

# CMMI Acquisition Handbook

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Guidance for Addressing and  
Verifying CMMI Requirements in  
Contracts and Acquisition Efforts

August 2023 • Version 2.0



**ISACA**<sup>®</sup>

CMMI Performance Solutions

## CMMI Acquisition

# Handbook Introduction

This handbook provides the essential who, what, when, why, and how information about using CMMI in the Federal Contracting industry.

### Intended Audience

**Government Procurement:** The audience for this handbook includes any contracting organization that is acquiring products and services based on **Capability Maturity Model Integration (CMMI®) best practices model**.

This handbook contains **the most needed and frequently requested information** for:

- Government procurement officials
- Source Evaluation and Selection Boards
- Contracting Officers (CO)
- Contracting Officer's Representative (COR)
- Contracting Officer's Technical Representatives (COTR)
- Commercial contracting, acquisition, and supplier management personnel

To stay current with the latest techniques, content, technologies, and other trends, **continual improvement of this guidance is expected** with practical input from CMMI Partners and users—including government and contracting representatives.

### Handbook Topics

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## What is CMMI?

Capability Maturity Model Integration (CMMI) is a performance improvement model for organizations and projects that want to solve business challenges by building capability and increasing performance.

Proven effective globally in business and government for over 23 years, CMMI is an **integrated framework of best practices** that can rapidly improve and sustain any organization's performance to elevate quality, profitability, productivity, cybersecurity resilience, and competitiveness. For more information, continue reading the Background section of this handbook and review the [CMMI Adoption Guidance](#) found in the [CMMI Resource Center](#).

## How to Use CMMI

# What to Ask For

A summary of what government solicitations should request from contractor proposals to verify CMMI appraisal rating and status

## Requirements

**Verification:** To verify CMMI appraisal ratings, Requests for Proposals (RFPs) should ask the bidding organization to include the following four artifacts from their most recent appraisal in their proposal response.

- CMMI Appraisal Number, Mark, and expiration date
- CMMI Appraisal Disclosure Statement (ADS)
- CMMI Appraisal Final Findings Briefing
- CMMI Appraisal Performance Report

### Sample Appraisal Mark



**Naming Terminology:** CMMI requirements include two naming components: **Domain + Maturity Level (ML)**.

- **Current Domains** (and abbreviations) include:
  - CMMI Data (CMMI-DATA)
  - CMMI Development (CMMI-DEV)
  - CMMI People (CMMI-PPL)
  - CMMI Safety (CMMI-SAF)
  - CMMI Security (CMMI-SEC)
  - CMMI Services (CMMI-SVC)
  - CMMI Suppliers (CMMI-SPM)
  - CMMI Virtual (CMMI-VRT)
- **Maturity Level (ML)** varies by domain, from ML1 to ML5

**Version Numbering:** The current version of CMMI is V3.0. There may be organizations who still have valid appraisals against 2.X. The ADS artifact contains the applicable CMMI version number for the appraisal.

**Avoid Outdated Terminology:** For example, RFPs should not use SW-CMM, Software-CMM, or versions prior to V2.0, such as V1.3, as they are no longer valid.

**Relevance:** Verify the applicability of the **appraisal artifacts** to the organizational division doing the actual work. Otherwise, an unrelated portion of the organization may have received the appraisal.

## Requirement Examples

In each of the following examples, replace the (bold) CMMI domain, version, or maturity level as needed.

- Provider shall already be or reach **CMMI-DEV V3.0 Maturity Level 3** by the time of contract award.
- Prime contractor must be **CMMI Services V3.0 Maturity Level 5** for all contract work, and subcontractors supporting the effort must be at least **CMMI Services Maturity Level 3** for the life of the contract.
- Evaluation verification of primes and subcontractors require they provide the above **appraisal artifacts** as part of the proposal submission.
- Review the **appraisal artifacts** to verify the rating is applicable to the portion/division and related projects and organizational support functions doing the actual work. Results from unrelated locations or divisions are not compliant for this requirement.

