

The Total Economic Impact™ Of IBM And Red Hat For The Public Sector

Public-sector organizations at the state, local, and federal level are working to accelerate innovation and modernization to keep pace with rising constituent and employee expectations. A clear transformative path has emerged to modernize and fulfill missions; however, progress is often slow despite employees' best efforts due to a range of challenges from budget constraints to the predominance of legacy systems.

Customer experience (CX) for public-sector constituents is improving, but it still lags in the private sector. Improving CX is critical to boosting key mission success factors such as trust in the organization, likelihood to inquire for official information, compliance with directions, and ease in applying for the agency's services. Similarly, government employee experience (EX) also lags behind private sector counterparts. Enhancing EX is essential for public-sector organizations to boost productivity, recruitment, and retention.

Unfortunately, technical debt, legacy systems, siloed teams, and slow processes often hinder public-sector teams' ability to quickly release new or improved services. These teams are often under a simultaneous pressure of budget cuts and increased demand and expectations for their services. Technology transformation in this environment is very challenging, as public-sector leaders have needed to find ways to optimize their teams' efficiency and technology costs to make room for innovation.

Despite these challenges, the COVID-19 pandemic has made velocity even more urgent. Organizations have had to immediately enable remote work, accelerate development, support individuals and businesses, ensure operational continuity, manage public health, drive compliance, and prepare for future budget constructions. Even as the world moves forward, teams continue to be pressed to meet ever-changing challenges and demands with previously unheard-of speed.

Transformation is never easy. Public-sector organizations find success by leveraging container platforms, hybrid technology, open source, and data analysis with the support of strong services partners — all with an eye to mission success, not just meeting budget constraints.

IBM and Red Hat provide a portfolio of solutions that can enable such transformations. Their hybrid container platform is based on open source, can be deployed in most cloud and on-premises environments, and has extensive tooling and interoperability to enable speed, agility, scalability, dependability, portability, and security. IBM and Red Hat professional services leverage deep industry and technical expertise to drive strategy, deployment, adoption, and long-term success of major transformations by using agile methods to enable speed-to-value for the constituent.

IBM commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential financial impact of using solutions from IBM and Red Hat together for public-sector organizations in the US. Forrester gathered data from: interviews with 25 organizations using solutions from IBM and Red Hat together, including six in the public sector; 19 other TEI studies that examined specific IBM or Red Hat solutions; official government reports; and Forrester's comprehensive market research.



ROI
48%



Benefits PV
\$201 million



NPV
\$65 million



Payback
28 months



Document Summary

This document is an abridged version of a Forrester Consulting case study commissioned by IBM in March 2021, titled, "[The Total Economic Impact Of IBM And Red Hat For The Public Sector.](https://www.ibm.com/account/reg/us-en/signup?formid=urx-50308)"

To learn more about Forrester's methodology and findings, read the full study at <https://www.ibm.com/account/reg/us-en/signup?formid=urx-50308>.

Partner Selection

Interviewed public-sector organizations selected IBM and Red Hat solutions for their modernization journeys because of the companies' ability to:

- › **Enable portability for any hybrid or multicloud environment.** Interviewees chose solutions like RHEL and OpenShift so they could work across any infrastructure and unify private and public cloud environments. They sought the flexibility to place workloads in their optimal environment, considering changing costs and capacity requirements, without being locked in to any one vendor.
- › **Offer best-in-class capabilities with an open source foundation.** Public-sector organizations demand the best in security, e.g., FedRAMP High Impact, and they need powerful integration, monitoring, and management tools to perform their critical functions. Data analytics, AI, and automation are crucial to their ability to enhance service delivery. These capabilities need to be based on mainstream open source foundation to ensure interoperability, payback, and efficiency and to avoid lock-in long into the future.
- › **Drive adoption of modern development workflows.** Interviewed organizations sought to streamline application development and maintenance workflows to increase throughput and to innovate faster. Legacy technology stacks, which had been cobbled together over several decades held them back. They sought a partner that could assist them in adopting new ways of working, including agile, DevOps, and continuous integration and testing methodologies.
- › **Enable the organizationwide modernization effort.** Interviewed organizations sought a partner that: 1) could support broad-based digital transformation goals and 2) has expertise in the public sector, in modern technologies from many vendors, and with large, siloed, and complex legacy environments.

“[IBM and Red Hat] allowed us to reduce the cost of IT infrastructure and people. We improved people, process, and technology.”

