

# Best Practice

**Service:** Consulting

**Solution Suite:** Project Management

**Best Practice:** Capability Maturity Model, (CMM/CMMI) Profiling

## Overview

AMS deploys solutions based on customized industry and experiential best practice. Our team of executive level consultants will work with your organization to craft the best implementation of any service, solution suite and correlating best practice. This holistic approach to creating business solutions will render high value ROI, continuity and embedded value.

AMS can assist your organization by creating a CMM/CMMI (or related) appraisal, continuous process improvement program, change plan, and implementation schedule. Our approach to this initiative is multi-faceted, but usually encompasses the following components:

- Implement CMM/CMMI assessment
- Define target maturity level and perform gap analysis
- Establish process maturity matrix
- Prioritize process improvement opportunities
- Design a change and improvement plan for the implementation teams
- Create a measurement matrix to align with the implementation schedule/plan
- Provide collaborative support throughout the implementation as needed based on the client

Implementation of a CMM/CMMI effort affects an organization in a number of positive ways. Most commonly, the organization's project management and systems development capabilities are enhanced as they become more repeatable and consistent among all processes. However, AMS consultants will work with you to ensure that all of the collateral benefits are realized. Each CMM/CMMI initiative should impact the entire organizational structure if embraced and leveraged correctly. The AMS approach to these initiatives is focused on the bigger picture of the implementation not just the qualifying audit.

AMS has been conducting reviews of many different types of efforts for years. The methodology that AMS has developed considers strategic client goals along with the typical rote measurement of a particular standard. This allows for custom engagements that yield actionable tasks that directly affect client goals as opposed to simply moving toward a generic standard of performance. The AMS team is comprised of seasoned, senior-level industry practitioners with 20-30 years of expertise. Typical AMS assessment projects include CMM, Project Management Maturity (including OPM3), SOX, ISO, IEEE, Six Sigma, RUP, Microsoft Framework, Leadership and Culture.

AMS Capability Maturity Model (CMM) Assessments are typically conducted as Informal Reviews rather than Formal Assessments due to factors such as the robust nature, high cost, number of staff required and length of time required. Most Formal Assessments may or may not yield an appropriate increase in actionable items that affect a client's bottom line or even improve their overall performance. Informal Reviews concentrate on the client improvement issues, which are most important.



While AMS is standard agnostic, we do recommend setting and following a tailored methodology and technical processes that are negotiated at the start of each project or operational work effort. Many standards have effective and efficient processes. AMS believes that no one standard can possibly cover the breadth and depth of processes needed to perfectly dovetail with constantly changing client requirements, technology and business setting. AMS recommends using one standard as a process framework and tailoring both the general execution and the implementation for each project as a special set of circumstances.

AMS Informal CMM Reviews often bring to the forefront areas for immediate and longer-term improvement efforts. Many other standards reviews often bring out that the underlying framework under review has not been sufficiently tailored to support client business processes. Gaps that would otherwise be flagged as negative can be seen to be positive when AMS criteria are applied.

## **Capability Maturity Model® (SW-CMM®) for Software**

The Capability Maturity Model for Software describes the principles and practices underlying software process maturity and is intended to help software organizations improve the maturity of their software processes in terms of an evolutionary path from ad hoc, chaotic processes to mature, disciplined software processes.

The CMM is organized into five maturity levels:

### **Level 1 – Initial**

The software process is characterized as ad hoc, and occasionally even chaotic. Few processes are defined, and success depends on individual effort and heroics.

### **Level 2 – Repeatable**

Basic project management processes are established to track cost, schedule and functionality. The necessary process discipline is in place to repeat earlier successes on projects with similar applications.

### **Level 3 – Defined**

The software process for both management and engineering activities is documented, standardized and integrated into a standard software process for the organization. All projects use an approved, tailored version of the organization's standard software process for developing and maintaining software.

### **Level 4 – Managed**

Detailed measures of the software process and product quality are collected. Both the software process and products are quantitatively understood and controlled.

### **Level 5 – Optimizing**

Continuous process improvement is enabled by quantitative feedback from the process and from piloting innovative ideas and technologies.

Predictability, effectiveness and control of an organization's software processes are believed to improve as the organization moves up these five levels. While not rigorous, the empirical evidence to date supports this belief.

## **Key Process Areas**

Except for Level 1, each maturity level is decomposed into several key process areas that indicate the areas an organization should focus on to improve its software process. Each key process area is described in terms of the key practices that contribute to satisfying its goals. The key practices describe the infrastructure and activities that contribute most to the effective implementation and institutionalization of the key process area.

### **Key Process Areas at Level 2**

The key process areas at Level 2 focus on the software project's concerns related to establishing basic project management controls. They include:

- Requirements Management
- Software Project Planning
- Software Project Tracking and Oversight
- Software Subcontract Management
- Software Quality Assurance
- Software Configuration Management

### **Key Process Areas at Level 3**

The key process areas at Level 3 address both project and organizational issues, as the organization establishes an infrastructure that institutionalizes effective software engineering and management processes across all projects. They include:

- Organization Process Focus
- Organization Process Definition
- Training Program
- Integrated Software Management
- Software Product Engineering
- Inter-Group Coordination
- Peer Reviews

### **Key Process Areas at Level 4**

The key process areas at Level 4 focus on establishing a quantitative understanding of both the software process and the software work products being built. They include:

- Quantitative Process Management
- Software Quality Management

### **Key Process Areas at Level 5**

The key process areas at Level 5 cover the issues that both the organization and the projects must address to implement continual, measurable software process improvement. They include:

- Defect Prevention
- Technology Change Management
- Process Change Management

AMS can customize any best practice to fit your organizational needs.