

ECONOMIC VALIDATION

The Economic Benefits of the Red Hat Ansible Automation Platform versus DIY Automation

Provide faster time to market, reduce operational complexity, and reduce risk by providing a standardized means for cross-team collaboration

By Aviv Kaufmann, Practice Director and Principal Economic Validation Analyst
Enterprise Strategy Group

June 2023

Contents

Introduction	3
Challenges	3
The Solution: The Red Hat Ansible Automation Platform	4
Enterprise Strategy Group Economic Validation	5
Ansible Automation Platform Economic Overview	5
Faster Time to Automation Capabilities	5
Reduced Operational Complexity	6
Reduced Risk to the Organization	8
Enterprise Strategy Group Analysis	9
Issues to Consider	12
Conclusion	12

Introduction

This Economic Validation from TechTarget’s Enterprise Strategy Group (ESG) focused on the quantitative and qualitative benefits that organizations can expect from using the Red Hat Ansible Automation Platform to create, share, manage, and execute automation of technology instead of using scripts, open source, and point solution-provided automation.

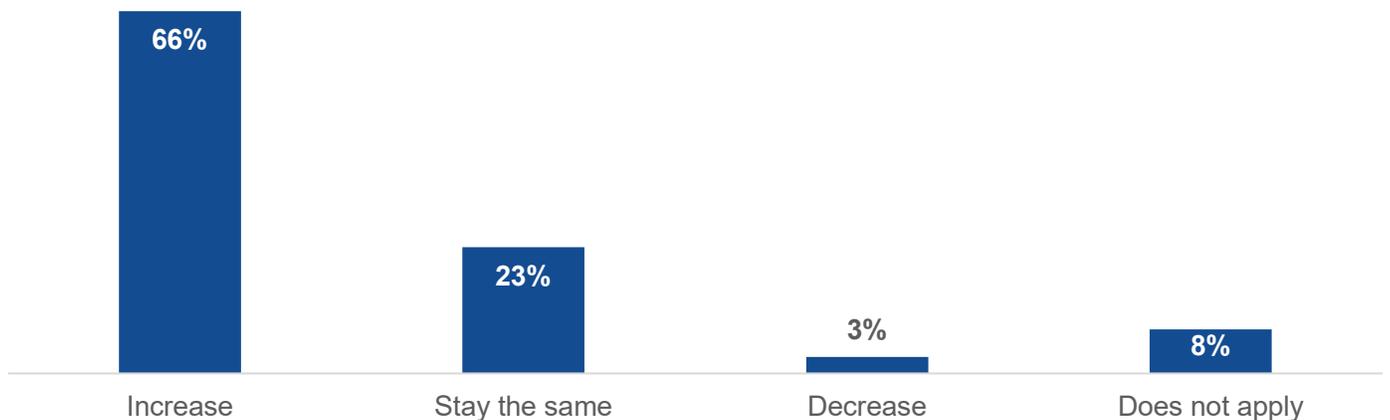
Challenges

To keep pace with the demands of today’s modern businesses, IT organizations need to operate in a more agile manner and innovate faster than ever. IT teams must provide infrastructure and services more quickly than in the past to support the growing and changing needs of both the business and its customers. IT teams must be more flexible to deliver simple solutions for a growing number of roles, teams, and use cases. But providing this flexibility and simplicity to end users has led to increased complexity in IT environments. Modern IT organizations must not only manage compute, network, and storage infrastructure, but also must deal with many locations and ensure availability, security, and compliance across physical, virtual, cloud, and edge platforms.

Large IT organizations have grown over time and are often made up of many specialized and siloed teams, each relying on different solutions, tools, and processes. This leads to operational inefficiencies and roadblocks to innovation and increases the risk of vulnerabilities and downtime. Scripting can be used to make some of this better, but scripts are limited in their usefulness and are often created and maintained by experts, limiting script reusability and scalability. This skills gap issue makes it difficult for large organizations to standardize and consolidate tooling. Automation built for bringing together teams can greatly help to accelerate operations, eliminate the time required to wait for tasks to be performed in a workflow, reduce the risk of mistakes, and decrease the reliance on experts to perform repeatable tasks. Research from TechTarget found that IT automation is a top priority for organizations, with two-thirds (66%) of organizations reporting that they plan to increase their use of automation in 2023.¹

Figure 1. Increasing Use of Automation

How do you expect your organization's use of automation to change in the next 12 months? (Percent of respondents, N=1,783)



Source: TechTarget, Inc.

¹ Source: TechTarget, [2023 IT Priorities Study](#), April 2023.

