



Chief Information Officer  
Office of Information Services  
Centers for Medicare & Medicaid Services

CMS Policy for  
Capability Maturity Model  
Integration (CMMI)<sup>®</sup>

December 2006

# TABLE OF CONTENTS

<b>1. PURPOSE</b> .....	<b>1</b>
<b>2. BACKGROUND</b> .....	<b>1</b>
<b>3. SCOPE</b> .....	<b>2</b>
<b>4. POLICY</b> .....	<b>2</b>
<b>5. ROLES AND RESPONSIBILITIES</b> .....	<b>2</b>
5.A. CMS IT CONTRACTORS .....	3
5.B. CMS CONTRACTING OFFICERS.....	3
5.C. CMS PROJECT OFFICERS .....	3
<b>6. APPLICABLE LAWS/GUIDANCE</b> .....	<b>3</b>
<b>7. INFORMATION AND ASSISTANCE</b> .....	<b>4</b>
<b>8. EFFECTIVE DATE/IMPLEMENTATION</b> .....	<b>4</b>
<b>9. APPROVED</b> .....	<b>4</b>
<b>10. ATTACHMENTS</b> .....	<b>4</b>
<b>GLOSSARY</b> .....	<b>4</b>

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## 1. PURPOSE

The purpose of this Centers for Medicare & Medicaid Services (CMS) policy is to ensure that CMS Information Technology (IT) contractors possess an adequate level of maturity in their organizational processes that is in accordance with the Carnegie Mellon Software Engineering Institute (SEI) Capability Maturity Model Integration<sup>®</sup> (CMMI<sup>®</sup>), as applicable.

This policy is a first issuance establishing the requirements for adherence to SEI CMMI<sup>®</sup> by CMS IT contractors subsequent to the effective date of this document.

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## 2. BACKGROUND

CMS, like many organizations today, is in a position of needing to deliver more complex products and services better, faster, and cheaper. The business problems that CMS addresses today involve enterprise-wide solutions that require an integrated approach and effective management of organizational resources to achieve the Agency's business objectives.

In the current marketplace, there are maturity models, standards, methodologies, and guidelines that can help an organization improve the way it does business. The SEI asserts that "the quality of a system or product is highly influenced by the quality of the process used to develop and maintain it." This belief is demonstrated worldwide in quality movements, such as the CMMI<sup>®</sup> and the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) body of standards.

The CMMI<sup>®</sup> is a process improvement approach that provides organizations with the essential elements of effective processes. It can be used to guide process improvement across a project, a division, or an entire organization. CMMI<sup>®</sup> helps integrate traditionally separate organizational functions, set process improvement goals and priorities, provide guidance for quality processes, and provide a point of reference for appraising current processes.

The CMMI<sup>®</sup> is the successor of the Capability Maturity Model<sup>®</sup> (CMM<sup>®</sup>). CMM<sup>®</sup> was developed from 1987 until 1997. In 2002, Version 1.1 of the CMMI<sup>®</sup> was released; Version 1.2 followed in August 2006. The goal of the CMMI<sup>®</sup> is to improve usability of maturity models for software engineering and other disciplines, by integrating many different models into one framework. It was created by members of industry, government and the SEI.

SEI advocates that CMMI<sup>®</sup> should be adapted to each individual organization or company, therefore organizations or companies are not "certified." A company is appraised at a certain level of CMMI<sup>®</sup>. There are three different types of CMMI<sup>®</sup> appraisals: Class A, Class B, and Class C. The Standard CMMI Appraisal Method for Process Improvement (SCAMPI<sup>SM</sup>) is the official SEI method to provide benchmark-quality ratings relative to CMMI<sup>®</sup> models, and is the only appraisal method that meets all of the requirements of a Class A appraisal.

SCAMPI<sup>SM</sup> appraisals are used to identify strengths and weaknesses of current processes, reveal development/acquisition risks, and determine capability and maturity level ratings. They are mostly used either as a part of a process improvement program or for rating prospective suppliers.

While CMS recognizes that there are other, similar disciplines that may be substituted as an appropriate equivalent to the SEI CMMI<sup>®</sup>, such as the ISO 9001:2000 family of standards, CMS closely follows the CMMI<sup>®</sup> that was developed by the SEI.

