



## RTM Product Overview THE ENTERPRISE REQUIREMENTS SOLUTION

Your Business: Complex. Your Systems and Applications: Complex.  
Your People: Geographically dispersed. Your facilities: Geographically dispersed.  
Your Competition: **Relentless.**

Today systems and applications must be built in Internet time, meeting demanding customer and end-user requirements while accommodating diverse development methods, techniques and formats. In today's environment, producers of systems and applications succeed or fail based on the quality, cost, and time to market of that system or application. The best way to ensure quality, control cost and time to market is to practice good requirements management. Requirements Management in the 21st century has been widely recognized as the single most important process to master if a company is to become a world-class industry leader.

As you can see, the return on investment from practicing good requirements management is substantial.

But it is not easy. That is, unless you have a world-class solution that can be easily adopted by your enterprise.

It is not easy because requirements information comes from everywhere.

### Benefits of Good Requirements Management

	Quality	Time to Market	Cost
Fewer Product Defects	✓	✓	✓
Reduced Development Rework	○	✓	✓
No Unnecessary Features	✓	✓	✓
Faster Development	○	✓	○
Less Miscommunication	✓	✓	○
Reduced Scope Creep	○	✓	✓
Reduced Project Chaos	✓	✓	✓
Higher Customer Satisfaction	✓	○	✓

Customer and end-user requirements from the field, object oriented design models from development, test procedures from QA, defects from customer service, change requests from anywhere and everywhere. This information starts discussions about project schedules, marketing requirements, system requirements, RFPs and proposals. How do you organize this vast amount of information to assure that the right information gets to the right people at the right time and in the right format, to build your system?

## SERENA RTM

The right solution must be based on a world-class enterprise information repository capable of unlimited scalability, global support, geographic dispersion and be Internet-enabled.

This solution must support any data format your organization might use, now or in the future, including: text, tables, graphics, documents, spreadsheets, diagrams, drawings, source code, web pages, UML, test methods, audio, and video.

This solution must work within your existing environment and leverage your investment in automation. The capabilities provided by CM, test case generation tools, modeling tools, PDM and others must be enhanced by the addition of this enterprise requirements solution.

The solution is Serena® RTM. Chosen as the standard by Fortune 500 companies such as Lockheed Martin, Federal Express, Boeing, Ericsson and many others, Serena RTM is the only Oracle-based tool designed to manage all of your Development Data. Sometimes called an Engineering Information Management (EIM) tool, or Development Data Management (DDM) Tool, RTM allows you to organize and manage all of your Critical Development-related data. RTM offers distinct areas of benefit:

- Data organization
- Online collaboration by all stakeholders, regardless of location
- Management and traceability of requirements, design, tests, tasks, and other development information
- Visibility into the state of each phase of development
- Leverages existing tools to ensure participation
- Manages change at all levels of development
- Provides for cleaner more concise requirements

## SERENA RTM ORGANIZES YOUR DEVELOPMENT INFORMATION

Consider these questions:

“What percentage of marketing requirements will be included in the next product release? Which ones, specifically, will be omitted, and why?”

“What test coverage to requirements is achieved with the test plan?”

“Which functions in the design are not needed and should be eliminated?”

“Are any of the high-priority needs being omitted from the system?”

“Can any baselined document be quickly retrieved/generated?”

“Can you find all the changes in the system that will affect you?”

“What was this design guideline 90 days ago, and why was it changed?”

Only one factor determines if a project team can answer these (and other) questions: Information organization. RTM allows the team to have these and other answers available, at their fingertips, via the web at any time. The key to this level of visibility is the ability of RTM to intuitively organize and manage your critical development information such as requirements, design, test, schedules, actions, changes, defects and more. Enterprise information is grouped together in categories that you define, connected together describing how it's all related. This structure allows the enterprise to categorize its development data and trace individual requirements to design and tests. This is traceability at the object level, which is the only true way that there will be no compromise in the quality of data needed to make correct decisions.

Traceability is the visibility into the process of development. Traceability answers the questions, "What are the outstanding change requests against a release?" or "Is each marketing requirement implemented in the design?"

Visibility is enhanced by the quality of information RTM offers. Priority, owner, risk, due date and other critical project information can quickly be organized in RTM Workshop through attribute annotation. Attributes allow questions to be answered such as, "What are all the highest priority requirements?" or "Show all of the uncompleted changes assigned to any person."