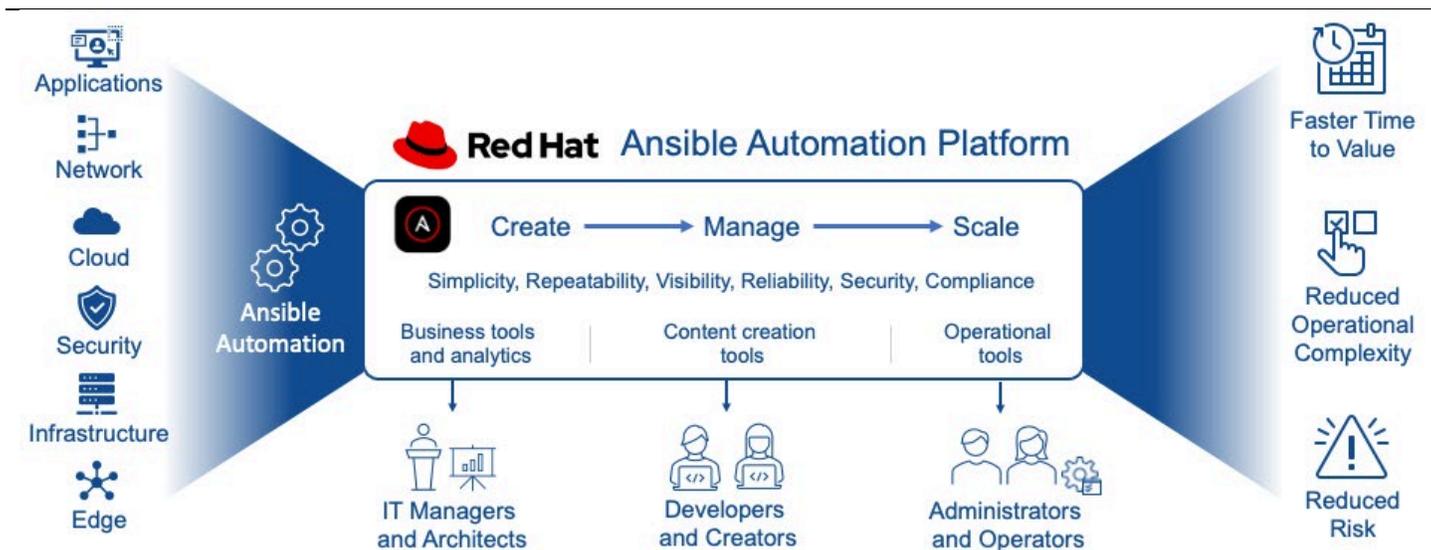
With automation being a strategic imperative for many organizations, various parts of the organization have taken the initiative to automate with whatever tool they have at their disposal including do-it-yourself (DIY) scripting, open source automation tools, proprietary vendor-provided automation utilities, and point management solutions. But using too many tools increases complexity and can result in higher costs, increased risk, and reduced use of automation across the organization. To successfully drive automation across the organization requires a strategy aimed at breaking down barriers and inefficiency, coupled with a unified and scalable automation platform that can be easily created, standardized, shared, reused, and maintained within and across teams.

The Solution: The Red Hat Ansible Automation Platform

The Ansible Automation Platform is a simple, powerful, agentless subscription-based solution that integrates Red Hat's entire automation suite and provides a single enterprise platform for building and operating automation at scale. The platform makes it easy to engage and unify teams with simple automation language that makes it easier to create, share, evaluate, and manage content. The Ansible Automation Platform is easy to operate and control at scale across the organization with standardized automation, bringing automation to more teams, functions, locations, and domains. The Ansible Automation Platform is made up of:

- **Automation controller** provides the control plane and a centralized user interface (UI) and RESTful API, role-based access control, workflows, and integrated continuous integration/continuous delivery (CI/CD). Automation controller helps standardize how automation is deployed, initiated, delegated, and audited.
- **Automation execution environments** are consistent and portable environments packaged as containers to easily execute and scale the use of Ansible playbooks and roles.
- **Automation mesh** helps to scale and expand the use of automation across the organization and across locations without having to understand the underlying complexity of the architecture.
- **Ansible content tools** are provided for developers and operators to easily use CLIs to build and deploy containerized automation execution environments (**Execution environment builder**) and automation (**Automation content navigator**), along with **Ansible-lint**, which ensures best practices to help make code more consistent and maintainable.
- **Certified and validated content collections** make it easy for creators to start automating with building blocks that integrate automation with Red Hat and industry partner platforms and simplify the execution of key operational tasks. Collections can include modules, plug-ins, roles, playbooks, and documentation.
- **Automation hub** provides easily accessible repositories to discover, use, and extend content that is created by Red Hat and its technology partners, helping to reduce risk and minimize time to automation.
- **Red Hat Insights for Ansible Automation Platform and automation analytics** provide visibility into Ansible-managed infrastructure with dashboards across clusters to monitor and quantify the value of automation. Organizations can also plan and measure their automation ROI.