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### **3. SCOPE**

This policy applies to all CMS IT contractors who provide development and/or maintenance support for system/application software, system integration, and/or engineering and technical support solutions. IT Contractors who provide limited support for only a particular task element of the CMS system life cycle (e.g., requirements analysis, training, testing, independent verification and validation (IV&V), etc.) may be exempt from the requirements of this policy.

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### **4. POLICY**

IT Contractor compliance with maturity standards and methodologies such as CMMI<sup>®</sup> signifies a greater level of effort and capability to perform software development and integration activities in a repeatable and consistent high quality manner. To that end, all CMS IT contractors shall have and maintain throughout the life of their contract with CMS, a mature software process discipline that is based on the SEI CMMI<sup>®</sup>.

CMS IT contractors shall demonstrate their recognized level of CMMI<sup>®</sup> maturity by providing CMS with the results of an independently prepared SCAMPI<sup>SM</sup> appraisal that was led by an SEI-Authorized Lead Appraiser. All SCAMPI<sup>SM</sup> appraisals must apply down to the lowest organizational level or business unit that will actually be performing the work for a specific contract. In addition, CMS reserves the right to conduct its own independent evaluation and/or other quality inspections.

All CMS IT contractors providing system/application software development and/or maintenance, system integration, and/or engineering and technical support solutions shall possess SCAMPI<sup>SM</sup> appraisal results at a minimum of Level 3 CMMI<sup>®</sup> for CMS payment systems and a minimum of Level 2 CMMI<sup>®</sup> for all other systems. By calendar year 2012, all CMS IT contractors providing development and/or maintenance support, system integration, and/or engineering and technical support solutions for CMS payment systems shall be at Level 4 CMMI<sup>®</sup>.

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### **5. ROLES AND RESPONSIBILITIES**

The following entities have responsibilities related to the implementation of this policy:

## **5.A. CMS IT Contractors**

CMS IT Contractors who provide system/application software development and/or maintenance, system integration, and/or engineering and technical support solutions are responsible for the following:

- Providing CMS with SCAMPI<sup>SM</sup> appraisal results that demonstrate the CMMI<sup>®</sup> maturity level of the organization or business unit that will be providing its services to CMS;
- Ensuring the continued maintenance and/or upgrading of their organization's CMMI<sup>®</sup> maturity level for the life of their contract with CMS; and
- Providing CMS or its designated agent with data and/or access requested in order to verify SCAMPI<sup>SM</sup> appraisal status and to validate the processes that the organization has in place that will be used in providing services to CMS.

## **5.B. CMS Contracting Officers**

CMS Contracting Officers are responsible for ensuring that the requirements of this policy are incorporated into the IT contracts that CMS awards and/or providing waivers as appropriate.

## **5.C. CMS Project Officers**

CMS Project Officers are responsible for the following:

- Ensuring CMS IT contractors comply with this policy as appropriate; and
- Determining if follow-up SCAMPI<sup>SM</sup> appraisals or other assessments are needed.

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## **6. APPLICABLE LAWS/GUIDANCE**

The following laws and guidance are applicable to this policy:

- Government Performance and Results Act (GPRA) of 1993
- Paperwork Reduction Act of 1995
- Clinger-Cohen Act of 1996
- Capability Maturity Model Integration<sup>®</sup> (CMMI<sup>®</sup>), Carnegie Mellon Software Engineering Institute, Version 1.2, August 2006
- Appraisal Requirements for CMMI<sup>®</sup>, Version 1.2, August 25, 2006

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## 7. INFORMATION AND ASSISTANCE

Contact the Director of the Division of Resource and Acquisition Management within the Enterprise Architecture and Strategy Group (EASG) of the Office of Information Services (OIS) for further information regarding this policy.

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## 8. EFFECTIVE DATE/IMPLEMENTATION

This policy becomes effective on the date that CMS' Chief Information Officer (CIO) signs it and remains in effect until officially superseded or cancelled by the CIO.

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## 9. APPROVED

\_\_\_\_\_/s/\_\_\_\_\_

Julie C. Boughn  
CMS Chief Information Officer and  
Director, Office of Information Services

\_\_\_\_12/12/2006\_\_\_\_\_

Date of Issuance

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## 10. ATTACHMENTS

There are no documents that currently augment this policy.

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## GLOSSARY

**Business Unit** - any segment of an organization, or an entire business organization that is not divided into segments.

**Segment** - one of two or more divisions, product departments, plants, or other subdivisions of an organization reporting directly to a home office, usually identified with responsibility for profit and/or producing a product or service.