

Functional, flexible, fiscally responsible cloud solutions for government

Get the most out of your existing hardware and speed time to market for new services and capabilities



Highlights

- Reduce capital and licensing expenses
 - Decrease operating and labor costs
 - Efficiently leverage your IT infrastructure
 - Shorten test provisioning cycle times
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Government agencies must accelerate moves to streamline IT environments, better utilize resources, and enhance efficiency and agility across agencies. Rising demands to more effectively respond to constituent needs and trim budgets are driving governments to find new approaches to current solutions. Around the globe, government agencies are looking to the cloud to find new solutions for increased collaboration across agencies and to drive a culture of innovation and smart government, all the while reducing spending to meet new leaner budgets.

Leveraging cloud computing capabilities is an emerging, smart IT delivery model that can help government agencies to significantly reduce IT costs and complexities. Cloud computing helps end users get the services they need, lets government take advantage of economies of scale, and helps optimize workloads. Leveraging virtualization, standardization, and automation, cloud computing frees up IT staff, capital, and operational budgets for strategic investments. It helps organizations get the most out of their existing hardware resources and speed time to market for new services and capabilities.

With the promises that the cloud delivers, public agencies are evaluating cloud computing and building their own clouds—some private for government use only and some public for citizens and users outside of their firewall. IBM can get you started on your cloud journey with offerings to help you create a private, public, or hybrid cloud environment; build applications for your cloud, or develop and deliver applications on the cloud. For multiagency or jurisdictional organizations IBM can also help develop hybrid or public clouds for secure cross-agency collaboration.



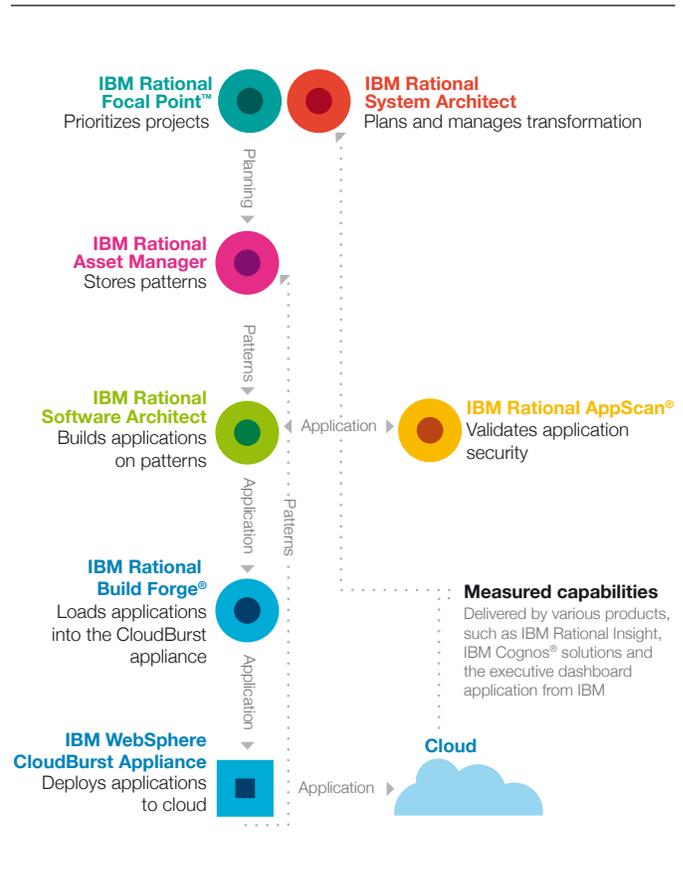
Although implementing a cloud solution may seem daunting—it doesn't have to be. IBM® Rational® solutions can help your organization:

- Align your cloud implementation to business needs
- Develop and deliver applications for and on the cloud with a complete life-cycle solution
- Enable security of applications to facilitate seamless operations

Strategically implement a cloud with proper business planning

Cost savings are an important driver for moving to the cloud; government agencies can reduce upfront capital expenses and lower ongoing expenses by paying only for the services used. Over time, a government organization can expect significant fiscal savings. However, success of cloud computing initiatives hinges on proper planning, successful integration with existing systems, and alignment to the organization's business needs.