Figure 2. The Ansible Automation Platform



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Enterprise Strategy Group Economic Validation

Enterprise Strategy Group (ESG) completed a quantitative economic analysis of the Ansible Automation Platform. ESG's Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages ESG's core competencies in market and industry analysis, forward-looking research, and technical/economic validation. ESG conducted in-depth interviews with end users to better understand and quantify how the Ansible Automation Platform has impacted their organizations, particularly in comparison with previously deployed and/or experienced automation solutions. This included vendor-provided automation tools, open source automation tools and platforms, and developer-created scripts. The customers that ESG spoke with were organizations using the Ansible Automation Platform to build automation capabilities across their IT environments and build automation into their service offerings. The qualitative and quantitative findings were used as the basis for a simple economic model comparing the costs and benefits of growing, managing, and maintaining automation capabilities with the Ansible Automation Platform.

Ansible Automation Platform Economic Overview

The Enterprise Strategy Group economic validation revealed that the Ansible Automation Platform has provided its customers with significant savings and benefits in the following categories:

- **Faster Time to Automation Capabilities**
- **Reduced Operational Complexity**
- **Reduced Risk to the Organization**

Faster Time to Automation Capabilities

Simple 1:1 automation of manual tasks can be achieved rather easily by any administrator with some scripting experience, but building coordinated cross-functional automation capabilities across the organization takes time, planning, and the backing of senior leadership. When coming up with a plan, organizations should empower automation teams by looking to eliminate the personal and divisional roadblocks that often stymie automation

initiatives. and consider the platforms, tools, and processes that will prove successful. The Ansible Automation Platform provided organizations with a unified solution, tools, and processes that helped them get up and running with automation faster and quickly expand their use of automation across the company. These benefits included:

- **Faster time to automation** – Customers reported that it was quick and easy to get started with the Ansible Automation Platform. Developers were able to learn Ansible in only a few short weeks, taking advantage of Red Hat’s training, workshops, and documentation. The small automation teams were able to deploy the control and execution plane components quickly from RPMs obtained on the Red Hat Customer Portal and through simplified OpenShift installations. While the majority of deployment times consisted of working on internal buy-in and cross-functional cooperation, teams were able to have cross-functional automation capabilities up and running across the organization in only a few months, compared to the year or two that it would have taken to build automation capabilities without a unified platform, tools, content, support, and vision that could be conveyed to the organization. **“We were lucky because we automation admins had the internal backing and a mandate that empowered us to access the things that we needed from other groups without hitting roadblocks that could take months to sort out.”**
- **Expanded use of automation across the organization** – Customers reported that it was very fast for developers to create the initial automation capabilities and integrate with existing systems, and this positive experience helped to positively affect the spread of automation. The simplicity of the platform and tools, availability of self-service portals, and reusable playbooks and modules made it easier for other groups across the organization to create new automation capabilities and become invested in contributing to company-wide automation efforts.
- **Faster time to cross-functional collaboration** – The Ansible Automation Platform provided a single unified technology, tool, language, and process that helped to bring cross-functional teams together, including managers, developers, operators, architects, and security teams. These cross-functional teams were able to openly collaborate on automation initiatives, better understand requirements, and build trust. This helped to remove barriers and silos, and ultimately resulted in more effective, widespread, and standardized use of automation. And some organizations were able to learn more and extend this collaborative spirit, with the external open source community helping to make automation more successful for everyone.
- **Faster time to automation at scale** – The Ansible Automation Platform was made for scale. Organizations reported that it was much faster to scale capabilities while ensuring governance, availability, and security across different groups, locations, and technologies. Automation could be worked into CI/CD frameworks, and containerized automation execution environments running on the automation mesh framework made it easy for organizations to extend automation capabilities across the data center, cloud, and edge locations. Organizations could quickly scale automation without duplicating the efforts to better execute on hybrid and multi-cloud strategies, quickly expand to new geographic and edge locations, and normalize IT operations for new mergers and acquisitions.

“The Ansible Automation Platform helped us to bring people on board that were afraid of using automation because they did not have the experience. It was so simple and effective that we soon had developers, system administrators, managers, and others joining our discussions.”

“The more we automate, the more capabilities we build and the easier it is to automate more.”