Serena RTM is the only tool that supports both of these critical capabilities, at the object level on Unix and PC platforms using a standard (non-proprietary) database.

In all, RTM uses 5 specific techniques that allow an enterprise organization of development information:

- Object oriented model of enterprise data
- Traceability tools to relate associated data
- Attributes to annotate your information
- Auditable history of changes to track where you've been and where you're going, and
- Collections to baseline and group like data.

All development, whether you're building a new banking system, insurance system, missile system, or cell phone have two things in common:

- They all require the collaboration of many people to be successful
- The systems WILL change while under development.

Serena RTM Workshop provides 2 distinct capabilities which dramatically improves teamwork, cooperation and change management:

- Rule-based change notification via e-mail
- Context-based discussion threads

Who cares when something has changed? A manager might only care when a risk is found or a deadline is jeopardized. A test engineer might only care when a requirement changes. A developer might care when either a requirement changes or a test fails. Each of these people is keenly concerned when a specific aspect of an object is changed. There is not only the when; there is the why. What are the ideas that are driving this change, have the proper stakeholders had the ability to weigh in on the change? Have all ideas been considered?

### **Email Notification**

RTM provides rule-based email notification to alert each individual only when changes occur to specific characteristics of items that are of interest to them. This laser-sharp approach assures that when two people are addressing an item of common interest, they know it and can work on it together. RTM rule-based notification also assures that the tool does not "spam" people with emails notifying them of changes they don't care about.

### **Discussion Threads**

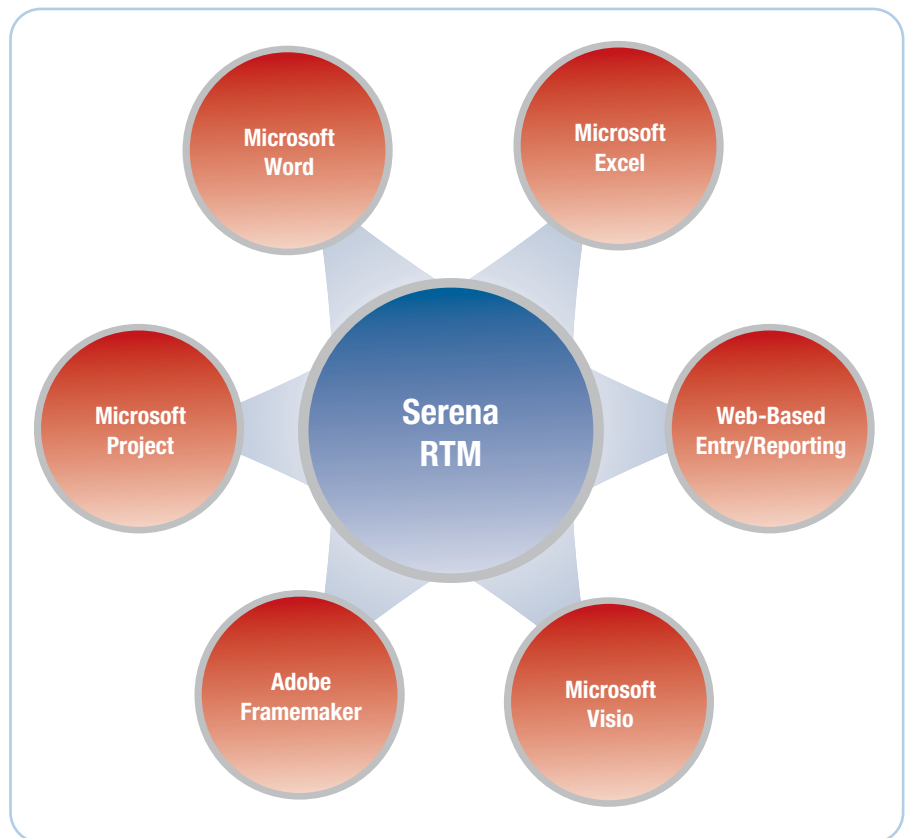
Discussion is the lifeblood of any development. Before there was "collaboration" there was "talking things over." Telecommuting, global partners, corporate buyouts and dozens of other factors have resulted in far-flung teams sometimes spanning a dozen time zones. Email is not enough. Voicemail is not sufficient. Web-based In-Context discussion is the only solution. And it is provided by RTM.

