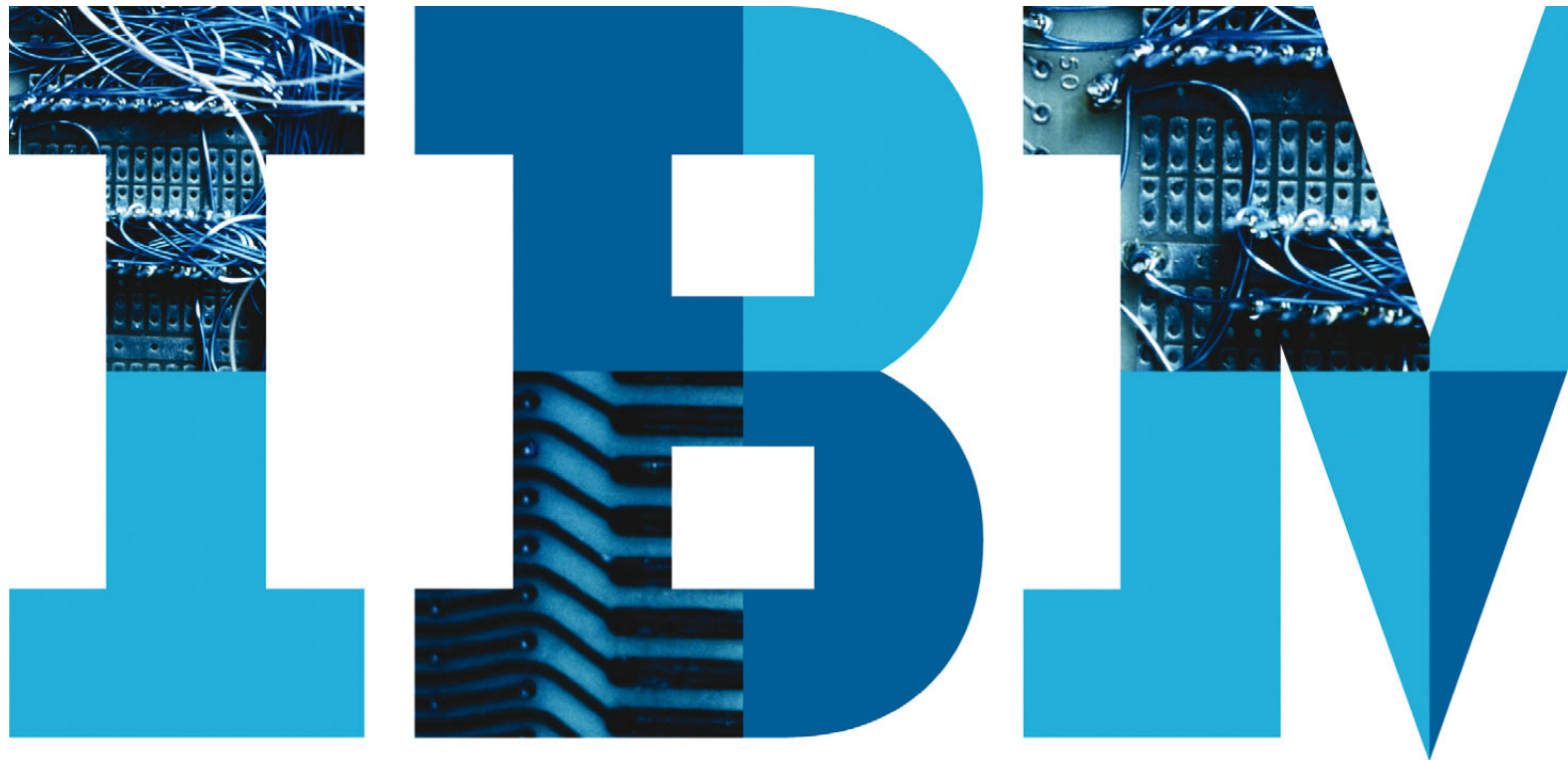


# Supercharging IBM Tivoli software

*IBM Rational solutions that extend Tivoli investments to bridge development and operational gaps*