Reduced Operational Complexity

The Ansible Automation Platform helped to reduce operational complexity across organizations by providing a single platform, simple and effective tools, and automation-centric IT services. This allowed developers and automation teams to spend less time creating and maintaining automation and similarly helped administrators and architects to spend less time managing, operating, and scaling automation across locations and infrastructure. It

also provided IT managers and architects with the insight to make better decisions and operate the business with greater agility and flexibility. Customers shared that the Ansible Automation Platform had helped to reduce operational complexity through the following benefits:

- **Less time spent creating automation** – Customers reported that the Ansible Automation platform and developer tools made it far easier for them to create and test automation compared to writing scripts and using open source automation. Ansible Core is based on simple YAML syntax that is easy to learn with CLI tools to develop, test, and run playbooks. Playbooks contained the plays, modules, and plug-ins required to piece together automation to run on any infrastructure, while the Ansible-specific linter, ansible-lint, helps reduce syntax errors. Roles and collections could be defined to make automation reusable, and public and private Automation hubs provided trusted content collections, documentation, and examples to help organizations avoid starting from zero and further accelerate time to automation creation. Ansible Builder made it just as easy to build containerized execution environments that could be paired with playbooks and shared with other teams. Customers reported that automation that used to take weeks or months of calendar time to create (including discussions, meetings, and requests for information) now could be completed in a few short days or sometimes even in just a few hours.
- **Less time spent maintaining automation content** – Maintaining automation content on Ansible Automation Platform was far easier for organizations as well. Changes to automation playbooks, roles, and execution environments could be made very quickly and updated in the collections. Customers reported that an expert was required to maintain the scripts that they used to create when things changed, and the open source automation that they used to rely on had to be wiped out and recreated each time a new version was released, and neither option offered any support outside the open source community. Customers estimated that they would need a team that was at least twice the size to create and maintain automation without the Ansible Automation Platform.
- **Less time spent managing and supporting automation across the organization** – Execution and management of automation by architecture and operations teams was made far more efficient with the Ansible Automation Platform. The automation controller made it easier to manage automation jobs and execution environments (through the UI, CLI, or API) and reduced the effort required to define, document, delegate, and operate automation efforts across the company. Operations teams were able to deploy reusable job templates and execute automation jobs securely, with role-based access and without exposing credentials. Business teams were able to use Red Hat Insights for Ansible Automation and automation analytics provided the data needed to track, analyze, and improve how the platform is used and to calculate and justify ROI. The previous automation tools leveraged by those we interviewed provided no cross functional capabilities or visibility and had to be executed and managed independently by experts.
- **Less time spent scaling automation efforts** – The Ansible Automation Platform makes scaling automation far easier on teams locally and across hybrid and edge locations. Automation mesh can expand use of automation without having to understand the underlying complexity. Containerized execution nodes provide the localized capacity to offload and run automation playbooks at remote and segmented environments that cannot access the automation controller. This removes the burden on the operations and automation team to continuously

“I can create automation in Ansible that would have taken me three times as long with our old automation tool. And now as I am building the automation, I am thinking ahead and figuring out where tasks and roles can be re-used by others going forward to save them time and effort.”

“Before, all of our departments were free to choose the best-of-breed automation tool that worked best for their role. This sounded good at the time and sped up manual tasks, but it did not result in a major win for the organization because everything was still serialized and required experts to handle the request.”

troubleshoot and support automation capabilities across complex environments and reduces the likelihood for automation siloes built on diverse tooling to continue.

- **Improved flexibility and agility** – By bringing automation capabilities to more locations and functions across the organization, Ansible Automation Platform enabled IT teams to do more with less and provided the flexibility and agility required to better support the business. Companies that we spoke with that used to rely on serialized ticketing systems said that new IT services for the business could take weeks to complete the authorizations and siloed and serialized operations required. With the Ansible Automation Platform, requests for these services were made through a self-service portal, and resources were provided in under an hour (including authorizations). Driving efficiencies like these across various aspects of the organization can result in a significantly positive impact on the bottom line both in terms of freeing up resources and impacting revenue.

Reduced Risk to the Organization

The Ansible Automation Platform helped to reduce risk for organizations compared to using open source automation by providing features that help to minimize the risk of downtime and functions that comply with and integrate well into existing security operations. These benefits included:

- **Reduced risk of downtime** – The Ansible Automation Platform provided organizations with content collections that provided trusted and certified integration with technology partners and reusable components created by experienced developers and architects. This helped to reduce the risk of manual errors that could cause downtime by nearly 70% for one organization. The intelligence built into the automation controller and automation mesh performs system health checks and can provide redundancy and visibility into mesh topologies that can reduce issues with infrastructure that might cause downtime. Ansible was also able to integrate with IT service management (ITSM) systems to help alert, share logs, and speed resolution of issues that may lead to downtime down the road.
- **Reduced risk of cyber attack** – Alternative automation tools and scripting can expose sensitive system information, accounts, and credentials. The Ansible Automation platform leverages secured bi-directional communication between Ansible nodes and helps to reduce the risk of accounts or passwords being stolen with a built-in credential management system that never exposes the credentials. Ansible logs can be integrated with SOAR to help speed investigations and approvals can be employed to help stop the possibility of outsiders gaining access and making unauthorized changes to systems.