## When Using CMMI

# Online Resources

This page is a summary list of resources—part of the integrated CMMI Performance Solutions ecosystem, to aid organizations with adoption.

### Procurement Resources

The following are key CMMI resources for Acquisition Officers evaluating contractors.

- [CMMI Published Appraisal Results \(PARS\)](#): Organizations that wish to publish the results of their Benchmark or Sustainment appraisal types may do so on the ISACA's CMMI PARS webpage. Benchmark Appraisal ratings are valid for three years. Sustainment Appraisal ratings are valid for two years. This website publishes the CMMI level achieved by organizations appraised using the Benchmark or Sustainment appraisal types.
- [ISACA's Customer Support Center](#): This site provides individuals and organizations with support and solutions to questions. You can review the [Frequently Asked Questions \(FAQs\)](#) or submit a support request at [support.isaca.org](http://support.isaca.org).
- [CMMI Technical Report – Performance Results](#): This report reflects actual appraisal results since 2019.
- [CMMI Website](#): The CMMI website provides resources and information about ISACA's offerings to support capability and performance improvement.
- [CMMI Resource Center](#): The CMMI Resource Center is a collection of every CMMI digital resource in one place. Browse through the collection of presentations, webinars, articles, case studies, whitepapers, and more.

### Other CMMI Adoption Resources

- [CMMI Adoption Guide \(AG\)](#): Contains everything an organization needs to know about adopting CMMI best practices. Includes a comprehensive list of common business problems and their CMMI resolution (AG Appendix C) and Typical CMMI Adoption Roles (AG Appendix D).
- [CMMI Tech Talks](#): These provide a variety of microlearning to assist in CMMI adoption. They cover a variety of areas including model interpretation, training, appraisals, CMMI and other frameworks, and more.
- [CMMI Training Resources](#): Find CMMI and CMMI Partner training resources, class schedules, and information about training and certification options on the CMMI Training Resources page.
- [CMMI Policies](#): The CMMI Policies page provides access to appraisal, certification, partner, quality, and training policies.
- [CMMI Partner Directory](#): The CMMI Partner Directory is a searchable database of highly trained individuals in organizations trusted to deliver quality, leading-edge CMMI services and technologies throughout the global business community. Organizations looking to get an appraisal, obtain training, or receive consulting on implementing CMMI processes in their organization can find a CMMI Partner to help.

### Resource Links

Select and click the blue underlined links on this page to visit the CMMI online resources.

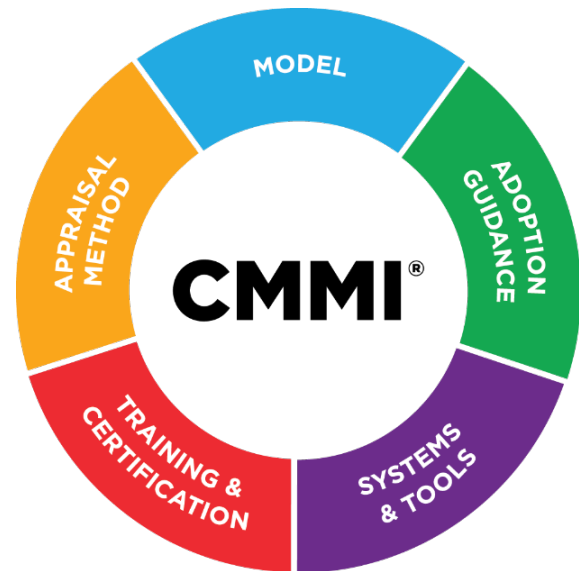
## Why Use CMMI?

# Capability Maturity Model Integration (CMMI)

The CMMI Performance Solutions Ecosystem includes five components.

**CMMI offers an integrated product suite** consisting of five components, that when used together provide a clear and proven path to achieving your business objectives.

- **Model:** Clear pathway to performance improvement. Simplified for accelerated adoption. Built-in value statements for Practice Areas and Practices to target performance improvement.
- **Appraisal Method:** The appraisal method helps to increase reliability while reducing overall cost and disruption to the organization appraised. Standard Performance Report template integrated into the appraisal method.
- **Training and Certification:** Training has modular components with virtual and in-person models. Provides performance-focused content and exercises. More learner-focused and learning objective oriented.
- **Systems and Tools:** System provides interactive user experience with model, appraisal method, and performance reporting resources.
- **Adoption Guidance:** Easy onboarding for new adopters to start using CMMI.