Any object in the database may be retrieved over the Internet, with full data security, and discussed, commented on or reviewed. Discussion threads are always in-context assuring that you have access to the thoughts and work of each team member when YOU need it. RTM uses the power of the Internet and a world-class repository to keep everyone on the same page. Your team collaborates, in real-time, in context, with no lost data.

### Participation is Key to Success

Your people are professionals. They know their job. In some cases they've spent years perfecting their approach to succeed. It is in everyone's interest to enhance and automate winning techniques? If they know and like Microsoft Word, would it be fruitful to ask them to abandon it? What about asking them to toss aside their spreadsheets or forms?

Serena RTM Workshop integrates the tools most commonly used by developers today. Your team can continue to use:



## COLLABORATION STARTS WITH SERENA RTM

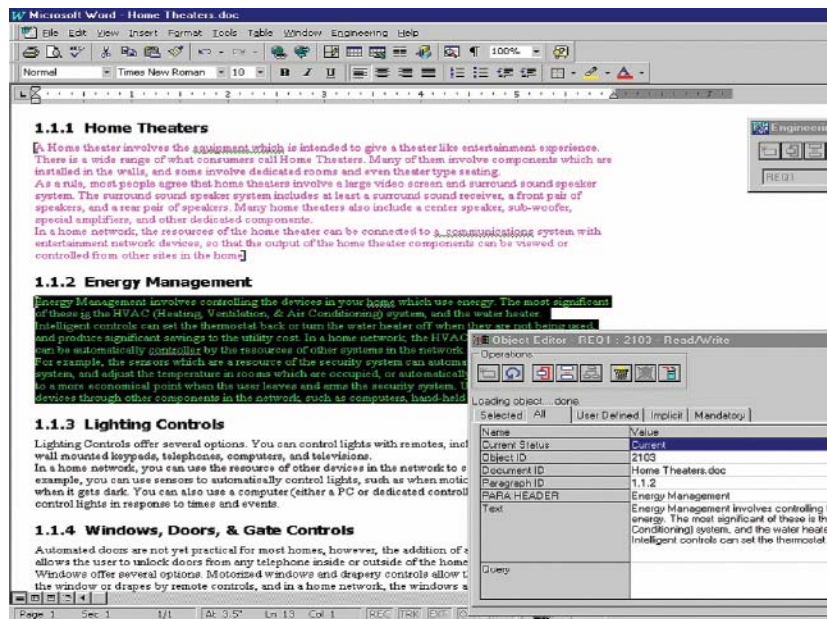
### Using MSWord with RTM

RTM and its integration with MSWord and Adobe Framemaker has set the industry standard. Most requirements documents (and design and test documents) are written using MSWord or Adobe Framemaker. RTM takes advantage of this fact by allowing users to manage their requirements directly from these documents. When Word is launched with RTM, a new toolbar and menu are added to MSWord that provides the connection between the document and the database. Specific sentences can be captured in the database by highlighting the text and clicking a “capture” button, or using the “batch” capture keyword search facility in RTM.

Once requirements are captured in the database, the MSWord user can open an attribute-editing window directly from MSWord. This feature allows MSWord users to annotate their requirements with any information they might need such as priority, risk, verification method, owner, etc. Any changes made to the text (or graphics, or tables) of the Word document will be maintained in database along with a history of the change. When a change is made to the requirements text in MSWord, the user can select a menu option that will show exactly what other portions of the system will be impacted by that change.

Using icWord to annotate requirements in an MSWord document.

- Ability to “remotely edit” an MSWord document while disconnected from RTM. This allows customers, colleagues and Cohorts to work on the document ‘off-line’ while still benefiting from the history tracking and attribute editing features of the interface.
- Ability to view selected attribute values within the Word document
- Ability to participate in RTM discussion threads via the Word document