If your government agency is considering cloud, or when and how to use cloud, you must identify how the cloud fits into strategy and associated business architecture. Considerations include determining which workloads would be better in a cloud environment rather than a local environment as well as ensuring that the transformation to cloud improves operations without causing unforeseen disruption. And, with multiple options across the portfolio for moving applications and infrastructure into a virtual model, assessing the many drivers of financial benefits and costs across multiple stakeholders is a critical step.



Rational tools have built-in capabilities that help you plan, prioritize, develop, and deliver superior software for the cloud. Because the tools are designed to integrate with each other, your information easily flows among the Rational applications

IBM Rational software provides a context for the integration of strategies, systems, people, budgets, and processes, and helps companies visualize relationships, analyze technical and business outcomes, report on status, and govern your transformation. IBM can help you leverage an enterprise architecture approach to strategic planning for creating transformation plans that help manage change and achieve your intended return on investment (ROI).

Develop and deliver applications for and on the cloud with a complete life-cycle solution

Developers, delivery professionals, and IT managers face many challenges causing increased capital and operational expenditures in software delivery that strain IT budgets. IBM Rational cloud-based solutions offer an agile, flexible cloud computing model designed to help you respond quickly to demands by developing in the cloud. When you simplify and streamline your operations, engineers can work faster—regardless of where they are located. For example, you can provision temporary development and test environments on the IBM cloud as you need them in just minutes—versus days or weeks to implement them on local machines. Our solution offers you access to a development and test environment without having to acquire the hardware required to support such an environment, along with the expertise from IBM to help ensure that your software development process works on your cloud.

The time-saving capabilities of Rational cloud-based solutions can help public agencies speed application time to market, reduce capital and licensing expenses, decrease maintenance, operating and labor costs, efficiently leverage your IT infrastructure, and scale development capacity as needed. We can help you modernize your processes to work efficiently in the cloud and more effectively manage governance and compliance issues.

The IBM Rational solution helps you harness the agility and flexibility of the cloud, aiding development and delivery teams to more quickly develop, test, and deploy new technology-based business initiatives. The end result is that teams of all sizes, configurations, and budgets have the advantage of a collaborative software delivery platform rapidly provisioned on the cloud.

IBM Rational cloud-based solutions

- **Agile development services** help you to set up a self-organizing team of developers and testers using instant-on availability.
 - **Quality management services** offer test management capabilities in the cloud and integration with IBM Rational test tools outside the cloud.
 - **Collaborative requirements services** offer instant-on services that can help project managers engage stakeholders and solution delivery teams in defining and using requirements across the project life cycle.
 - **Build automation services** can help you to utilize your cloud capacity without human intervention, automate your machine images so you don't need a department of people to deal with them, and automate process flows to deploy images or automate builds.
 - **Asset management services** offer instant-on access to and effective governance of assets in the cloud.
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Cutting costs and improving productivity with cloud-based performance testing

In traditional software development environments, comprehensive test coverage can be challenging and expensive to undertake, especially when considering the combinations of different hardware, software, operating systems, and user interfaces that need to be tested for a web-based application. Test loads in particular are typically constrained by hardware availability, with more hardware required to run larger performance tests, leading to much higher costs for more extensive testing. In addition, these significant test hardware assets may end up remaining idle most of the time. By leveraging the IBM cloud for performance testing, organizations can realize several potential benefits:

- Reduce the time and cost required to generate large loads for testing
- Affordably implement large-scale testing that may otherwise not be possible because of budget or resource constraints
- Eliminate extensive up-front costs by leveraging the pay-as-you-go IBM cloud for both the agent infrastructure and virtual tester licenses
- Save time on setting up a test platform by virtually eliminating the need for installing and configuring software each time a load test is run.