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## Develop high-performing services

### Overview

Improving service quality and managing risk in the face of cost-cutting pressures has become an ongoing expectation. Development and operations teams face hurdles as they work to effectively drive system repair cycles to optimize server and web application performance and scalability. Delays in identifying, isolating, diagnosing and resolving issues can affect service quality, productivity, time to market—and customer satisfaction. Lack of real data to test actual application usage creates an inability to ensure scalability in development. IBM Tivoli® Composite Application Manager software provides your operations teams with invaluable insight for monitoring application responses, understanding transaction flows, and monitoring and diagnosing infrastructure performance. But frequent bottlenecks to resolution may occur when non-network-related issues need to be passed to overstretched development teams.

*Use real monitoring data from operations in application performance assessments to understand resource capacity and optimize service performance before services get to production.*

- Could your organization benefit from a clear path to issue resolution, catching performance problems earlier in the testing phase, faster root-cause analysis or reduced production outages? Check out [IBM Rational® Performance Tester software](#).
- Is your IT system inflexible and unresponsive compared to the demanding needs of your business? Learn how to deliver high-performing services and software at the speed of your business with [IBM Rational Application Developer software](#).



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## IBM Rational Performance Tester

The integration of Tivoli Composite Application Manager software with IBM Rational Performance Tester software enables quality assurance teams to replicate real-world production environments to identify bottlenecks and pinpoint the root cause of performance issues. Faster, more-accurate diagnosis helps speed test cycles, restore service delivery and deliver better performing systems.

### Help reduce operational costs and optimize application performance.

- Reduce load testing complexity and provide flexible workload scheduling and reporting capabilities.
- Analyze the locations and root causes of application performance bottlenecks.
- Enable experts to work more efficiently using an innovative, no-code approach to performance testing that masks code but exposes underlying details.

### Improve customer satisfaction and speed resolution and service delivery.

- Identify the locations and root causes of performance problems in hardware and software using live monitoring data.
- Optimize scalability and improve service performance by reusing test scripts and monitoring data to validate applications for production.

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### Learn more:

[ibm.com/software/awdtools/tester/performance](https://ibm.com/software/awdtools/tester/performance)

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### Case study: Automotive subsidiaries

#### Challenge

A small development team for a pair of automobile subsidiaries could not spend too much time on performance issue resolution.

#### Solution

The company implemented IBM Tivoli Composite Application Manager software to track and measure response times along with IBM Rational Performance Tester software to simulate loads and import log-trace data from the Tivoli software for root-cause analysis.

#### Benefits

- Discovered Java Platform, Enterprise Edition (Java EE) performance issues in proof of concept, resulting in immediate payback
- Optimized performance of production systems

Want proof? Read [more case studies](#).

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## IBM Rational Application Developer

Delivering high-performing services that enable business growth requires that attention be paid at the service development stage. IBM Rational Application Developer software is an acclaimed Java enterprise application development environment that allows developers to profile, analyze and improve the software and services they produce—even before code gets to a formal test stage.

### Enhance service reliability and usability.

- Use application profiling and analysis tools that allow developers to examine the execution of services down to the line of code, study memory use, and tweak the implementation to enhance reliability and performance.
- Follow industry best practices and automated code analysis to facilitate compliance with standards and provide security and audit readiness.

### Improve IT responsiveness to enable business responsiveness.

- Use accelerated service development tools to reduce manual coding and risk.

### Learn more:

[ibm.com/software/awdtools/developer/application](https://ibm.com/software/awdtools/developer/application)

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### Case study: A large municipality in China

#### Challenge

To boost economic development, a city government needed to provide local public projects and software development startups with flexible, shared computing resources.

#### Solution

The city worked with IBM to deploy a cloud-based center hosting an IBM Rational suite of software development and testing tools.

#### Benefits

- Provided flexible, cost-efficient resources priced according to usage
- Enabled almost instant setup of new services without requiring customer investment in infrastructure

Want proof? Read [more case studies](#).

