially in stand-alone format, oriented for use by a government (DoD or other federal agency) project office in their acquisition of prime contractors required to successfully execute their program. The Acquisition Module will be a synopsis of those CMMI-related activities that the program office should perform for a successful program. The Acquisition Module is not initially intended for formal appraisal, and is intended for self-administration. It shall include a set of specific questions to assist the user in understanding the critical elements of the program. The Module shall be written in such as manner as to allow for subsequent incorporation into the formal CMMI model framework.

3.5 Appraisal requirements

There will be an Appraisal Requirements Criteria document that will address definition and application of appraisal products.

3.6 Appraisals

- 3.6.1 The appraisal products to be provided shall be common across models including a comprehensive appraisal method and guidance on partial appraisal methods including quick-look appraisal, first appraisal, or reappraisal of the organization.

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- 3.6.2 The comprehensive appraisal method shall define criteria for evaluating process maturity relative to the models.
- 3.6.3 The comprehensive appraisal method shall support repeatable and consistent appraisal results.
- 3.6.4 The comprehensive appraisal method shall provide specific guidance for tailoring.
- 3.6.5 The appraisal outputs shall identify strengths, weaknesses, and potential areas of improvement, relative to documented criteria.
- 3.6.6 Appraisal findings and maturity level ratings shall be consistent between staged and continuous with equivalent staging representations of the models.
- 3.6.7 Appraisal data collection methods, tools, and questionnaires shall be defined to support the appraisal method.
- 3.6.8 The comprehensive appraisal method shall include appraisal team qualifications.

3.7 Training Materials

- 3.7.1 Learning objectives that support efficient use of the CMMI Product Suite shall be defined as part of developing the CMMI product training materials.
- 3.7.2 Tailoring guidance shall be provided as part of the CMMI training materials.

4. Quality Assurance Provisions

4.1 (Ref 3.1) User Requirements

- 4.1.1 (Ref 3.1.1) It shall be demonstrated that the CMMI products for process improvement are integrated across the disciplines involved (e.g., Systems Engineering and Software Engineering).
- 4.1.2 (Ref 3.1.2) It shall be demonstrated that the CMMI Product Suite includes CMMI models with and without IPPD concepts. These models shall be analyzed to verify that the processes and practices are fully covered and integrated. This analysis shall examine consistency, lack of duplication, correctness, and completeness of the models.

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- 4.1.3 (Ref 3.1.3) The CMMI glossary shall be analyzed to assure it contains complete and useful definitions for all unique terms used.
- 4.1.4 (Ref 3.1.4) The CMMI Product Suite shall be analyzed to determine that an internal set of common elements is used in generating CMMI models. The user beta test shall verify appraisals are less costly (than independent appraisals) and at least as effective in supporting process improvement as the source models.
- 4.1.5 (Ref 3.1.5) The CMMI transition and stewardship plan shall be analyzed to verify that it addresses continuous process improvement principles and life cycle support.
- 4.1.6 (Ref 3.1.6) The CMMI Product Suite shall be analyzed to determine that it is consistent and compatible with ISO/IEC 15504.

4.2 (Ref 3.2) Product Suite

- 4.2.1 (Ref 3.2.1) The CMMI Product Suite shall be examined to ensure that it consists of a framework and a set of consistent products generated by the framework.
- 4.2.2 (Ref 3.2.2) The products generated from the CMMI framework shall be analyzed to verify they can be tailored.
- 4.2.3 (Ref 3.2.3) It shall be demonstrated that the CMMI products can be tailored using the product suite tailoring guidance and product tailoring limits.
- 4.2.4 (Ref 3.2.4) The product suite shall be examined to verify it contains the products listed in 3.2.4.

4.3 (Ref 3.3) Framework

- 4.3.1 (Ref 3.3.1) The CMMI framework will be analyzed to verify that products generated from the framework are consistent with the definition and criteria for a Capability Maturity Model-Integrated product contained in the framework.
- 4.3.2 (Ref 3.3.2) The CMMI framework shall be analyzed to verify that the maximum reasonable commonality of process areas across various disciplines has been achieved.

