EXECUTIVE SUMMARY

As enterprises become more mature and successful in managing their business processes (BPs), they are looking for ways to expand process improvement and business automation across their organization. Red Hat Process Automation Manager (RHPAM) customers interviewed for this study began the journey of expansion by re-platforming an important existing process as a proof point that they could substantially lower their software and infrastructure costs by swapping out their existing process automation software with a lower cost, open source–based alternative. They then standardized on RHPAM to continue re-platforming to replace the incumbent software and to expand into other areas of process improvement.

IDC interviewed RHPAM customers to understand how they use it as a platform for business automation. These study participants reported leveraging RHPAM as a cost-effective business rules platform for managing, implementing, and changing targeted applications, especially those that require platform flexibility, scalability, and regular user interaction. IDC calculates that these Red Hat customers will realize benefits worth an annual average of $254,113 per 100 users ($5.16 million per organization) by:

- Enabling line-of-business users through improved application performance and agility as the result of better integration of business rules processes and increased collaboration with line-of-business users
- Increasing developer productivity levels by making it easier to manage and incorporate business rules and processes in applications and new features
- Serving as a cost-effective business rules and process platform by costing less to buy and operate than alternative platforms and enabling platform extension

Business Value Highlights

- 556% three-year ROI
- 10 months to payback
- 69% lower cost than alternative solution
- 26% faster execution of changes to processes
SITUATION OVERVIEW

The group of enterprises interviewed for this study were able to achieve significant cost savings by replacing their existing process automation platforms with RHPAM. These cost savings were achieved even when including the cost required to migrate to the new platform and tools. Customers also achieved performance gains in the processing speed of business rules and benefited from the lighter weight deployment of RHPAM that resulted in lower infrastructure costs.

All enterprises interviewed for this assessment had at least one incumbent business process platform in production that they wanted to replace for a specific process and also needed a standard platform for further process automation. Each enterprise recognized the need to make some changes to their production environment in order to adopt RHPAM, but the benefits far outweighed the costs. Prior to adopting, cost benefit analyses were performed, looking at three core areas:

» Are core business process capabilities at technical parity between the incumbent BP platform and RHPAM?
» How much would it cost to build specific functional requirements into RHPAM and to plug in capability gaps?
» Are there performance benefits possible by switching to RHPAM?

One financial services firm replaced an incumbent vendor used extensively for back-office operations, particularly for compliance and workflow auditing. They were also able to solve an existing page view latency problem caused by rules processing in the incumbent system by switching to RHPAM. They characterized this as a 100% improvement. They had to extend RHPAM to fully replace the incumbent’s capabilities, but the total cost of adopting RHPAM was far lower than their existing costs with the incumbent vendor.

Since the initial success, developers in other parts of the organization are gradually replacing the incumbent platform with RHPAM.

With the adoption of RHPAM, another enterprise shifted to a headless workflow approach, where workflows are constructed as services accessible via APIs. The user interface (UI) calls the API, which then executes the workflow. While the user interface was automatically generated using the incumbent process platform, the cost benefit of shifting to RHPAM warranted the separation of workflow from the UI, even factoring in custom development of the UI. This separation between an application’s front-end and back-end services has been underway for the past several years and is a pattern mentioned by multiple participants in this study.

It is common to build an UI that is part of a larger solution, with actions — such as initiating a workflow or a function, rule, or integration — that are callable from the UI of the solution.

A third enterprise used RHPAM to build process automation capabilities that would be used across its ecosystem of customers. They replaced a group of BPM products to standardize on RHPAM because of:

» Low cost
» They were able to modify and extend the open source code to build their own capabilities
» RHPAM was lightest weight of all products evaluated

A fourth customer adopted in part because of RHPAM’s core-based pricing model. Previously, the customer was paying per user, and it was able to shift to a more cost-effective pricing model by adopting RHPAM.
RED HAT PROCESS AUTOMATION MANAGER

RHPAM is a process platform that packages several open source distributions into a comprehensive set of capabilities used by organizations to automate processes. RHPAM can be deployed into Red Hat OpenShift Container Platform, packaging only the components needed for each specific process application. Running RHPAM on OpenShift provides greater server density, making it easier to run multiple processes on a single server. OpenShift also provides cloud auto-scale features that scales up or down depending on current workload. This configuration provides a lightweight infrastructure that is also more cost effective, especially compared with the more common end-user pricing models for business automation software.