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## Improve service quality and deploy applications with greater speed

### Overview

Close integration across operations and development is important to optimizing the infrastructure to support business strategies and keep costs in check. IBM Tivoli Application Dependency Discovery Manager software and IBM Tivoli Provisioning Manager software help you understand configurations, map applications and changes in production, and accelerate mass software provisioning. Integrating Tivoli software with Rational software can help you mirror test environments to production environments across test iterations and increase the accuracy of deployment planning. It can also help you ensure that all components are properly deployed on the right machines and improve the precision and repeatability of deployments. Moreover, Rational software can help you get more out of investments by helping prevent delays and costs associated with a lack of transparency between disciplines.

*Test lab management can account for 30 to 40 percent of a test team's time, according to IBM internal research.*

- Could your teams benefit from optimized test lab efficiency and resource utilization with improved test lab organization and management, including streamlined discovery and provisioning of test lab and production environments? Check out [IBM Rational Quality Manager software](#).
- Do you need to overcome productivity losses associated with manual, repetitive processes and regulatory compliance mandates? Check out [IBM Rational Automation Framework software](#).
- Do development and operations teams need help communicating deployment requirements? Do they suffer from incomplete deployments and need help mitigating late deployment challenges? Check out [IBM Rational Software Architect software](#).



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## IBM Rational Quality Manager

Leveraging the test lab management capabilities of IBM Rational Quality Manager software and Tivoli Provisioning Manager software enables test teams to request a test environment that is automatically sent to a provisioning system, which is then built and ready for testing. Integration with Tivoli Application Dependency Discovery Manager software can provide test teams with visibility into enterprise resources that can be leveraged in the test lab. With this integration and hub from which to configure, build and optimize the utilization of your test lab environment, you can save on lab overhead, infrastructure and duration costs for greater efficiency and productivity while containing complexity.

### Discover and catalog test systems automatically.

- Automatically discover test lab resources in the data center and add them to a central inventory, capturing their attributes (for example, hardware, operating system, installed software).
- Manage requests, reservations and scheduling for test lab resources (physical and virtual).

### Provision test systems with the applications and data required to run tests.

- Automate test machine setup and teardown, helping testers focus more on finding defects.
- Automatically deploy and control test execution on specified test configurations.
- Optimize lab utilization through pattern analytics to help reduce test infrastructure cost.

### Learn more:

[ibm.com/software/rational/offerings/quality](https://ibm.com/software/rational/offerings/quality)

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### Case study: IBM Systems and Technology Group

#### Challenge

The IBM Systems and Technology Group quality management team needed to better coordinate test management processes across multiple global teams.

#### Solution

The team implemented IBM Rational Quality Manager software to manage test planning and execution records and to improve collaboration among testers. The software is coupled with IBM Tivoli Provisioning Manager and IBM Rational Build Forge® software to ease the installation and configuration of machines tested with Rational test tools.

#### Benefits

- Eliminated an estimated 20 percent of testing duplication
- Reduced hardware requests through increased visibility and automation
- Improved insight into all aspects of the testing process, enabling managers to make better-informed decisions, balance workloads and mitigate business risk

Want proof? Read [more case studies](#).

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## IBM Rational Automation Framework

IBM Rational Automation Framework software is an adaptive execution framework that enables development teams to standardize and automate repetitive tasks and optimize hardware resources to improve software quality. Combining the powerful automation engine of Rational Automation Framework software with the provisioning capabilities of Tivoli Provisioning Manager software allows users to leverage existing work artifacts and investments in the context of both the development and operations environments. This capability helps reduce the costs associated with moving these assets while helping increase overall deployment speed and accuracy as well as team member efficiency.

### Help lower costs and reduce risk.

- Help optimize the processing of application-related artifacts, whether those artifacts are source code modules, application metadata or even configuration customization related to the application.
- Maintain a comprehensive audit trail, helping reduce the cost of compliance.

*According to a Hurwitz & Associates survey, Rational Automation Framework users improve their ability to support frequent application deployments by 46 percent, on average, and frequent configuration changes by 30 percent, on average.<sup>1</sup>*

### Automate handoffs between teams.

- Virtually eliminate wait times between disparate teams.
- Consistently apply data in a reliable and repeatable manner.
- Enforce standards across the enterprise.
- Apply the correct information to the right place at the right time.