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4.3.3 (Ref 3.3.3) The CMMI framework shall be demonstrated to produce each of the models referenced in 3.3.3. This demonstration shall verify that each defined attribute of the definition of “staged representation” and “continuous representation with equivalent staging” is fully implemented.

4.3.4 (Ref 3.3.4) The CMMI framework design shall be analyzed to verify that it will accommodate changes for CMMI Product Suite improvement.

4.4 (Ref. 3.4) Models

4.4.1 (Ref 3.4.1) It shall be demonstrated that the models generated from the framework include the common elements and the elements for each selected discipline.

4.4.2 (Ref 3.4.2) All models generated from the framework within a representation shall be examined to verify they incorporate all common elements.

4.4.3 (Ref 3.4.3) The content of the models shall be analyzed to verify that they correctly represent practices that are observed, documented, and judged to be effective. The content of the models shall be analyzed to assure they do not define the specifics of particular implementations

4.4.4 (Ref 3.4.4) It shall be demonstrated that the available models are named in the manner contained in par 3.4.4.

4.4.5 (Ref 3.4.5) All CMMI models generated from the framework shall be examined to verify they have appropriate designators.

4.5 (Ref 3.5) Appraisals

4.5.1 (Ref 3.5.1) A comprehensive appraisal method shall be demonstrated as conforming to the appraisal requirements and guidance for partial appraisal methods shall be examined.

4.5.2 (Ref 3.5.2) Criteria for evaluating process maturity relative to the models shall be demonstrated.

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- 4.5.3 (Ref 3.5.3) Support for consistent and repeatable results from use of the comprehensive appraisal method shall be verified through examination, analysis and user beta test.
- 4.5.4 (Ref 3.5.4) The tailoring of the comprehensive appraisal method shall be demonstrated using the tailoring guidance.
- 4.5.5 (Ref 3.5.5) The appraisal results (outputs) shall be demonstrated to identify strengths, weaknesses, and potential areas of improvement.
- 4.5.6 (Ref 3.5.6) The comprehensive appraisal method shall be demonstrated to verify consistent findings and maturity level ratings between staged and continuous with equivalent staging models.
- 4.5.7 (Ref 3.5.7) The appraisal data collection methods, tools, and questionnaires shall be analyzed to verify that they support the comprehensive appraisal method.
- 4.5.8 (Ref 3.5.8) The comprehensive appraisal methodology shall be examined to verify that appraisal team qualifications are provided and appropriate.

4.6 (Ref 3.6) Training Materials

- 4.6.1 (Ref 3.6.1) The beta test shall demonstrate that the training materials address the learning objectives.
- 4.6.2 (Ref 3.6.2) Training materials shall be examined to verify that they adequately provide tailoring guidance.

5. Packaging

- 5.1 The CMMI products shall be produced in hard copy and electronic format (soft copy). Soft copy shall be available in editable format (i.e. MicroSoft WORD) as well as Acrobat Portable Document Format (PDF)
- 5.2 The CMMI product suite shall be delivered to the sustaining organization in electronic format.
- 5.3 The CMMI products except for Training Materials shall be posted to the public portion of the SEI Website after CMMI Steering Group approval.

6. Notes

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This section contains only information of general or explanatory nature.

- 6.1** The CMMI Steering Group will perform the CCB function for this A-Specification and the associated Concept of Operations.
- 6.2** The CMMI framework should enable disciplined development and evolution of support products.
- 6.3** The product development team should collaboratively develop the CMMI framework process management common elements. The integration common elements that support the principles of IPPD should be developed by a collaboration of IPPD experienced authors with hands-on IPPD experience supported by personnel with CMM experience. This effort should use the current IPD CMM as the starting point.
- 6.4** CMMI product development teams consisting of experienced experts in the discipline and experts in building CMMI products should develop discipline specific elements of the CMMI framework.
- 6.5** The objective is to allow replacement of existing source models with products of the CMMI Product Suite. A secondary objective is for all future models to conform to the framework.
- 6.6** CMMI Product Suite Transition and Maintenance Plan will be developed.
- 6.7** CMMI Product Suite Test and Evaluation Master Plan (TEMP) will be developed.