While study participants deployed RHPAM on-premises on fixed infrastructure, private and public cloud models promise even better infrastructure cost efficiency.

Running on OpenShift also means that:

» RHPAM is highly portable, supporting both public and private clouds, embeddable across a partner or customer ecosystem, and able to run at enterprise’s edge or datacenter.

» Enterprises can embed RHPAM into custom solutions built on a microservices architecture running in containers. This is important for larger solutions that require efficient decision automation, have to manage stateful processing, or have a dependency on workflow to create new or extend existing processes.

Figure 1 shows the key features of RHPAM including:

» Business rules: RHPAM’s BRMS (Red Hat Decision Manager) is based on Drools with the added ability to execute DMN 1.1 (Decision Model and Notation) models. DMN significantly improves the collaboration between subject matter experts, who know what rules are required, and developers, who implement the rules, wire them together, and connect to data sources. Business rules are often used for processes requiring compliance with regulations or internal governance.

» Complex event processing (CEP): An implementation of Decision Manager, the CEP engine continuously receives and processes events from multiple data sources to identify patterns in the event stream requiring a response. Because the engine is based on rules, the CEP capabilities can also be used for event-driven decision automation.

» Business optimization: Optimization is handled using OptaPlanner, an embeddable planning engine that solves constraint-based problems, such as scheduling and logistics. It is common to use optimization software in combination with business rules and CEP to automate or augment decision making, particularly to solve highly complex problems, but it is difficult to find optimization and business rules packaged together in the same platform.

» Process management: It is a model-driven development and runtime that executes a workflow or a case. Business rules can be called from the workflow or triggered using CEP and the optimization engine in near real time that provides a mechanism to act on the decision.

» Entando UX platform: A lightweight, open source, digital experience platform used to develop dynamic web and mobile applications that integrate back-end data, process, and decision services and provides basic features unavailable in straight angular development. Key features include authorization, rapid page design, versioning, and rollback.
Today, many enterprises are investing to detect and predict problems that, if prevented, result in improved profitability and better customer service. They typically put together systems to handle the inbound detection, decision automation and augmentation, and automated response using the same combination offered by RHPAM.

THE BUSINESS VALUE OF RED HAT PROCESS AUTOMATION MANAGER

Study Demographics and Red Hat Process Automation Manager Use

IDC interviewed four organizations about their use of the Red Hat Process Automation Manager platform. On balance, these were large organizations, with an average employee base of 34,029 and revenue of $6.41 billion per year. These Red Hat customers have deployed Process Automation Manager to create, monitor, test, and change business rules and processes related to applications that support their business operations in the financial services, insurance, and IT services verticals.

TABLE 1

Demographics and Process Automation Manager Use by Interviewed Organizations

<table>
<thead>
<tr>
<th>Demographics and Process Automation Manager Use by Interviewed Organizations</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees</td>
<td>34,029</td>
<td>18,000</td>
</tr>
<tr>
<td>Number of IT staff</td>
<td>4,058</td>
<td>3,080</td>
</tr>
<tr>
<td>Number of business applications</td>
<td>1,538</td>
<td>935</td>
</tr>
<tr>
<td>Revenue per year (billion)</td>
<td>$6.41</td>
<td>$5.29</td>
</tr>
<tr>
<td>Number of users impacted by Red Hat Process Automation Manager</td>
<td>2,029</td>
<td>1,750</td>
</tr>
<tr>
<td>Countries</td>
<td>Canada (2), United States, and India</td>
<td></td>
</tr>
<tr>
<td>Industries</td>
<td>Financial services (2), insurance, and IT services</td>
<td></td>
</tr>
</tbody>
</table>

n = 4
Source: IDC, 2018
Study participants explained that they are using Red Hat Process Automation Manager as a business rules and processes platform for specific applications used by just over 2,000 users on average. Generally, they chose RHPAM because they needed a cost-effective and extensible enterprise standard platform for automating business process and decisions. They further needed to provide the strong functionality related to business rules and processes that users of these applications require to do their jobs on a daily basis. These organizations are supporting various applications with the Red Hat platform, with specific use cases including:

» **Sales workflow tool**, which helps handle workflows for complex interactions with multiple parties

» **Onboarding and trading platform for partners/customers**, which requires customization on top of commonly applied principles for rules and processes for optimal performance, and also a way to have dynamic processes driven by data like in case management scenarios

» **Back-office support applications**, which Red Hat customers must extend in a cost-effective manner to meet demand for their functionalities

For the most part, interviewed organizations either moved from or had experience with business process platforms from other vendors and chose Process Automation Manager after concluding it offered the right blend of cost and functionality. These themes were reflected in their descriptions of why they chose the Red Hat solution:

» **Need to automate business rules with support from business users.** “Red Hat Process Automation Manager helps us automate our business rules much more easily. It gives us an easier representation, especially when we’re trying to give our rules to our business users. So instead of giving them technical specs, we’re providing them more readable business rules.”

» **Flexibility and open source.** “The major business drivers in choosing Red Hat Process Automation Manager were the need to have flexible business process management and to have something that was open source, but, by the same token, was supported by corporate. And we felt that it was one of the best open source corporate solutions, something that had a lot of usage and we see growing within our space.”

» **Manage decentralized, growing volume.** “The major business drivers for us in choosing Red Hat Process Automation Manager were decentralizing new and distributed business operations and being able to manage higher business volumes.”
Business Value Analysis

Interviewed Red Hat customers reported that Process Automation Manager serves as a cost-effective, robust business rules and process management platform for specific applications, especially those that require cost-effective extension, flexibility, and user interaction. The result for these organizations is much lower spend on business rules management platforms, as well as measurable efficiencies for individuals using these applications in terms of higher productivity (see Figure 2). IDC puts the total value that these organizations will achieve per year at $254,113 per 100 users ($5.16 million per organization), with benefits being achieved in terms of:

» **Business productivity benefits.** By speeding the implementation of changes and better reflecting line-of-business input into business processes, organizations become more operationally efficient through higher user productivity. IDC puts the value of higher productivity at an annual average of $182,999 per 100 users ($3.71 million per organization).

» **Risk mitigation — user productivity benefits.** By enabling regulatory teams to work more efficiently, study participants cost effectively reduce compliance risk. Further, reduced application downtime lessens lost productive time. IDC calculates the value of these productivity benefits at an annual average of $53,602 per 100 users ($1.09 million per organization).

» **IT infrastructure cost reductions.** By reducing their annual spend on their business rules management platforms, study participants save an annual average of $11,022 per 100 users ($0.22 million per organization).

» **IT staff productivity benefits.** By reducing the friction for developers tied to working with business rules and processes, organizations realize higher developer productivity levels. IDC projects that they will realize higher productivity for developers and other IT staff worth an annual average of $6,489 per 100 users ($0.13 million per organization).

**FIGURE 2**

Average Annual Benefits per 100 users

Average annual benefits per 100 users: $254,113

Source: Red Hat, 2018
**Cost-Effective Business Rules Management Platform**

All study participants cited their ability to deploy Red Hat Process Automation Manager as a cost-effective business rules and process management platform as an important benefit. They explained that it is a cost-effective platform both because it is open source (unlike other proprietary vendor solutions) and because it is licensed by the core rather than by the user. This difference in licensing approach is especially important for a platform designed to put in place business rules and processes for line-of-business applications. One interviewed Red Hat customer commented: “We switched from a user-based licensing model to a core-based subscription model with Process Automation Manager. We can now have a larger number of users interact with the platform and are still saving about $100,000/year.” Another interviewed Red Hat customer noted the benefit of moving away from a product that required a significant up-front investment to a subscription-based pricing model: “The big value proposition for us with Red Hat Process Automation Manager was obviously the cost structure…. You cannot compare subscriptions from Red Hat with other commercial tools because they have an up-front capital cost and then a yearly maintenance cost, as well as a per-user fee. With Red Hat, we just pay for the subscription and code, regardless of the number of users.”