“We were able to use Ansible automation to automate security and availability checks and push security and configuration settings back to where they should be every 24 hours. So even if someone got in and changed something, our automation would set it right back to where it needs to be.”

Enterprise Strategy Group Analysis

Enterprise Strategy Group (ESG) leveraged the information collected through vendor-provided material, public and industry knowledge of economics and technologies, and the results of customer interviews to create a five-year TCO/ROI model. The model compares the costs and benefits of building and scaling automation capabilities across a large, distributed organization with the Ansible Automation Platform versus a DIY approach using open source automation tools and point automation solutions. ESG's interviews with customers who have recently built automation capabilities with the Ansible Automation Platform, combined with experience and expertise in economic modeling and technical validation of automation solutions, helped to form the basis for our modeled scenario.

The model assumed a large organization with 28K employees spanning 5 worldwide geographical locations. We assumed that the organization consisted of 104 full-time equivalents (FTEs) to handle compute, network, and security operations; an 8-person storage team; and 706 IT generalists tasked with providing on-site and remote IT services for employees and business units.

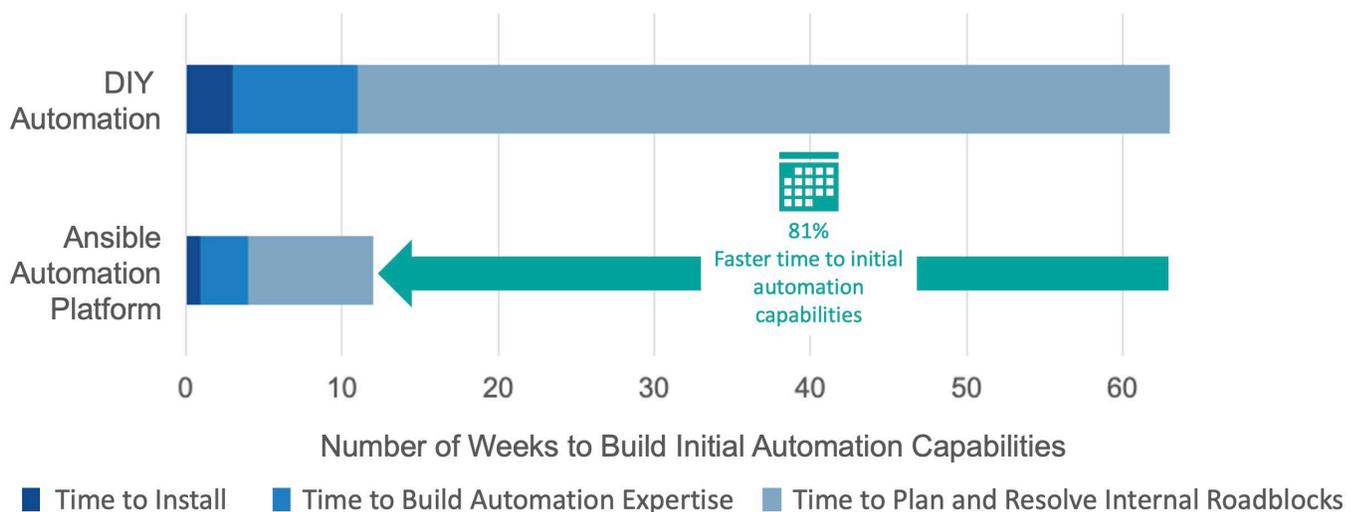
We first modeled the time to build the initial automation capabilities, including the time to install and deploy automation servers, software, and platforms (1 week for the Ansible Automation Platform versus 3 weeks for the DIY case based on easy RPM installations versus manually setting up several tools); build automation expertise (3 weeks for the Ansible Automation Platform versus 8 weeks for the DIY case based on improved documentation and training and a simple YAML language); and the time to plan for cross functional automation capabilities by resolving internal roadblocks (8 weeks for the Ansible Automation Platform versus 52 weeks for DIY-based automation). As Figure 3 shows, the clear and unified vision of the Ansible Automation Platform, along with simplified installations and a learning curve, resulted in an 81% faster time to initial automation capabilities.

Why This Matters

IT automation tools are freely available through open source initiatives and are often provided by vendors to automate the functions of their solution. But these tools must be operated by experts, lack support, and are complex and difficult to scale and maintain.

Enterprise Strategy Group's validation and models show that Red Hat provides a unified platform that drives automation success and efficiency across the organization, resulting in an ROI of 702%.