CMMI helps an organization understand its capability and performance level.

CMMI practices can **guide improvement to elevate and optimize performance**. Focusing primarily on benefits and performance drives process improvements to better serve the needs of the organization and the customer.

CMMI's performance improvement model has helped thousands of companies—including Fortune 500 organizations. CMMI Performance Solutions is an integrated Product Suite to address all the components of the CMMI ecosystem.

### CMMI benefits include:

- A positive return on performance and process improvement investments
- Meeting commitments that result in:
  - More timely delivery
  - Fewer last-minute crunches
  - Enhanced cost control
  - Increased quality
- Management visibility, resulting in:
  - More rapid response to issues
  - Quicker risk mitigation
  - Fewer surprises
  - Reduced customer complaints
  - Reduced rework
  - Lower employee turnover
  - Solutions that better meet customer needs & expectations

## Maturity Levels

Understanding an organization’s maturity level (ML) is key to performance expectations. See **chart with ML1 to ML5**, below. “High Maturity” (ML4 and ML5) represents a fundamental shift in process understanding, management, and improvement. High Maturity organizations demonstrate a deeper commitment to improving capabilities with a focus on continuous performance improvement. They also anticipate change and constantly evolve, enabling rapid pivoting and responding to opportunities.

**CMMI is THE government and commercially recognized framework for measuring organizational maturity, capability, and performance. CMMI “wrote the book” on what maturity levels mean.**

## Performance

**CMMI Performance Solutions** demonstrate consistent performance for quality, cost, and schedule management—with productivity improvements in any organization or industry. Highlights include:

- **Maximizing Potential: Performance Data Overview**, including the Success Rate Statistics
- **CMMI’s Consistency in Driving Performance**, including the Categories Box and Whisker Chart

Refer to pages 9 and 10 for these excerpts from the online [CMMI Technical Report – Performance Results](#) with appraisal results statistics from recent years.







[Learn More](#)

## Background

This handbook section underscores CMMI's value in Federal contracting, highlighting its ability to enhance organizational performance, efficiency, and strategic goal attainment.

### Who Uses CMMI?

**As of the 2021-22 Federal budget**, CMMI requirements are in over \$378M worth of contracts, or \$1.7T across the entire life of these contracts.

#### Large Systems Integrators (LSIs)

**Based on 2022-23 federal budget**, the top 20 Large Systems Integrators currently have 99+ sites around the US supporting federal programs with CMMI-based infrastructure already in place.

**GAO uses the CMMI Model Viewer for reproduction and distribution** in GAO audit reports and leverages the CMMI best practices solely to provide Congress and agencies recommendations that address the audit/report findings. GAO

provides recommendations based on CMMI frameworks for risk management, controls, planning and requirements management to agencies which allow them to document, manage and assess their software practices and maturity.

**FDA Case for Quality collaborative community Voluntary Improvement Program**, also known as the Medical Device Discovery Appraisal Program (MDDAP) helps Class I, II, and III device makers design, build, and deliver safer products to patients, faster. The FDA's case for quality initiative identifies process inefficiencies and helps device makers implement best practices that accelerate medical device improvements. Outcomes include increased speed to market, improved production capacity, & more.





## Looking Back

# CMMI History

Since 1987, the US Federal government, Department of Defense (DoD), and their top-tier prime suppliers and systems integrators—such as

BAE, the Boeing Company, Booz Allen Hamilton, Lockheed Martin, Northrop Grumman, Raytheon Technologies, and their Tier 1-n subcontractors have been relying on and requiring Capability Maturity Model Integration (CMMI) for CMMI-based **continuous performance improvement** to train their people to use processes and systems to address the government’s requirements in mission-critical contracts and procurements.