In addition to cost savings on platform licensing — which average 69% per year for interviewed organizations when annualized (see Figure 3) — the ability to cost effectively extend platform coverage to new users and new applications differentiates Red Hat Process Automation Manager from other solutions for study participants. The Red Hat platform enables these organizations to maintain the flexibility they need to extend coverage as needed, which is especially important for applications with growing numbers of users or for applications that they could not justify supporting with a more expensive business rules platform. One interviewed Red Hat customer succinctly stated the practical impact of lower cost: “The low cost of ownership is a big advantage for us with Red Hat Process Automation Manager. Because of the lower cost, we’re able to expand it to a larger user base.”

![FIGURE 3](platform_cost_per_year.png)

**Platform Cost per Year**

<table>
<thead>
<tr>
<th>Cost ($)</th>
<th>Percentage Less Expensive</th>
</tr>
</thead>
<tbody>
<tr>
<td>$416,250</td>
<td>69%</td>
</tr>
<tr>
<td>$128,750</td>
<td></td>
</tr>
</tbody>
</table>

n = 4

Source: IDC, 2018
More Efficient Application of Business Rules and Processes

Beyond the cost efficiencies outlined previously, interviewed Red Hat customers also reported that Process Automation Manager is making it easier for them to document, manage, and make changes to the business processes and rules underlying their business applications. This helps them implement changes and release new features dependent on such changes in less time. On average, study participants reported making one-third more business process–related changes/features per year and requiring 26% less time to execute these changes/feature releases (see Table 2).

Interviewed organizations explained how Red Hat Process Automation Manager helps them achieve these efficiencies for the applications they are supporting with the platform:

» **Ability to make seamless changes.** “The benefit is in the ability to manage changes to business processes without impacting the work items that are already in process.”

» **Ability to reuse services and/or microservices.** “We have a module in Red Hat Process Automation Manager, and it’s a reusable business function and transparent to the end user. Let’s say that tomorrow there’s another application that needs something similar to this; nothing has to be built, that module can be used for their project, and a lot of the legwork is saved.”

<table>
<thead>
<tr>
<th>TABLE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Processes Efficiencies</strong></td>
</tr>
<tr>
<td><strong>Before Red Hat Process Automation Manager</strong> &amp; <strong>With Red Hat Process Automation Manager</strong> &amp; <strong>Difference</strong> &amp; <strong>Benefit (%)</strong></td>
</tr>
<tr>
<td>Number of business process-related changes or features per year &amp; 28.9 &amp; 38.5 &amp; 9.6 &amp; 33</td>
</tr>
<tr>
<td>Time to carry out per change/feature (weeks) &amp; 5.7 &amp; 4.3 &amp; 1.4 &amp; 26</td>
</tr>
</tbody>
</table>

n = 4
Source: IDC, 2018

The ability to create, implement, and extend business rules and processes efficiently translates to higher productivity for users of applications supported by Red Hat Process Automation Manager. Interviewed Red Hat customers referenced specifically their ability to work with line-of-business users on the platform to gather information and create more user-friendly business rules and processes. Further, they noted that the lower cost of the Red Hat platform enables them to extend to new users and applications and to customize as needed to deliver new features and functionality.

The result for interviewed organizations has been demonstrable productivity gains for a significant number of users — 2.8% higher net productivity for 1,926 users on average (see Table 3). Among the types of impacts noted by Red Hat customers were:

» **Higher quality of applications.** “The quality of applications has been better with Red Hat Process Automation Manager based on user feedback. We’re getting to the market a lot quicker and can collaborate more with our end users and business owners. That gives everyone the feeling that their ideas matter.”
» **Enablement of mobile field staff.** “Because of the mobile application supported by Red Hat Process Automation Manager, the salesperson in the field can log in directly, which essentially eliminates the middle layer of operations. The sales team and the field operations — several thousand people — are saving time … I think they are saving — each person, in a week — maybe at least one to two hours so far.”

Regulatory teams also benefit from the ability to put in place cost-effective and efficient business rules and processes that track application lineage and data. This enables these teams to meet requirements surrounding compliance more readily and saves staff time otherwise spent making these types of connections. Study participants provided several examples of the impact on their regulatory compliance teams, which are gaining the equivalent of almost 14 FTEs per year in higher productivity with Red Hat Process Automation Manager (see Table 3). In detail:

» **Structured processes.** “Business controls are very important for compliance. We need to have a more structured decision-making process that allows us to track the lineage of who made the decision and who approved it, and Red Hat Process Automation Manager helps us do that.”