Leveraging the cloud to manage quality practices can help your agency cut costs, streamline processes, enable collaboration, enhance quality capabilities, increase oversight, and improve agility and flexibility.

Gain peace of mind by safeguarding your cloud

Often in the public sector, security is a primary concern and a chief reason for hesitating to adopt a public cloud. It is critical to ensure compliance and protect intellectual property and data

from hackers and thieves. The IBM Security Framework is designed to help organizations take a holistic, business-driven approach to cloud security. The framework addresses five focus areas:

- **People and identity**—Helps mitigate the risks associated with user access to corporate resources
- **Data and information**—Understands, deploys and properly tests controls for access to and usage of sensitive business data
- **Application and process**—Helps safeguard applications, protecting them from malicious or fraudulent use and hardening them against failure
- **Network, server, and end point**—Helps optimize service availability by mitigating risks to network components
- **Physical infrastructure**—Provides actionable intelligence on the desired state of physical infrastructure security and on making improvements.

As part of the security framework, IBM Rational solutions address security concerns by facilitating the security, compliance and alignment with business policies of the web services and applications they publish into the cloud. These solutions include:

- Web application security testing solutions that automate vulnerability assessments.
- Automated online compliance solutions that manage quality, privacy and accessibility compliance issues.
- Automated testing tools for functional testing, regression testing, GUI testing and data-driven testing.

Plan, prioritize, design, develop, test, and deploy cloud applications

Developers worldwide have relied on IBM Rational software for decades to deliver high quality applications across platforms—from web to desktop to mainframe. Today, Rational tools have built-in capabilities specifically for cloud application development. These solutions can help you plan, prioritize, design, develop, and deliver superior software. They were designed to integrate with each other, enhance collaboration, and automate development and delivery processes—helping to improve software quality and speed time to market. The tools align the business and technology needs of your organization by assessing your current enterprise architecture and helping you prioritize your investments so they align with your business objectives. Using automation, the integrated Rational application development tools help speed time to market for cloud applications and reduce the total cost of software delivery. The tools help developers discover bugs earlier in the development process when it generally takes less time to fix errors, improving software quality and further reducing costs.

Why IBM?

Our smarter planet requires infrastructure and software delivery to be more dynamic—and cloud computing provides the virtualization, standardization, and automation needed to increase flexibility and reduce the cost of software delivery. Successful implementation requires an overall strategic vision combined with a pragmatic, evolutionary approach to deployment—one that IBM has developed through its many cloud engagements within IBM as well as with clients around the world.

Today, IBM is helping organizations get started on the journey toward cloud computing. IBM offers cloud solutions that can help you create a private, public, or hybrid cloud environment; build applications for your cloud; or develop and deliver applications on the cloud. IBM Rational software and services for cloud computing help you transform software delivery by providing best-in-class software development and test solutions across multiple platforms—including in private clouds and on the IBM cloud. You can use Rational solutions within a traditional software delivery environment while leveraging others on your private cloud—or even on the IBM cloud to create a hybrid-cloud-model development environment.

For more information

To learn more about Rational solutions for cloud computing and to take a cost-free cloud readiness assessment, please contact your IBM sales representative or IBM Business Partner, or visit: ibm.com/rational/info/cloud-services

Additionally, financing solutions from IBM Global Financing can enable effective cash management, protection from technology obsolescence, improved total cost of ownership and return on investment. Also, our Global Asset Recovery Services help address environmental concerns with new, more energy-efficient solutions. For more information on IBM Global Financing, visit: ibm.com/financing



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All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer.

¹ IDC Looking Ahead: Articulating Cloud Competencies for the Asia/Pacific Public Sector Notably, security (79.3%), data control (65.5%), and service reliability (63.8%) remain crucial concerns to be addressed if public clouds were to be successfully adopted by public sector organizations.



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