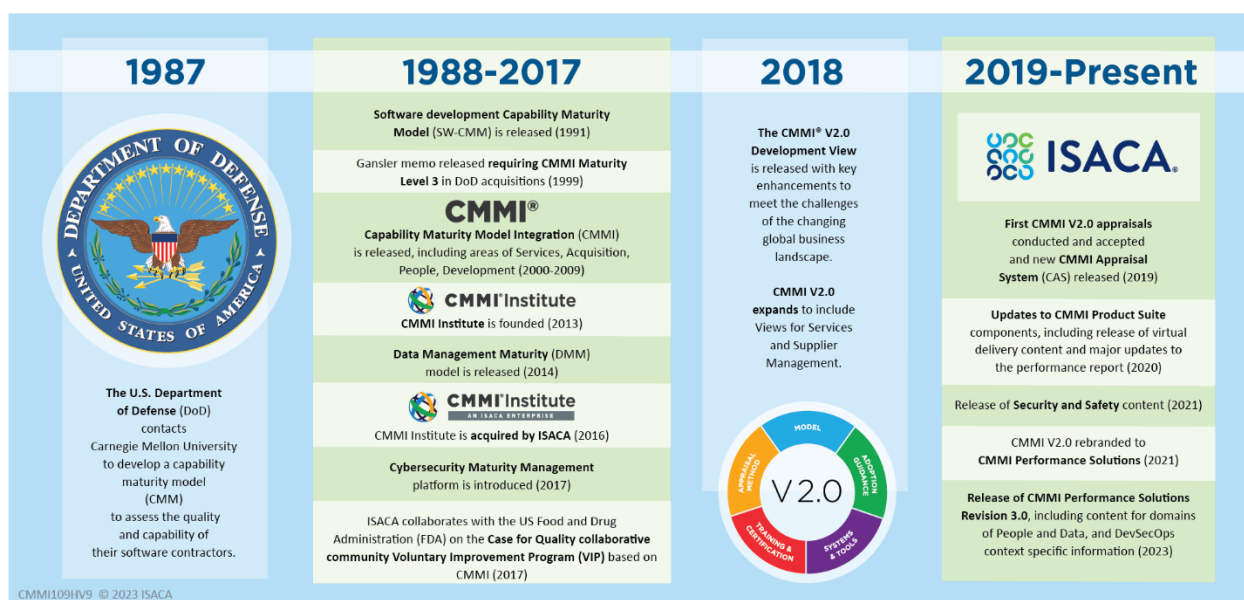
In recent years, government acquisition officers in the DoD and civilian agencies continue to put CMMI Maturity Level requirements in their most critical contracts to increase performance, reduce risk, and ensure consistency in contractor work and deliverables. While the original “SW-CMM” no longer exists, it was essential to address contract performance issues related to quality, schedule, and cost of software development programs.

As of 2023, CMMI V3.0 now broadens organizational performance improvement beyond product

development, service operations, and supplier management—to now include **security, safety, data management, people management, and managing virtual workforce best practices** across these 8 domains—all integrated into a single, customizable model of best practices for building a new capability or improving an existing one.

## History Highlights

- 1999: The “Gansler Memo” required DoD Software Evaluations for ACAT I Programs. It stated, “At a minimum, full compliance with (CMMI) **Capability Maturity Model Level 3**, or its equivalent level in an approved evaluation tool, is the Department’s goal.” Refer to **Appendix page 11** for the full Gansler Memo.
- 2016: ISACA bought CMMI Institute, who owns CMMI and all related intellectual property.
- 2023: The CMMIInstitute.com website is in the process of transitioning to ISACA.org.