CIO, social services

Key Benefits Of Public-Sector Transformation With IBM And Red Hat Solutions

Mission Success	Organizational Continuity	Development Speed And Efficiency	Operational Labor Efficiency	Technology Cost Efficiency	Flexibility
<ul style="list-style-type: none"> • Release new or improved apps services for the public and employees. • Improve user experience (UX), performance, and dependability. • Improve CX and service delivery. • Increase capacity, speed, and insight for data analysis. 	<ul style="list-style-type: none"> • Reduce security labor and risk. • Improve dependability, availability, and performance. • Enable remote work. • Enable virtual public services. • Improve EX. • Improve the ability to attract, hire, and retain employees. 	<ul style="list-style-type: none"> • Accelerate app development and deployment speed. • Streamline maintenance for containerized apps. • Further streamline maintenance for modernized apps. 	<ul style="list-style-type: none"> • Eliminate administration of on-premises infrastructure with cloud migration. • Streamline administration of on-premises infrastructure with the platform. • Streamline administration of middleware. • Increase productivity for platform and operations administration. 	<ul style="list-style-type: none"> • Reduce resource utilization with hybrid container platform. • Reduce resource utilization with app modernization. • Avoid over-provisioning with cloud scalability. • Reduce licensing with hybrid container platform. • Reduce licensing with modernization. • Avoid costs of lock-in with portability. 	<ul style="list-style-type: none"> • Enhance EX and culture. • Deploy additional services using AI, internet of things (IoT), blockchain, and other advanced technologies. • Achieve infrastructure portability. • Reduce lock-in with open source code base.

VOICE OF THE CUSTOMER

“IBM and Red Hat have enabled us to allow our staff to maintain their livelihood, feel supported, and stay safe and healthy during the pandemic — all while providing the same level of service.”

*Executive director,
housing and urban
development*

“We needed to write applications to enable distance learning and keep track of the important data and policies we must follow within our school districts that would be used by teachers, students, and administrators. We used a DevSecOps process with OpenShift to develop and release the apps in only four weeks — the fastest we’ve ever released apps by far.”

CIO, education

“Red Hat and IBM give us the flexibility to have the same environment on-premises and in [multiple third-party clouds]. Portability is huge for us so we can change when necessary and have the integration and elasticity to handle usage peaks.”