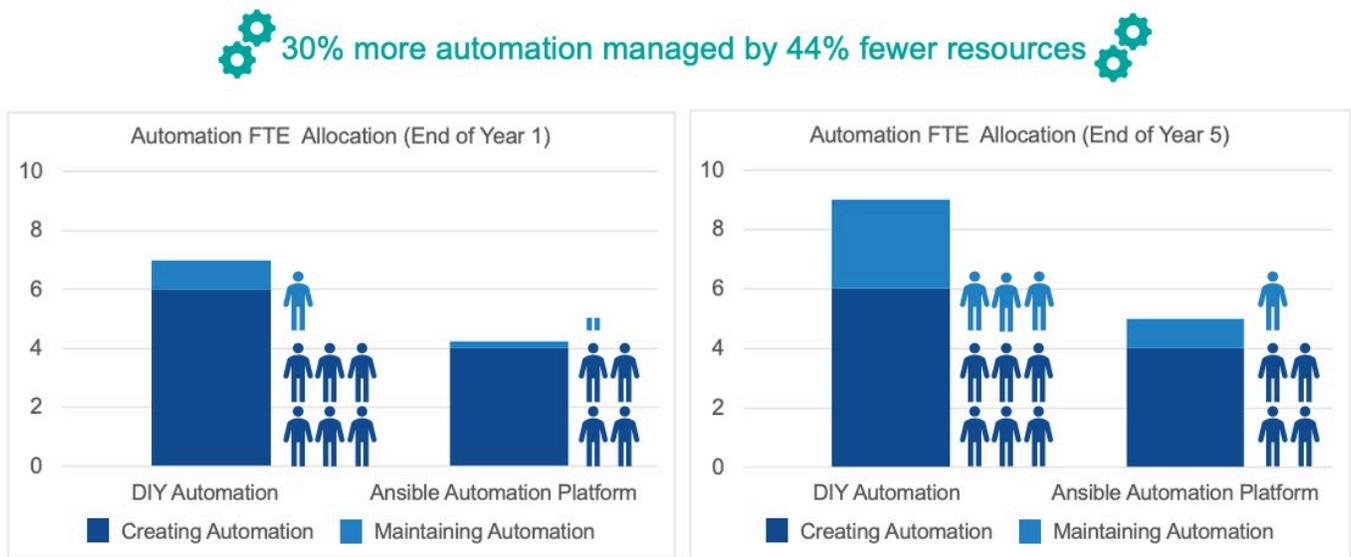
Figure 3. Time to Build Initial Automation Capabilities



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

ESG assumed an initial automation team size of 4 people for the Ansible Automation Platform case with a 1.5x larger team of 6 people required to build the initial automation capabilities. Once automation content was created, only a small portion of the existing team's time would be required to maintain existing automation for the Ansible Automation Platform, but a full-time dedicated resource would be required for the DIY case due to the added complexity, frequent changes, and lack of support and documentation. We assumed that by year 5, the Ansible Automation Platform team had grown to include an FTE to manage, maintain, and support existing automations, and two more FTEs would need to be added to manage the DIY case. As shown in Figure 4, our automation capabilities calculations (described later) were used to show that the Ansible Automation Platform could provide 30% more automation managed by 44% fewer resources.

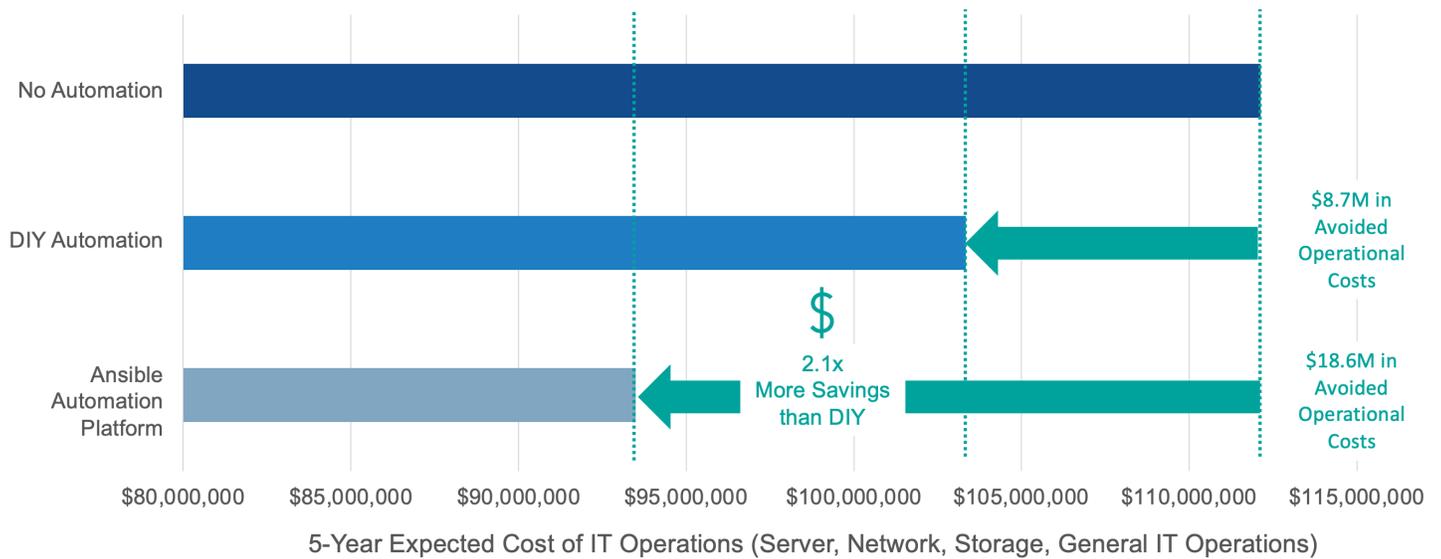
Figure 4. Comparison of FTEs Required to Create, Manage, and Maintain Automation