## COLLABORATION STARTS WITH SERENA RTM

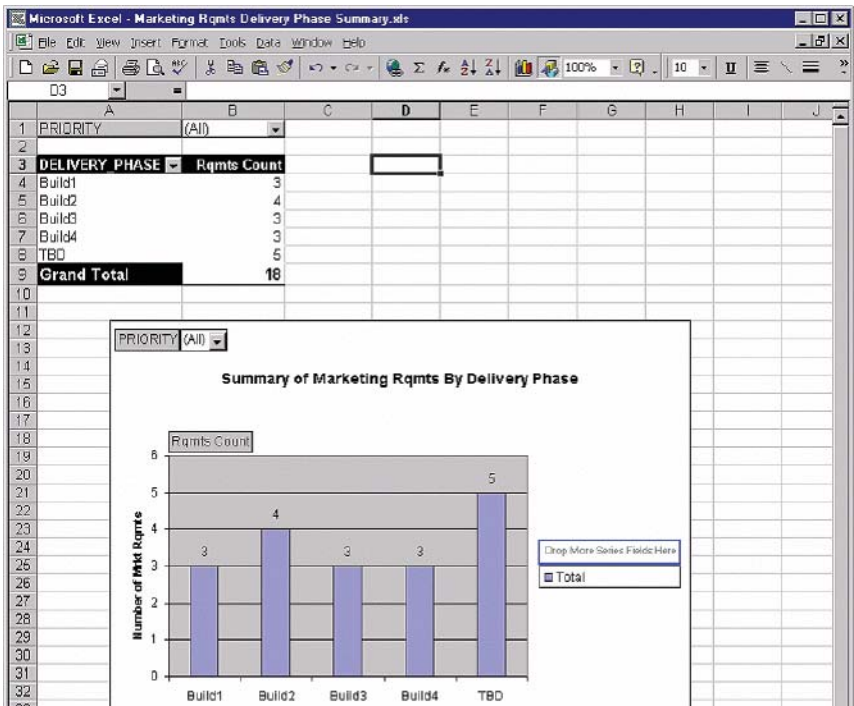
### Using MSEXcel with RTM

Some team members may want to continue to use MSEXcel for portions of their requirements management. That's fine. RTM integrates with MSEXcel spreadsheets. RTM Excel allows users to continue to work using their spreadsheets to manage requirements, design, tests and attributes. RTM's wizard-driven .csv interface allows RTM to incrementally import changes made periodically to the Excel spreadsheets, capturing new requirements, requirements updates and changes to attribute values. Spreadsheets can also be created from RTM, via it's spreadsheet generation capability.

### Obtaining Project Metrics using MSEXcel with RTM

Of great interest to Managers is the ability of RTM to provide Project Metrics via MSEXcel. Serena RTM is committed to leveraging your existing infrastructure investments. Using ODBC connectivity, RTM Workshop allows the project data captured in the RTM database to be analyzed and charted in MSEXcel or other ODBC supported tools. A single icon on his or her desktop can allow a manager to view at any time any project metrics or technical performance measures that the manager wants to see. These reports are always run against the latest up-to-date data available.

Using RTM Workshop's ODBC connectivity to provide Project Metrics in the World's most familiar and recognizable format.



## COLLABORATION STARTS WITH SERENA RTM

### Using Database Forms with RTM

Serena RTM is the only tool on the market that is both document-centric and database-centric. RTM's integration with MSWord provides its sterling Document-oriented capabilities. For those who prefer to work at the object level, RTM also provides the only forms-based requirements management. Its drag and drop form builder gives you the power to view any object your way. Individual requirements, defects, trouble reports, test procedures and change requests can all be viewed as individual objects, or a list of database records. Along with email-notification, RTM offers the ability to incorporate workflow into your development process, posting individual requirements for review, notifying people of the next step and moving work projects along.

Object-level Requirements,  
Design and Test Management  
using RTM Workshop's  
Database Forms Capabilities

The screenshot displays the reCONCEPT - [Tests - Tests] application window. The window title bar includes the application name and standard OS window controls. Below the title bar is a menu bar with options: File, Edit, View, Object, Collection, Change, Script, Tools, Help. A toolbar with various icons is visible below the menu bar. The main content area is titled "Tests" and contains a form for editing a test case. The form fields are as follows:

Test ID	Test Number	Test Title
TEST_000001	APP_001	Application CRUD Processing

Author	Result	Test Status
Engineer 1	Pass	Test Passed

**Description**  
Test to ensure that data entered by the user is properly processed based on the select CRUD operation.

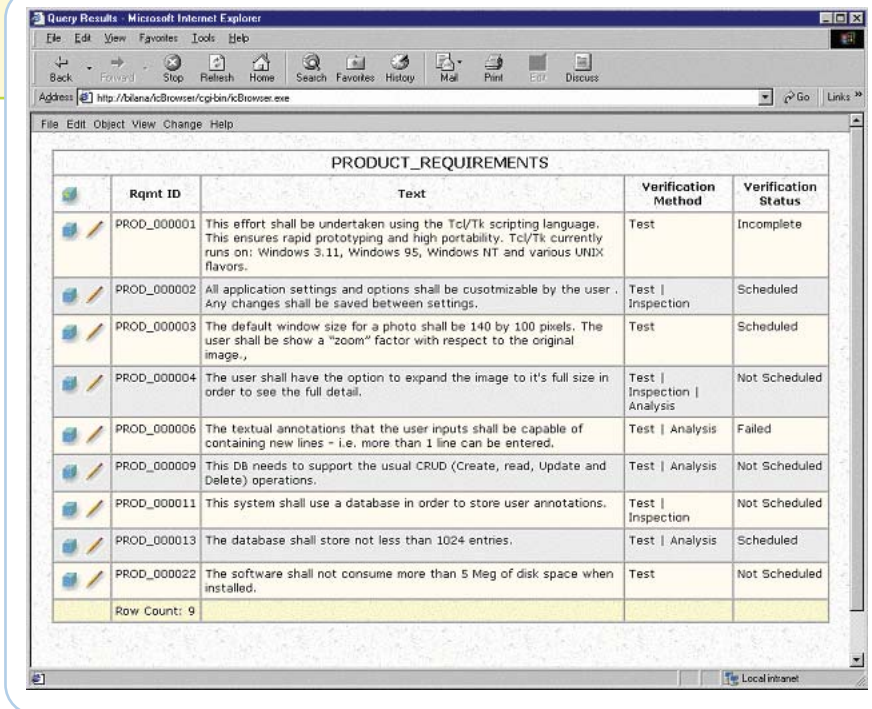
Additional form fields include "Object ID" (value: 1) and "Current Status" (value: Current). The status bar at the bottom of the window shows "Current", "Read/Write", and the user path "warren\MCDEMU532".

## COLLABORATION STARTS WITH SERENA RTM

### Using RTM via the World Wide Web

The Web. It's everywhere. It's on every desktop. It's Universal. It's the future. RTM has brought requirements to the Web with a range of capabilities. Need to review information and participate in discussion threads? RTM supports this via its Web interface. What about reporting? Generate custom reports and queries or choose from the previously defined reports on the drop-down menu. By the way, reports written via the web can be saved for the next visit. Need to edit requirements? That's possible, too, full edit capability is provided via the Web.

#### Example Query via the Web



The screenshot shows a Microsoft Internet Explorer browser window titled "Query Results - Microsoft Internet Explorer". The address bar shows the URL "http://blana/c/Browser/cgi-bin/c/Browser.exe". The main content area displays a table with the following data:

PRODUCT_REQUIREMENTS				
	Rqmt ID	Text	Verification Method	Verification Status
	PROD_000001	This effort shall be undertaken using the Tcl/Tk scripting language. This ensures rapid prototyping and high portability. Tcl/Tk currently runs on: Windows 3.11, Windows 95, Windows NT and various UNIX flavors.	Test	Incomplete
	PROD_000002	All application settings and options shall be cusotmizable by the user . Any changes shall be saved between settings.	Test   Inspection	Scheduled
	PROD_000003	The default window size for a photo shall be 140 by 100 pixels. The user shall be show a "zoom" factor with respect to the original image.,	Test	Scheduled
	PROD_000004	The user shall have the option to expand the image to it's full size in order to see the full detail.	Test   Inspection   Analysis	Not Scheduled
	PROD_000006	The textual annotations that the user inputs shall be capable of containing new lines - i.e. more than 1 line can be entered.	Test   Analysis	Failed
	PROD_000009	This DB needs to support the usual CRUD (Create, read, Update and Delete) operations.	Test   Analysis	Not Scheduled
	PROD_000011	This system shall use a database in order to store user annotations.	Test   Inspection	Not Scheduled
	PROD_000013	The database shall store not less than 1024 entries.	Test   Analysis	Scheduled
	PROD_000022	The software shall not consume more than 5 Meg of disk space when installed.	Test	Not Scheduled
	Row Count:	9		

## COLLABORATION STARTS WITH SERENA RTM

### **It Bears Repeating: Participation is Key to Success**

Your team has many work habits and preferences. RTM integrates them all. It is NOT a “one size fits all” solution, because no one lives in a “one size fits all” world. Word documents, database forms, working over the Web, your requirements management tool must measure up to these standards, and more that have not been described herein. RTM does this by providing a transparent repository that allows people to post the project-critical information straight from these commonly-used tools into the shared database, with minimum disruption to their proven work habits. After all, a brilliant idea not shared is worth—Nothing. Your success depends on this participation. In addition to supporting shared data exchange, RTM enhances the capabilities of these tools in delightful ways. Ever wanted to see the history of change in your MSWord document? Now you can. How about viewing the requirements related to project schedule tasks? This information is now available—right over the web.