*IT leader, division of a treasury
organization*

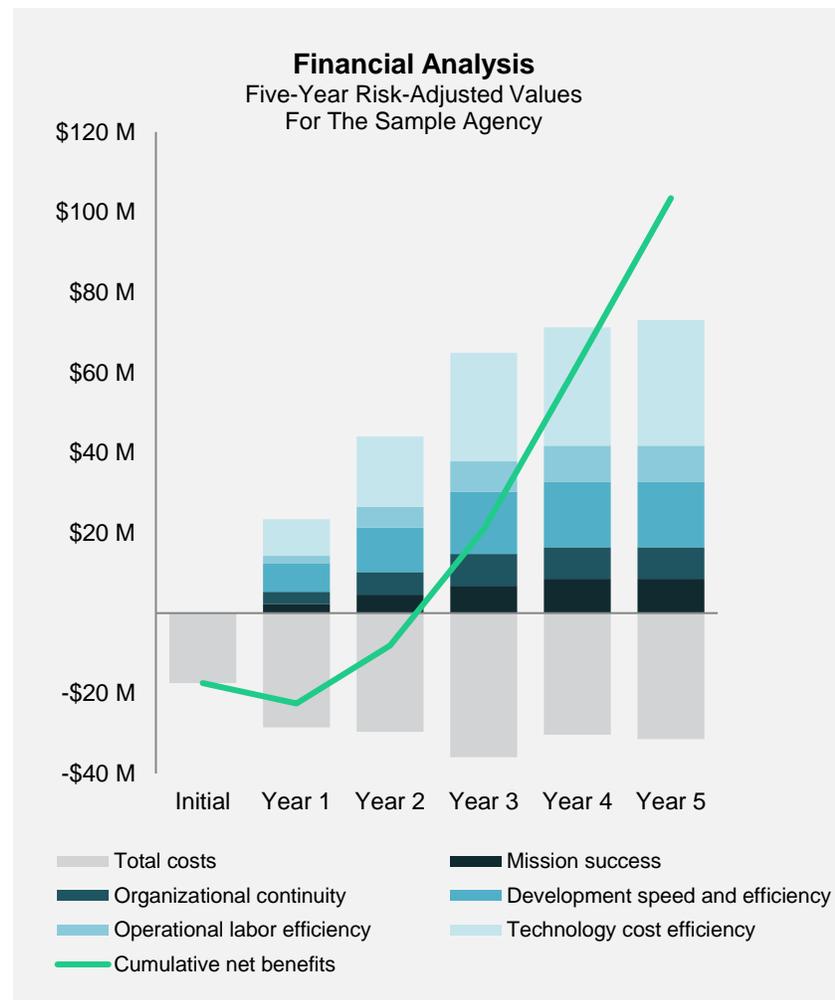
Composite Organization

Forrester designed a sample agency that is representative of six interviewed public-sector organizations to illustrate the financial impact of using IBM and Red Hat solutions together, including the benefits, flexibility, costs, and risks of an investment. The sample agency is a public-sector organization based in the US with a technology budget of \$50 million per year (excluding services and labor). The sample agency employs 10,000 onshore FTEs, including 500 developers, 200 IT administrators, 50 data analysts and engineers, and 25 security analysts and engineers.

Using IBM and Red Hat solutions and services, the sample agency undertakes a four-year technology transformation in which it: 1) deploys a hybrid multicloud container platform based on Red Hat Enterprise Linux, Red Hat OpenShift, and IBM Cloud Paks across an IBM and third-party public and private cloud environment; 2) modernizes existing applications; 3) migrates workloads to IBM Cloud; 4) leverages modern architectures to support application development and maintenance productivity; and 5) integrates, rationalizes, and analyzes data from across the organization.

Financial Analysis

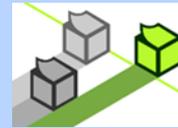
Forrester’s financial analysis found that the sample agency realized incremental benefits of \$200.5 million over five years versus incremental costs of \$135.1 million by modernizing with solutions from IBM and Red Hat, resulting in a net present value (NPV) of \$65 million, a payback period of 28 months, and an ROI of 48%.



Benefits And Flexibility

Forrester modeled the total incremental benefits of \$201 million over five years for the sample agency, including:

- › **Mission success.** IBM and Red Hat drive \$22 million in mission success benefits for the sample agency by enabling it to:
 - Release new and improved digital services.
 - Launch new programs to benefit constituents.
 - Boost CX, engagement, and compliance.
 - Increase workforce speed, efficiency, and impact.
 - Leverage data to the utmost to enhance both service delivery and measurement of mission success.
- › **Organizational continuity.** IBM and Red Hat drive \$24 million in organizational continuity benefits for the sample agency by enabling it to:
 - Reduce downtime by 95% with dependability and performance.
 - Strengthen security and boost security productivity by 20%.
 - Better attract, hire, and retain employees with improved EX and more widely applicable skillsets to increase retention by 5% and decrease hiring costs by 30%.
 - Enable remote work and ensure continuity during the pandemic.
- › **Development speed and efficiency.** IBM and Red Hat drive \$49 million in development efficiency for the sample agency by enabling it to:
 - Double application development speed.
 - Reduce maintenance labor by 25% for replatformed apps.
 - Halve maintenance labor for modernized apps.
- › **Operational labor efficiency.** IBM and Red Hat drive \$23 million in IT and operations efficiency for the sample agency by enabling it to:
 - Reassign administrators for environments migrated to the cloud and 30% of administrators for remaining on-premises infrastructure deployed with the IBM-Red Hat platform.
 - Reassign 70% of middleware administrators with prepackaged containerized services in the IBM-Red Hat platform.
 - Improve platform and operations productivity by 40%.
- › **Technology cost efficiency.** IBM and Red Hat drive \$83 million in IT and operations efficiency for the sample agency by enabling it to:
 - Migrate 50% of on-premises infrastructure to IBM cloud, eliminating hardware refresh and operations costs.
 - Reduce resource requirements for apps in the IBM-Red Hat hybrid platform by 20% and by 30% for modernized apps.
 - Reduce licensing costs for apps in the IBM-Red Hat hybrid platform by 10% and by 20% for modernized apps.
 - Avoid overprovisioning hardware to reduce costs by 15%.
 - Gain portability to reduce risk of lock-in.
- › **Flexibility.** Public-sector organizations gained flexibility to improve employee culture and experience, drive future innovation with lower cost and specialization barriers, and ensure portability.



2x faster app development speed.