» **Regulatory team efficiencies.** “For regulatory or compliance, on average I would say those teams probably save 15–20% for several hundred people with Red Hat Process Automation Manager. There were no old tools for this. For example, we did Dodd–Frank with Red Hat Process Automation Manager, and it was new when it came up.”

### TABLE 3

<table>
<thead>
<tr>
<th>Business Operations and Regulatory Impact, Red Hat Process Automation Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Per Organization</strong></td>
</tr>
<tr>
<td>User productivity impact</td>
</tr>
<tr>
<td>Number of users impacted</td>
</tr>
<tr>
<td>Net productivity impact (%)</td>
</tr>
<tr>
<td>FTE impact, higher productivity</td>
</tr>
<tr>
<td>Value of higher productivity per year</td>
</tr>
<tr>
<td>Regulatory team impact</td>
</tr>
<tr>
<td>FTE impact, higher productivity</td>
</tr>
<tr>
<td>Value of higher productivity per year</td>
</tr>
</tbody>
</table>

*Source: IDC, 2018*
Enabling Development Activities

Efficiencies in carrying out implementation and changes to business rules and processes also enable development teams responsible for those applications. In particular, they can leverage functionalities of the Red Hat platform such as automation and reusable modules to speed up their work and reduce the amount of friction applied by the need to integrate business rules and processes. On average, these Red Hat customers reported that developers working on the platform are 7% more productive, which is reflected in more robust delivery of business rules and processes supporting these applications and reduced time to deliver applications and new features (see Figure 4):

» **Tie in APIs to platform.** “We use Red Hat Process Automation Manager as a headless engine. So if someone is coding a user interface or is even coding another application, we’ve wrapped the engine with a lot of APIs. And my developers basically call those APIs to leverage workflow features . . . The developers save time because of this — I’d say they save probably 30–50 hours/month each.”

» **Support fluid application development.** “The most significant functional advantages for us in terms of application development with Red Hat Process Automation Manager is the ability to manage changes to business processes without impacting the work items that are in process.”

**FIGURE 4**

Application Development Productivity Impact

<table>
<thead>
<tr>
<th>(Number of application developers, FTEs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity level, before Red Hat Process Automation Manager</td>
</tr>
<tr>
<td>Productivity gain with Red Hat Process Automation Manager</td>
</tr>
<tr>
<td>Productivity level with Red Hat Process Automation Manager</td>
</tr>
</tbody>
</table>

7% more productive

**Unplanned Downtime**

Study participants also reported reducing the impact of unplanned outages affecting applications related to business rules and processes with Red Hat Process Automation Manager. They cited the ability to better catch and address issues before they become user impacting, as well as the platform’s reliability. IDC calculates that these organizations will reduce the impact of such user-impacting events in terms of lost productivity by an average of 25% (see Table 4), thereby helping these Red Hat customers ensure that their line-of-business teams face fewer disruptions as they do their jobs.
TABLE 4

Unplanned Downtime, Red Hat Process Automation Manager

<table>
<thead>
<tr>
<th></th>
<th>Before Red Hat Process Automation Manager</th>
<th>With Red Hat Process Automation Manager</th>
<th>Difference</th>
<th>Benefit (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of instances per year</td>
<td>2.3</td>
<td>1.8</td>
<td>0.5</td>
<td>25</td>
</tr>
<tr>
<td>FTE impact, lost productivity due to unplanned outages</td>
<td>7.7</td>
<td>5.8</td>
<td>1.9</td>
<td>25</td>
</tr>
<tr>
<td>Value of lost productive time per year per organization</td>
<td>$538,700</td>
<td>$404,000</td>
<td>$134,700</td>
<td>25</td>
</tr>
</tbody>
</table>

n = 4
Source: IDC, 2018

ROI Analysis

Table 5 provides IDC's analysis of the average benefits and investment costs associated with interviewed Red Hat customers' use of Process Automation Manager. IDC projects that these organizations will realize total discounted benefits in higher productivity levels and lower costs worth an average of $590,243 per 100 users ($11.97 million per organization) over three years, in comparison with a total discounted investment of $90,014 per 100 users ($1.83 million per organization). This level of benefits and costs would yield a three-year ROI in Red Hat Process Automation Manager of 556%, with breakeven on their investment happening an average of 10 months after they begin deployment.