Goal Achievement

# Maximizing Potential: Performance Data Overview

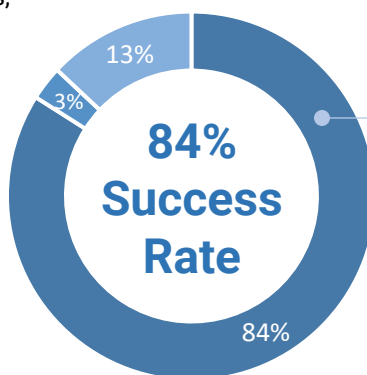
Over 8,000 appraised organizations affirm the impressive results achieved by leveraging CMMI to set, meet, and exceed organization goals

**Background:** For **over 23 years**, high-performing organizations have achieved clear, sustainable business results with ISACA’s Capability Maturity Model Integration (CMMI). Originally created for the U.S. Federal Government to assess the quality and capability of software contractors, CMMI has expanded beyond software engineering to help organizations **in any industry** better understand their current level of capability and performance, offering comprehensive guides to **optimize business results**.

**Report Basis:** The information contained in the CMMI Technical Report – Performance Results is based on analysis of the performance improvement results from over **9,500 approved appraisals** from 2019 to 2022.

**Data Sources:** These appraised organizations reported their “before and after” improvement intentions—a total of **33,272 objectives** across the **8,866 organizations** appraised, in the required CMMI Performance Report template. The result was an astounding **84.4% achievement success rate** for their accomplished improvement objectives; this is a 3.1% increase over last year. Another 3% was “soon to be achieved” for a **total of over 87%** across key areas—including quality, cost & schedule performance, productivity, & more.

**Validation:** **Independent CMMI Appraisal teams validate the performance report results** achieved by the organizations appraised against CMMI.



Appraised Organizations:

**8,866**

CMMI Years of History:

**23**

Approved Appraisals:

**9,579**

Objectives Reported:

**33,272**

Soon or Actual Success:

**87%**

Appraisal Years:

**2019-2022**

## Performance Across Ecosystems

# CMMI's Consistency in Driving Performance

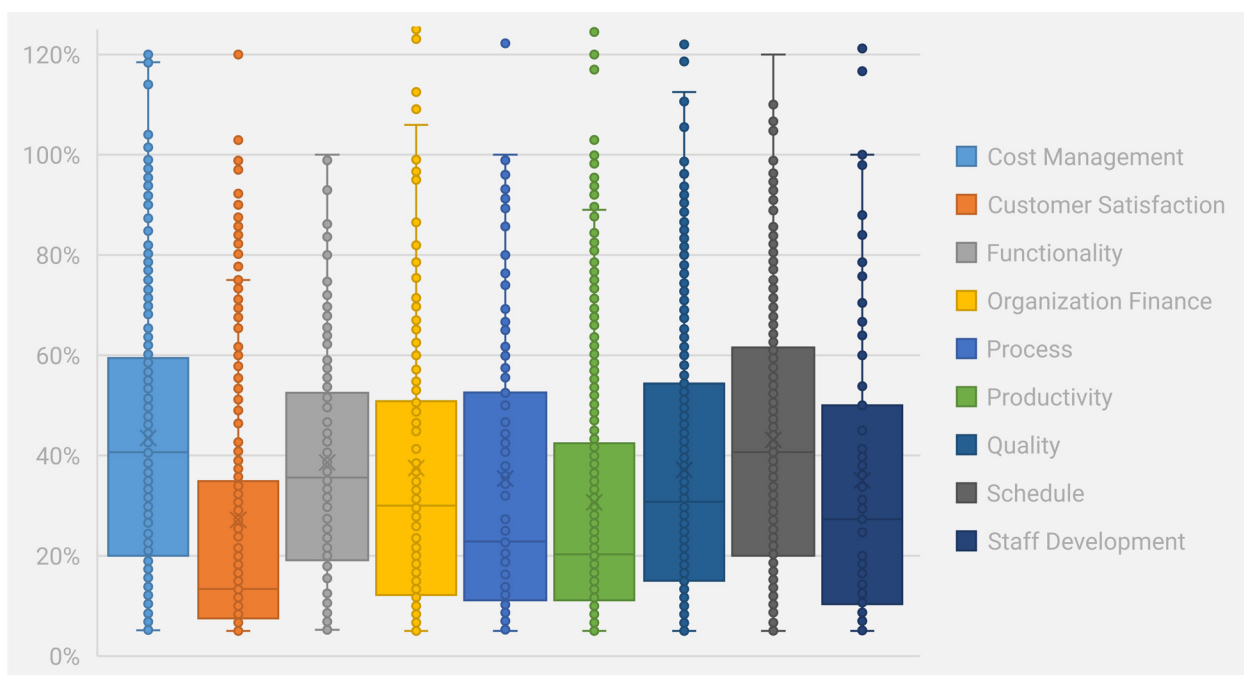
This chart demonstrates that the adoption of the CMMI ecosystem consistently yields significant improvements, regardless of the specific performance objectives that organizations opt to address.