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Next, ESG modeled the expected growth in automation capabilities across the organization and across locations over the five-year period. We assumed that with the Ansible Automation Platform, the organization could automate across all locations at the same rate of 10% new automation capabilities per year, while for the DIY case, new automation capabilities per year would grow roughly half as fast at 5% and all efforts would have to be repeated at each new location, providing delay of up to 1 year before secondary locations had built their initial capabilities. This model was used to predict the overall operational savings by considering the percentage of automatable functions against the growth in automation capabilities by the end of each year and the expected benefit of these automations. Our models predicted that over five years, the Ansible Automation Platform could provide \$18.6M in avoided IT operations work through automation, which is over twice as much savings as would be realized with DIY automation (see Figure 5).

Figure 5. Avoided Cost of IT Operations

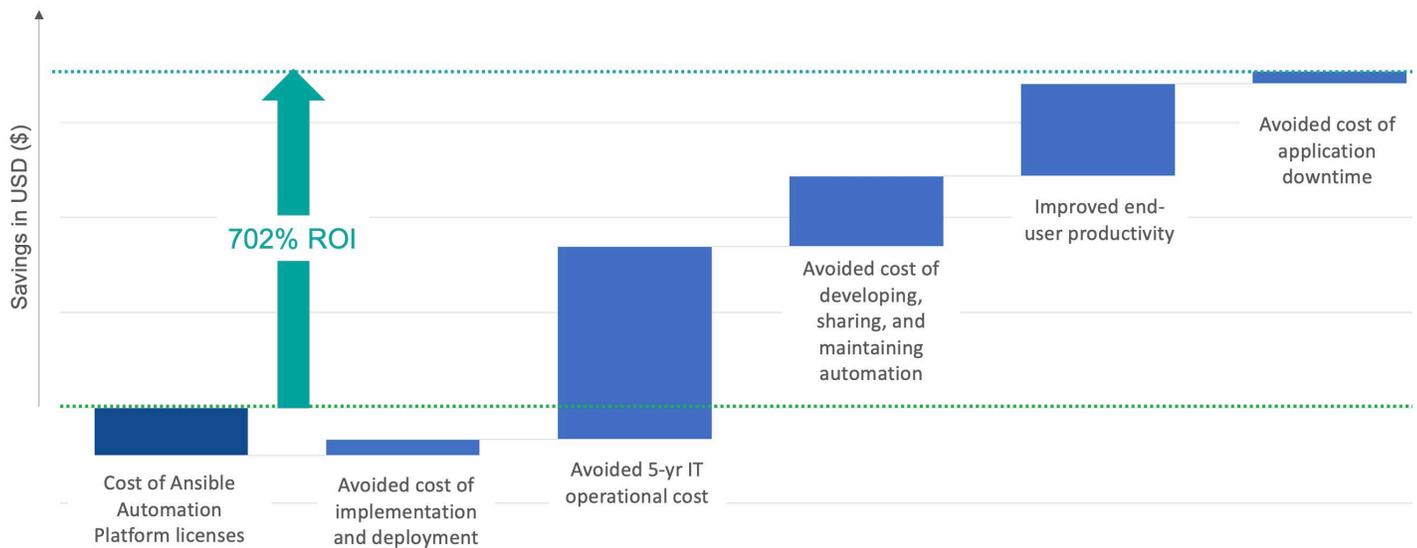


Source: Enterprise Strategy Group, a division of TechTarget, Inc.