### Learn more:

[ibm.com/software/rational/products/framework](https://ibm.com/software/rational/products/framework)

You can download *Demonstrated Benefits of Software Delivery Automation – an Analyst Study*, a white paper by strategy consultant and market research firm Hurwitz & Associates, [here](#).





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## IBM Rational Software Architect

IBM Rational Software Architect software helps simplify the complexity of IT while managing its scalability and flexibility in the face of business changes. Integrate with the IBM Tivoli Asset Discovery family of products to capture infrastructure specifications that improve communication between development and operations teams and reduce deployment risks. This also helps ensure that software solutions are designed to deploy correctly—the first time, every time—with smart tools for discovering and representing infrastructure, modeling current and planned deployments, and creating best practices configuration templates.

### Help deploy software solutions smoothly the first time, every time.

- Define the infrastructure requirements of your software with smart deployment planning tools that let you model the actual capabilities of your infrastructure.

**Learn more:**

[ibm.com/software/awdtools/swarchitect](http://ibm.com/software/awdtools/swarchitect)

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### Case study: European airport

#### Challenge

To improve customer satisfaction and support growth, a European airport needed to improve its baggage handling system.

#### Solution

The airport leveraged IBM Rational solutions, including Rational Software Architect software, to build an integrated bag tracking and sorting system.

#### Benefits

- Reduced delayed or misplaced luggage by 60 percent
- Improved luggage transfer time by 22 percent
- Reduced operational costs by more than 40 percent

Want proof? Read [more case studies](#).

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## Manage risk and drive change

### Overview

IBM Tivoli Change and Configuration Management Database software already helps your operations teams catalog, track and automate your IT management infrastructure, yet you may still need better visibility and traceability into business transformation and software development projects.

You can take Tivoli software further with an infrastructure that connects business and development to help ensure that services are updated, managed and delivered properly back to operations.

- Do you need help understanding the effect that operational changes will have on your business strategy, process and infrastructure? Check out [IBM Rational System Architect software](#), which provides top-down, bottom-up visibility and collaboration across your enterprise.
- Do you struggle to manage service evolution and understand the effects of development change? Check out [IBM Rational Asset Manager software](#).



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*“Rational System Architect helped us reduce our application inventory by nearly 40 percent over three years and assisted us in optimizing our operations for the business.”*

—Chief architect of a world-class communications services provider

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*“Rational Asset Manager has enabled our strategic reuse program and is an integral aspect of our portfolio asset management strategy.”*

—CTO of a major systems integrator

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## IBM Rational System Architect

For organizations going through mergers or acquisitions, consolidation, or cost reduction initiatives, Rational System Architect software provides the capabilities to support transformation planning, IT investment management and impact analysis to manage the risks in the execution of these initiatives. For organizations with the goals of streamlining their business and turning strategy into execution, Rational System Architect software provides the capabilities for decision support, process optimization and integration into solution delivery to enable them to efficiently reach these goals.

### Synchronize the IT architecture with operational architecture.

- Harvest and maintain enterprise architecture IT assets from Tivoli Change and Configuration Management Database and Tivoli Application Dependency Discovery Manager software.

### Improve operational planning and support transformation management.

- Help realize the desired return on operational investments.
- Realize “future state” from “current state” goals.
- Gain real insight into the effect of operational changes on the business.

### Create business planning and IT alignment.

- Align operational changes with business and enterprise architecture.

### Learn more:

[ibm.com/software/awdtools/systemarchitect](https://ibm.com/software/awdtools/systemarchitect)  
[View a demo](#)

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### Case study: Australian energy provider

#### Challenge

An Australian energy provider needed to reduce the time and effort it took to complete analysis required for technology investment decisions and to mitigate the risks associated with loss of intellectual property when transitioning operations to an outsourced IT support model.

#### Solution

The provider continued its investment in Rational System Architect software to define and capture business processes across the enterprise, import supporting IT systems, and use the resulting architecture to ensure that changes to operations are aligned with the company’s strategy.