Who is willing to choose between the need for managing development information and the developer’s need to work in a manner that works for them? If you ask the developers to scrap their desktop tools to launch some new-fangled “Enterprise” tool, you might as well make room in your bookcase for your ‘shelf ware’ investment. Avoid this: Let RTM integrate the team’s desktop environments.

## CHANGE HAPPENS

Change can be the single most maddening frustration in your professional world. Change happens. Customers change their minds. New features are needed or invented. Competition forces changes. New platforms, tools and operating systems are released. RTM is all about getting those changes to the right person, at the right time so YOU can integrate them, seamlessly. Together with email notification of changes (covered above), informal and formal changes are the two keys to managing change.

## CHANGE HAPPENS

### Informal Change

When the team makes changes to their requirements, design, tests, etc., RTM is there capturing and tracking those changes. Recording them in an auditable history file allows you to retrace the evolution of a requirement at any time. Who made the change, when the change was made and why the change was made are all recorded by RTM. Baselines can be made at any time assuring consistence of release. History can be viewed, reported on differences found. At ANY time, an Impact Assessment can be performed to find the impact of the change on any other portion of the system.

### Formal Change

Proactive development requires the ability to assess the impact of a change before it's made. Serena RTM offers that by allowing portions of the database to be "locked down," made read-only requiring users to submit change requests (CRs) via RTM or over the Internet. The CRs are saved, linked to the object under review. Once the change request has been assessed and approved, it can be incorporated electronically.

## RTM AND THE ENTERPRISE REPOSITORY

How many databases does your enterprise have? A requirements database? How about a defect tracker? UML tool? Configuration management? What about product data management? In addition to these databases, other data sources include Excel spreadsheets, Access databases, MSWord documents, and on, and on, and on.

How many facilities have data that should be shared,,,"How many time zones do your data sources reside in?"

Enterprise support of development information requires:

- Ability to share data from multiple databases
- Ability to replicate database data
- ODBC compliance
- 3 tier architecture
- Robust, stable database structure requiring minimal dba support.
- Global dba support, should it be required.

RTM is built on Oracle. Oracle is the global standard in database technology. It has the longest history, the most users and the most installation. Oracle IS an enterprise repository. By building on Oracle, RTM offers its users' the Oracle advantages.

## IN SUMMARY, DON'T COMPROMISE

Quality, cost and time to market are three variables that must be controlled if a company is to thrive and grow. Requirements management has been proven as the best, most common sense approach to control these variables. Good requirements management will provide a tremendous return on the investment.

Serena RTM is the clear industry leader in providing capabilities that allow companies to get the job done right. RTM and only RTM has:

- On-line ability to collaborate, in real-time with live data while keeping a history of that collaboration.
- A true data repository that provides full traceability; with no 'limitations' or special proprietary scripting languages
- User interfaces, Word and Web, that are industry standards and commonly used in every organization
- The hybrid capability of viewing requirements data in both document form and object form
- True baselining and versioning capability with full history of all changes
- User designed forms to capture and manage any engineering information such as defects, enhancement requests and change requests, to name a few
- icAdvisor for requirements correctness

We could go on. Our point is don't compromise. What you are doing is mission-critical for your company. Any compromise made in traceability, functionality, the ability to collaborate, the ability to capture your intellectual capital and the ability to organize and manage project development data will jeopardize the success of your project. RTM is the only solution that doesn't compromise your ability to succeed.

## SERENA SOFTWARE-A TRUSTED PARTNER

Serena Software's mission is to deliver exceptional customer value through its innovative, high quality software and services that provide control over application change throughout the enterprise. With more than 24 years of experience in bringing innovative products and services to market and over 15,000 customer sites, Serena has a proven track record of growth, profitability and stability. These core strengths enable continuous investments in new products and innovative solutions.

## CONTACT

To learn more about these products, and how to begin implementing application lifecycle management in your enterprise, visit Serena at [www.serena.com](http://www.serena.com) or write us at [info@serena.com](mailto:info@serena.com).

**serena**™ Automating Change

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