ESG also predicted that automation could improve end-user productivity by reducing the time spent impacted by device issues and service interruption. ESG assumed that automation could reduce both the number of issues seen (through fewer issues, better interoperability, and periodic health checks) and minimize the time to resolve and remediate these issues through automated actions and improved workflows. Our models predicted that while both DIY and the Ansible Automation Platform could reduce the expected impact on end-user productivity, the Ansible Automation Platform provided 79% less impact on end-user productivity, saving the organization an additional \$4.8M over DIY over the five-year period. A similar model predicted that automation could help reduce the number of application downtime events, as well as minimize the time to restore operations. Our models predicted that the Ansible Automation Platform could provide an additional \$662K in avoided impact to revenue over the expected savings provided by DIY automation.

Taking all the modeled predictions into consideration, ESG calculated the expected ROI of automating with the Ansible Automation Platform rather than relying on DIY automation capabilities built around open source tools and point automation solutions. While both options provide significant savings over no automation, our models predict that the Ansible Automation Platform can provide over \$20M in additional savings and benefits that would not be realized with DIY automation. Considering the investment in the Red Hat licenses required to run the platform over the five-year period, ESG calculated that the Ansible Automation Platform could provide an ROI of 702% over the 5-year period (see Figure 6).

Figure 6. Expected Five-year Return on Investment (ROI) of the Ansible Automation Platform



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Issues to Consider

Enterprise Strategy Group (ESG)'s models are built in good faith upon conservative, credible, and validated assumptions; however, no single modeled scenario will ever represent every potential environment. Each organization has a unique set of challenges that they must overcome and opportunities that can be achieved through automation. The benefits received by an organization depend on the size of the organization, the nature of the business, and the current capabilities, characteristics, and composition of their IT organization, along with many more variables. ESG recommends that you perform your own analysis of available products and consult with your Red Hat representative to understand and discuss the differences between the solutions through your own proof-of-concept testing.

Conclusion

IT automation is becoming more and more of an important mandate across modern IT organizations. Automation helps reduce IT complexity and speed operations and allows an organization to provide IT services that better meet the demands of today's modern businesses. Although the initial OpEx costs for DIY automation are compelling when organizations first get started, there is an eventual tipping point where the total cost to operationalize automation across many teams with diverse sets of domains and endpoints favors commercial automation platforms such as the Ansible Automation Platform. An enterprise automation platform must be able to orchestrate complex workflows at the top level, while automating specific tasks for specific endpoints at the lowest device level.

Enterprise Strategy Group (ESG) validated that Red Hat has provided the platform, tools, and services to help organizations to quickly get started with automation, spread the use of automation across the organization, standardize automation across technologies and teams, reduce operational complexity and risk, and scale the use of automation across more technologies and locations.

Our modeled scenario predicted that the Ansible Automation Platform can provide over \$20M in additional savings and benefits over five years when compared to building DIY automation capabilities. This analysis also predicted that an investment in the Ansible Automation Platform provides a 702% ROI. If your organization is serious about

driving the benefits of automation across its IT environment quickly and effectively while reducing operational complexity and risk to the organization, ESG suggests that you consider the Ansible Automation Platform.

©TechTarget, Inc. or its subsidiaries. All rights reserved. TechTarget, and the TechTarget logo, are trademarks or registered trademarks of TechTarget, Inc. and are registered in jurisdictions worldwide. Other product and service names and logos, including for BrightTALK, Xtelligent, and the Enterprise Strategy Group might be trademarks of TechTarget or its subsidiaries. All other trademarks, logos and brand names are the property of their respective owners.

Information contained in this publication has been obtained by sources TechTarget considers to be reliable but is not warranted by TechTarget. This publication may contain opinions of TechTarget, which are subject to change. This publication may include forecasts, projections, and other predictive statements that represent TechTarget's assumptions and expectations in light of currently available information. These forecasts are based on industry trends and involve variables and uncertainties. Consequently, TechTarget makes no warranty as to the accuracy of specific forecasts, projections or predictive statements contained herein.

Any reproduction or redistribution of this publication, in whole or in part, whether in hard-copy format, electronically, or otherwise to persons not authorized to receive it, without the express consent of TechTarget, is in violation of U.S. copyright law and will be subject to an action for civil damages and, if applicable, criminal prosecution. Should you have any questions, please contact Client Relations at cr@esg-global.com.

About Enterprise Strategy Group

TechTarget's Enterprise Strategy Group provides focused and actionable market intelligence, demand-side research, analyst advisory services, GTM strategy guidance, solution validations, and custom content supporting enterprise technology buying and selling.

 contact@esg-global.com

 www.esg-global.com