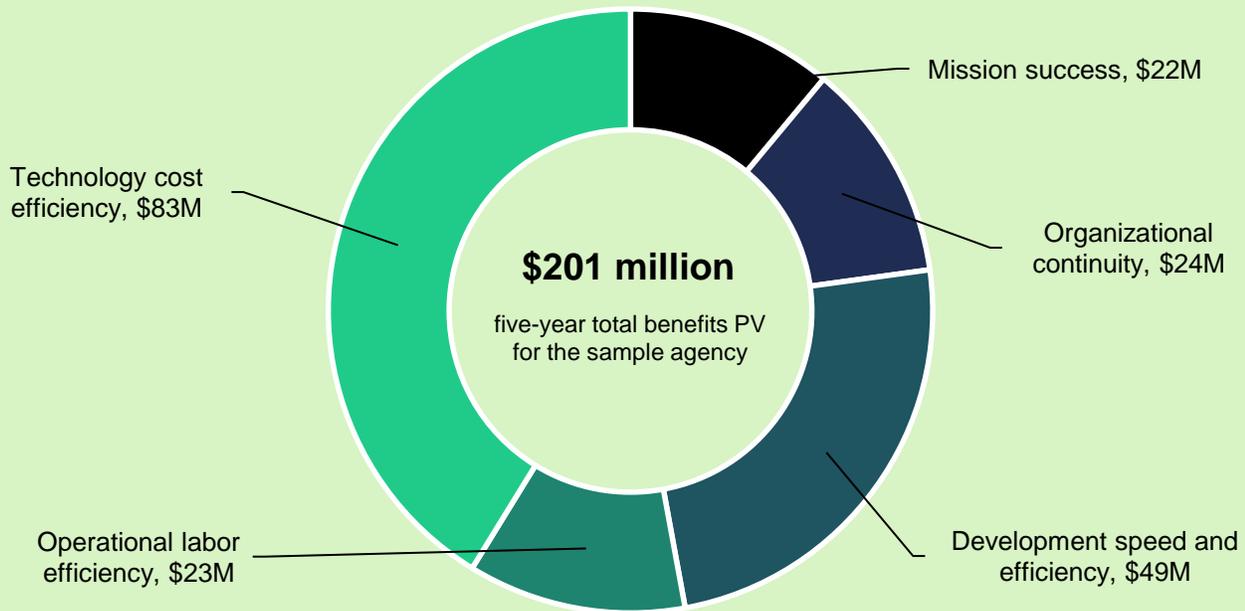
13.2% reduced annual technology spend.



48% freed up labor for administration.

“Red Hat solutions like OpenShift, Linux, Ansible, JBoss, and Satellite plus IBM solutions like Cloud Paks, WebSphere, and BigFix are essential to our modernization and cloud migration. They enable the entire process and then make it possible to monitor, integrate, control, and automate across our environment. They play a key role in controlling costs now and opening the door to innovation down the road.”

IT leader, treasury division



Costs

Forrester modeled the total incremental costs of \$135 million over five years for the sample agency, including:

- › Technology costs for IBM Cloud, RHEL, Red Hat OpenShift, Red Hat Ansible, and IBM Cloud Paks.
- › Professional services costs for transformation strategy, deployment, modernization, management, and support.
- › Training costs for technical and business staff.

Risks

Forrester has applied a risk adjustment to all financial metrics reported in this study to account for the inherent difficulty in isolating the benefits associated with a complex and broad-reaching set of technology investments during a transformation. While all calculations are informed by metrics reported by interviewees using IBM and Red Hat solutions in tandem, there are many factors that influence the magnitude of benefits realized by any one organization including legacy technologies, organizational capabilities, organizational scale, and market trends. Please see the full TEI study for more details at <https://www.ibm.com/account/reg/us-en/signup?formid=urx-50308>.

This document is an abridged version of a case study commissioned by IBM in March 2021, titled, “The Total Economic Impact Of IBM And Red Hat For The Public Sector.” Forrester took a multistep approach to evaluate the impact of IBM and Red Hat solutions, including interviews with 25 organizations, the review of 19 recent TEI studies, Forrester’s market research, and official government reports. Forrester constructed a composite organization and aggregate financial analysis based on the interviewed organizations and risk-adjusted the financial model to account for uncertainties in estimates.

© Forrester Research, Inc. All rights reserved. Unauthorized reproduction is strictly prohibited. Information is based on best available resources. Opinions reflect judgment at the time and are subject to change. Forrester®, Technographics®, Forrester Wave, RoleView, TechRadar, and Total Economic Impact are trademarks of Forrester Research, Inc. All other trademarks are the property of their respective companies. For additional information, go to forrester.com.