**Comparing Category Improvements:** Analysis for the CMMI Technical Report has identified that when companies **target granular enhancements**—such as minor defect reductions, slight productivity increments, or leveraging CMMI to improve their processes; organizations experience **substantial advancements across the board**, with improvements ranging from 7.5% to 61.5%.

Furthermore, these **interrelated enhancements exhibit synergy**, where improvements in one area often positively influence others. For instance, elevating quality standards can bolster customer satisfaction, while fostering staff development can result in heightened productivity.

### Key Takeaways:

- CMMI proves to be effective in driving significant growth for organizations, regardless of the specific performance objectives they choose to focus on.
- By targeting both granular enhancements and comprehensive improvements, organizations using CMMI can expect a wide range of advancements, from 7.5%-61.5%.
- Even for organizations whose CMMI contractual requirements are removed, they continue to maintain their CMMI-based performance improvement program for competitive advantage.



“The Gansler Memo”

## Software Evaluations for ACAT I Programs

26 Oct 1999

**The Under Secretary of Defense  
3010 Defense Pentagon  
Washington, DC 20301-3010**

### **Acquisition and Technology**

**Memorandum For:** Component Acquisition Executives  
Director of Ballistic Missile Defense Organization

**Subject:** Software Evaluations for ACAT I Programs

It is DoD policy that software systems be designed and developed based upon software engineering principles. This includes the selection of contractors with the domain experience in developing comparable software systems, a successful past performance record, and a demonstrable mature software development capability and process. It also requires a software measurement process to plan and track the software program, and to assess and improve the development process and associated software product.

Software development and performance is an integral component of advanced defense systems. Accordingly, it will be a technical requirement for contract that each contractor performing software development or upgrade(s) for use in an ACAT I program will undergo an evaluation, using either the tools developed by the Software Engineering Institute (SEI), or those approved by the DoD Components and the DUSD(S&T).

At a minimum, full compliance with SEI Capability Maturity Model Level 3, or its equivalent level in an approved evaluation tool, is the Department’s goal. However, if the prospective contractor does not meet full compliance, a risk mitigation plan and schedule must be prepared that will describe, in detail, actions that will be taken to remove deficiencies uncovered in the evaluation process and must be provided to the Program Manager for approval. The Deputy Under Secretary of Defense (Science & Technology) will define Level 3 equivalence for approved evaluation tools. The evaluation will be performed on the business unit proposed to perform the work. The reuse of existing evaluation results performed within a two year period to the date of the government solicitation is encouraged.

This policy is effective immediately and will be incorporated into the current DoD 5000 series rewrite.

/Signed/  
J. S. Gansler

## About ISACA

ISACA® ([www.isaca.org](http://www.isaca.org)) is a global community advancing individuals and organizations in their pursuit of digital trust. For more than 50 years, ISACA has equipped individuals and enterprises with the knowledge, credentials, education, training, and community to progress their careers, transform their organizations, and build a more trusted and ethical digital world. ISACA is a global professional association and learning organization that leverages the expertise of its more than 165,000 members who work in digital trust fields such as information security, governance, assurance, risk, privacy, and quality. It has a presence in 188 countries, including 225 chapters worldwide.



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**The Role of ISACA:** ISACA is the owner and steward of the CMMI Performance Solutions ecosystem; including the model, appraisal method, courses, certifications, systems, and associated intellectual property

**Learn More:** If elements in this handbook describe your organization's goals, or if you have questions about how to get started, contact ISACA by visiting Customer Support at [support.isaca.org](http://support.isaca.org), which provides general help information and the ability to submit a support request.

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