7. Summary of Requirements Verification Methods

Verification Methods:

A-Analysis, e.g. detailed investigation of a product; comparison with other similar documented products

B-Demonstration, e.g. partial use of one of the products

C-Examination, e.g. review of a product by reading

D-Test e.g. alpha/beta tests of products

All methods of verification should be documented.

| Specification Requirements Section 3 | Method A | Method B | Method C | Method D | Verification Section 4 |
|---|-------------|-------------|-------------|-------------|---------------------------|
| 3.1 User Requirements | | | | | 4.1 |
| 3.1.1 | √ | √ | | | 4.1.1 |
| 3.1.2 | √ | √ | | | 4.1.2 |
| 3.1.3 | √ | | | | 4.1.3 |
| 3.1.4 | √ | | | √ | 4.1.4 |
| 3.1.5 | √ | | | | 4.1.5 |
| 3.1.6 | √ | | | | 4.1.6 |
| 3.2 Product Suite | | | | | 4.2 |
| 3.2.1 | √ | | √ | | 4.2.1 |
| 3.2.2 | √ | | | | 4.2.2 |
| 3.2.3 | | √ | | | 4.2.3 |
| 3.2.4 | | | √ | | 4.2.4 |
| 3.3 Framework | | | | | 4.3. |
| 3.3.1 | √ | | | | 4.3.1 |
| 3.3.2 | √ | | | | 4.3.2 |
| 3.3.3 | | √ | | √ | 4.3.3 |
| 3.3.4 | √ | | | | 4.3.4 |
| 3.4 Models | | | | | 4.4 |
| 3.4.1 | √ | √ | | | 4.4.1 |
| 3.4.2 | | | √ | | 4.4.2 |
| 3.4.3 | √ | | | | 4.4.3 |
| 3.4.4 | | √ | | | 4.4.4 |
| 3.4.5 | | | √ | | 4.4.5 |
| 3.4.6 | | | √ | | 4.4.6 |
| 3.5 Appraisals | | | | | 4.5 |
| 3.5.1 | | √ | √ | | 4.5.1 |
| 3.5.2 | | √ | | | 4.5.2 |
| 3.5.3 | | | | √ | 4.5.3 |
| 3.5.4 | | √ | | | 4.5.4 |
| 3.5.5 | | √ | | | 4.5.5 |
| 3.5.6 | | √ | | | 4.5.6 |
| 3.5.7 | √ | | | | 4.5.7 |
| 3.5.8 | | | √ | | 4.5.8 |
| 3.6 Training Materials | | | | | 4.6 |
| 3.6.1 | √ | | | √ | 4.6.1 |
| 3.6.2 | | | √ | | 4.6.2 |

8. Disciplines Covered and Allowable Models & Combinations

As of December 2003

Disciplines Covered

Software Engineering (SW)
Systems Engineering (SE)
Integrated Product and Process Development (IPPD)
Acquisition (A)
Supplier Sourcing (SS)

Allowable Models & Combinations

For Maturity Levels & Benchmarking

Systems Engineering and Software Engineering (CMMI-SE/SW)
Systems Engineering and Software Engineering with IPPD (CMMI-SE/SW/IPPD)
Systems Engineering, Software Engineering, and Supplier Sourcing (CMMI-SE/SW/SS)
Systems Engineering, Software Engineering, and Supplier Sourcing with IPPD (CMMI-SE/SW/IPPD/SS)
Systems Engineering (CMMI-SE)
Systems Engineering and Supplier Sourcing (CMMI-SE/SS)
Software Engineering (CMMI-SW)
Software Engineering and Supplier Sourcing (CMMI-SW/SS)
Systems Engineering and Integrated Product & Process Development (CMMI-SE/IPPD)
Software Engineering and Integrated Product & Process Development (CMMI-SW/IPPD)

CMMI-based Acquisition Module

Note 1: all of the above combinations except the Acquisition Module will include all of the Common Process Areas.