#### Benefits

- Identified systems for acquisition and decommissioning
- Aligned technology investment decisions with business strategy
- Effectively managed the transition to outsource IT services

Want proof? Read [more case studies](#).

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## IBM Rational Asset Manager

IBM Rational Asset Manager software enables development teams to identify, manage and govern the design, development and consumption of software assets. Linking Rational Asset Manager software with Tivoli Change and Configuration Management Database and Tivoli Application Dependency Discovery Manager software connects live operations with an enterprise architecture planning environment. This facilitates a true connection of business and IT.

### Improve project timeliness and support innovation with asset-based development, warehousing and best practices.

- Direct team members to the latest and approved version of assets.
- Automatically track what is used to build software, what the effect of change is to operations and what is deployed into production to isolate where defects are occurring.
- Enable asset synchronization and traceability between development and operations.

### Support security-rich communication across disparate teams and reduce rework.

- Gain a framework that allows teams to define, create, share and manage assets across the organization in a security-rich manner.
- Facilitate seamless asset management from development to operations and back.

### Mitigate risks and lower costs of addressing compliance mandates.

**Learn more:**

[ibm.com/software/awdtools/ram](https://ibm.com/software/awdtools/ram)

[View a demo](#)



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**Case study: Large Spanish retail bank**

**Challenge**

Significant business growth necessitated a modern development environment that could support more-flexible operations. The bank had thousands of unique software assets to track and manage and needed to improve its ability to communicate and track development for processes.

**Solution**

The bank implemented IBM Rational Asset Manager software to support asset and IT component reuse, IBM Rational Functional Tester software to automate regression testing processes and IBM Rational Team Concert™ software.

**Benefits**

- Improved asset reuse
- Reduced subcontractor development costs
- Decreased testing costs

Want proof? Read [more case studies](#).

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## Achieve faster incident resolution

### Overview

IBM Tivoli Service Request Manager software provides an efficient means for tracking help requests, but when tickets are passed over to the development team—which often happens using untracked emails—they may require manual entry, resulting in backlogs and potential data entry errors. What's

more, the disconnect between operations and development means that operations teams can't easily track the status of defects affecting production systems.

Do you need to automate the process of pushing service requests to development and back? Check out [IBM Rational Team Concert software](#).



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## IBM Rational Team Concert

IBM Rational Team Concert change management software helps teams track bugs and enhancement requests and automates workflows to help control and enforce development processes while strengthening communication. Integrating Rational Team Concert software with Tivoli Service Request Manager software can help you automatically synchronize trouble tickets produced on the operations side with development's bug-fix tracker. As a result, issues may be passed along more quickly with fewer errors and full traceability across the entire process.

### Enhance project visibility and control with real-time, consolidated reporting and process enforcement.

- Gain the ability to customize and enforce consistent development processes.
- Check the status of virtually any defects affecting production in operations or development.

### Reduce backlog with streamlined team communication and coordination with automated workflows.

- Automated workflows and email notification help ensure that appropriate team members are quickly notified of action items.
- Automate submissions of operations service requests to development.
- Instantly notify development teams of problems found in production for faster resolution.

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### Learn more:

[ibm.com/software/rational/products/rtc/features/changemanagement](https://ibm.com/software/rational/products/rtc/features/changemanagement)

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### Case study: A multinational financial company based in Denmark

#### Challenge

To keep ahead of a marketplace that changes at seemingly lightning speed, the company needed to deliver new, high-quality services faster and with greater efficiency.

#### Solution

The company is in the process of equipping 1,300 developers with IBM Rational Team Concert software to support adoption of agile development methods and enable a more holistic approach to project and task management.

#### Benefits

- An expected decrease in time to market from approximately 14 months to 9 months
- An expected 10 percent improvement in IT development efficiency
- Improved collaboration and transparency in development processes

Want proof? Read [more case studies](#).

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<sup>1</sup> Hurwitz & Associates, *Demonstrated Benefits of Software Delivery Automation – an Analyst Study*, Judith Hurwitz, Fern Halper and Marcia Kaufman, 2011.



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