Rational Tools

Comprehensive Support for CMMI®

What is CMMI?

For over 20 years, the Capability Maturity Model for Software (SW-CMM) has been the primary means by which organizations have assessed and improved the maturity of their software development processes. Capability Maturity Model Integration (CMMI) consolidates existing software and systems capability maturity models, helping to reduce complexity and increase the ROI associated with engineering process improvement.

CMMI Benefits

Independent, CMMI-based assessments have become important to any software vendor or contractor who wishes to demonstrate proven, repeatable, and low-risk development capabilities. And for many businesses, independent verification of their ability to deliver systems and software is crucial to winning bids. Government contracts, for example, increasingly mandate a level of CMMI compliance.

A mature development process means greater productivity and predictability, with reduced project risk. Organizations operating at SW-CMM Maturity Level 3 are 65% more productive than those at Maturity Level 1, reduce cost and schedule by 20%, and deliver 80% fewer defects—with substantially better cost and schedule predictability (Software Productivity Research, 2001).

The benefits of embracing CMMI are compelling. Yet the cost and risk associated with adopting a new approach may appear daunting. The Rational® approach can help to mitigate those concerns.

The Rational Approach to Accelerated CMMI

Rational Software is the leading provider of integrated tools, services and best practices to automate and improve the software development process. For more than 20 years, Rational has enabled software teams to overcome chronic development obstacles through a flexi-

ble and proven approach that results in higher-quality software, a more motivating work environment, and a greater return on software development investments.

By implementing Rational's integrated software engineering best practices and automation tools, an organization can radically accelerate the attainment of CMMI Maturity Level 2—at the same time building a solid foundation for Maturity Level 3 and beyond. While other organizations are defining and documenting processes and procedures, struggling to integrate disparate tools, and internally creating custom training, Rational-enabled organizations can more quickly reap the benefits of a more mature, robust and repeatable development process.

Rational Tools and Services

Rational provides a full complement of products and services that are directly applicable toward higher CMMI maturity levels.

Rational Unified Process

The Rational Unified Process is a web-enabled process framework that supports software engineering best practices including requirements management, change management, component-based architectures, visual modeling, iterative development, and continuous quality verification.

By adopting RUP, an organization can shortcut the need to internally develop and document its procedures. By tailoring RUP to meet its specific needs, teams can quickly take advantage of proven best practices, templates, guidelines, and other assets to create a custom blueprint for project success.

RUP helps satisfy many CMMI ML 2 goals; among them:

- Requirements (CMMI Requirements Management PA)

- Configuration/Change Management (CMMI Configuration Management PA)

- Test (CMMI Measurement and Analysis PA)

HIGHLIGHTS

Reduced risk. Any new process entails risk. Proven Rational tools and techniques, along with comprehensive support, greatly reduce the risk of adopting CMMI.

Out-of-the-box solution. Rational's pre-configured, pre-integrated process, tools and content simplify CMMI.

Market-leading SCM. Rational® ClearCase® is the industry's leading configuration management tool. Rational ClearCase plus Rational® ClearQuest® for defect tracking provides robust Software Configuration Management—a solid foundation for CMMI Maturity Level 2.

Industry standard process. The Rational Unified Process® or (RUP®) is the de-facto industry standard for software development best practices. Combining clear guidance with broad configurability, RUP unifies teams, improves control, and accelerates CMMI.

Integrated tools. Integrated Rational tools support a predictable, efficient and quality oriented development process that can be tailored to specific business needs and CMMI objectives.

Rational®
the software development company

Unified Change Management

Rational ClearCase is a robust software artifact management tool; while Rational ClearQuest delivers flexible defect and change tracking. Rational ClearCase can specifically address the goals of the CMMI Configuration Management PA. It also addresses CMMI ML 2 GP 2.6 (Manage Configurations); and, can provide metrics to satisfy the Measurement and Analysis PA. Rational ClearQuest, in turn, supports the Process and Product Quality Assurance PA, by tracking results of process and work product audits, resolving non-compliance issues, reporting results, and maintaining QA records.

Used together, along with recommended best practices, Rational ClearCase and Rational ClearQuest offer the industry's leading Unified Change Management solution, for even more rapid and effective CMMI adoption.

Rational Suite® AnalystStudio®

Rational Suite AnalystStudio integrates a powerful combination of integrated tools for modeling, requirements and use case management, defect and change request tracking, and best-practice process guidelines.

Rational Suite AnalystStudio features Rational® RequisitePro®, a powerful, easy-to-use tool that integrates requirements and use case management and full traceability capabilities. With Rational RequisitePro, organizations can address the CMMI Requirements Management PA by managing requirements, along with related artifacts like design documents and test plans, throughout the project lifecycle. Rational RequisitePro can also help satisfy the CMMI Measurement and Analysis PA, by providing information on changes to project priorities.

Rational Suite AnalystStudio also includes Rational Rose® Professional Data Modeler, which connects analysts with developers to ensure that requirements drive design. Integration with Rational RequisitePro links use case diagrams to use case documents—so requirements in use cases can be tracked in real-time, along with other project requirements.

In addition, Rational Suite AnalystStudio provides:

- Rational® TestManager, to ensure that requirements serve as direct input to test case creation.

- Rational SoDA®, which automates the creation and maintenance of full project documentation and reports.

- Rational ClearQuest, Rational ClearCase LT, and RUP.

Rational ProjectConsole®

Rational ProjectConsole automates project status reporting, dynamically creating a project Web site with a progress metrics dashboard that eliminates manual reporting tasks. Rational ProjectConsole can be used enterprise-wide to track multiple projects and monitor overall development —a prerequisite for higher levels of process maturity.

Rational Developer Network℠

The Rational Developer Network is a customer-only site that provides articles, training, reusable assets, discussions, and other valuable information; to facilitate both the use of Rational tools and the fulfillment of the CMMI ML2 Ability to Perform Common Feature.

Rational University (RU)

RU course offerings aid in satisfying the CMMI ML 2 Ability to Perform Common Feature, as well as the Body of Knowledge that each team member's role requires. In addition, RU courses are invaluable to get teams up to speed quickly on new tools and best practices.

Rational Professional Services

When undertaking CMMI, experienced support can make the difference between success and failure. Rational Services accelerate tool and process implementation via pre-packaged QuickStarts, mentoring, and assistance in tailoring the new environment.

Alone or in combination with Rational University, Rational Services can facilitate transition, reduce risk, and maximize the return on CMMI investments.

For more information on:

- Rational's CMMI solutions, visit www.rational.com/solutions/industry/govt/cmmi.jsp.

- Rational products, visit www.rational.com/products.

- Rational services, visit www.rational.com/services.

- Rational Software Corporation, visit www.rational.com.

"Recently we received CMM level 3 from the SEI organization out of Carnegie Mellon University. We use the Rational Suite of tools to help us enforce the use of the processes necessary to reach this level. Rational has developed a suite of tools that permits you to follow the CMM processes and document the necessary information. It will help you along the way to enforce the processes and make sure that everyone does requirements management and change management all in the same manner. The Rational Suite of tools brings a great value to our software development."

Claude Mercier,
Lockheed Martin Canada

Rational Software
Dual Headquarters

18880 Homestead Road
Cupertino, CA 95014

20 Maguire Road
Lexington, MA 02421

Toll-free: (800) 728-1212
e-mail: info@rational.com
Web: www.rational.com

International Locations:
www.rational.com/worldwide