TABLE 5

Three-Year ROI Analysis

<table>
<thead>
<tr>
<th></th>
<th>Per Organization</th>
<th>Per 100 Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit (discounted)</td>
<td>$11.97 million</td>
<td>$590,243</td>
</tr>
<tr>
<td>Investment (discounted)</td>
<td>$1.83 million</td>
<td>$90,014</td>
</tr>
<tr>
<td>Net present value (NPV)</td>
<td>$10.14 million</td>
<td>$499,229</td>
</tr>
<tr>
<td>Return on investment (ROI)</td>
<td>556%</td>
<td>556%</td>
</tr>
<tr>
<td>Payback period</td>
<td>10 months</td>
<td>10 months</td>
</tr>
<tr>
<td>Discount rate</td>
<td>12%</td>
<td>12%</td>
</tr>
</tbody>
</table>

n = 4
Source: IDC, 2018
RHPAM Adoption Challenges and Opportunities

Key challenges include:

» Organization working with BPM products that provide industry-specific frameworks may need to supplement RHPAM with custom development to recreate the frameworks.

» Conversion from an embedded rules engine of a competitive BPM offering may require re-factoring to DMN or other rules formats supported by RHPAM.

» RHPAM optimized to support integration with custom user interfaces running JavaScript/responsive framework rather than the specific embedded UIs of BPM suites.

Key opportunities include:

» RHPAM pricing and deployment is more PaaS like than SaaS. By that, we mean the pricing model aligns more with infrastructure, providing capabilities aligned with not only classic BPM and business rules but also modernized for back-end capabilities, high-speed and high-volume use cases. As enterprises opt to deploy RHPAM on a private or public cloud, infrastructure cost efficiencies become even more significant than the benefits the study participants experienced on fixed infrastructure.

» Because RHPAM can be packaged into a lightweight format and runs on Kubernetes-based containers, stateful processing can be supported in custom applications using a microservices architecture. This is becoming a bigger issue as enterprises move mission-critical workloads to a cloud architecture. An additional benefit is much-needed portability across private and public clouds.

» Decision services are fast.

» As an open source solution, RHPAM is straightforward to extend for enterprise-specific use cases.

CONCLUSION

Red Hat Process Automation Manager was adopted successfully by enterprises to improve the performance speed of decision automation and to lower the overall cost of managing and automating business processes. Even though customers had to replace out-of-the-box frameworks by rebuilding them in RHPAM, customers were able to achieve significant cost benefits and use Red Hat as a standardized approach to process automation across their enterprise.

Customers effectively began to systematically replace more expensive BPM and business rules offerings with Red Hat and gained both performance and cost benefits as a result. The ROI was strongly positive, and despite the need to extend RHPAM, the payback was 10 months on average for the customers interviewed. These customers were from very large enterprises skilled in Java development.
APPENDIX

IDC’s standard ROI methodology was utilized for this project. This methodology is based on gathering data from organizations currently using Red Hat Process Automation Manager as the foundation for the model. Based on interviews with these study participants, IDC performs a three-step process to calculate the ROI and payback period:

» Measure the savings associated with using Red Hat Process Automation Manager in terms of: reduced platform costs and increased user productivity over the term of the use of Red Hat Process Automation Manager.

» Ascertain the investment made in deploying and using Red Hat Process Automation Manager.

» Project the costs and savings over a three-year period and calculate the ROI and payback for Red Hat Process Automation Manager.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

» Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and productivity benefits. For purposes of this analysis, based on the geographic locations of the interviewed organizations, IDC has used assumptions of an average fully loaded $100,000 per year salary for IT staff members, and an average fully loaded salary of $70,000 for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).

» Downtime values are a product of the number of hours of downtime multiplied by the number of users affected. The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue. Lost productivity is a product of downtime multiplied by burdened salary.

» Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each company what fraction of downtime hours to use in calculating productivity savings and the reduction in lost revenue. IDC then taxes the revenue at that rate.

» The net present value of the three-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.

» Further, because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis, and then subtracts the deployment time from the first-year savings.

Note: All numbers in this document may not be exact due to rounding.
About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world’s leading technology media, research, and events company.