

WHITE PAPER

CA ESP Workload Automation Software: Measuring Business Impact and ROI

Sponsored by: CA

Tim Grieser

Randy Perry

Eric Hatcher

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EXECUTIVE SUMMARY

IT organizations have increasingly been using software products to schedule, manage, and automate the processing of jobs, tasks, and workloads. The range of supported functions has evolved from simple calendar-driven job and workload scheduling to dynamic, event-driven, automated job and workload management that supports critical business services and priorities. Events can originate from the IT environment or from ongoing business processes. CA is a long-standing vendor of job management and workload automation software and has been evolving its products to address increasingly business-focused customer needs. CA ESP Workload Automation software combines job scheduling functions with workload process automation to deliver a comprehensive solution that addresses a wide range of job and workload automation functions across mainframe and distributed system environments.

To assess and quantify the business benefits of enterprise workload automation software, IDC conducted in-depth interviews with IT staff members of 17 organizations using CA ESP Workload Automation.

The IT managers interviewed for this study reported a substantial savings in staff hours expended on defining job schedules, monitoring batch job operations, and managing and supporting desktops and other clients, resulting in an estimated average annual IT productivity increase of 16%. These IT managers also claimed that user productivity improved by an average of 13.1 hours per user annually, while downtime dropped by an average of 1.6 hours per month. Participants also identified another \$1,192,755 in average annual savings through improvements in IT efficiency, absolute software/hardware savings, and other indirect cost savings. Based on IDC's ROI methodology, the CA ESP Workload Automation customers interviewed enjoyed a 410% ROI and a payback period of less than five months (see Table 1).

This IDC White Paper presents the results of an IDC study, sponsored by CA, to quantify the financial benefits of using CA ESP Workload Automation software.

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TABLE 1

CA ESP Workload Automation Software ROI Analysis

Category	Value
Three-year cost of investment	\$3.2 million
Annual cost savings	\$7.4 million
Net present value of three-year savings	\$13.2 million
Payback period	4.9 months
Three-year ROI	410%

Source: IDC, 2009

MANAGING WORKLOADS

Managing workloads to meet service requirements and efficiently use resources is an important component of IT operations. Software to support workload management is used to control and optimize the flow of work on systems and can include job schedulers, workload balancing applications, and automation software. Scheduling software has evolved from "traditional" — managing the execution sequence of a set of batch jobs based on time and calendar-driven requirements — to supporting dynamic event-driven execution sequences based on a variety of factors, including resource availability, external priorities, business events, completion of other jobs, and other types of "triggers" such as Web-based interactions.

Workload Scheduling and Automation

Many business processes are based on the completion of complex job sequences, controlled by scheduling and workload management software. CA ESP Workload Automation software brings automation and centralized control to the execution of the steps needed to execute business workloads and processes. CA ESP Workload Automation helps to support key IT and business priorities, including efficient operations, cost savings, delivering required service levels, application integration, and communicating status to IT operations and users.

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Cross-Platform Support

Traditional scheduling software was designed to process workloads running in mainframe environments. Classic examples include arranging the execution of batches of financial transactions accumulated throughout the day to be processed during an overnight or third shift "batch window." Today, many key workloads include jobs and tasks that run on multiple platforms, requiring cross-platform scheduling, control, and automation. These kinds of jobs must be scheduled in a coordinated fashion, such as using "triggers" that signal when a job on one platform has

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completed and a job on another platform can be started. Integrated job scheduling software can allow a single group of IT staff to manage schedules across platforms without requiring specialized platform or application skills.

Business Event–Driven Automation and Scheduling

The large growth in online and distributed applications, driven by the almost universal need for Web access, has raised the need for event-driven scheduling, which can initiate a job or task in response to an external event. Actions can be based on the occurrence of business events such as the arrival of a financial transaction over the Web from an end user. Such event-driven scheduling extends automation to business process events that occur in real time.

CA ESP Workload Automation

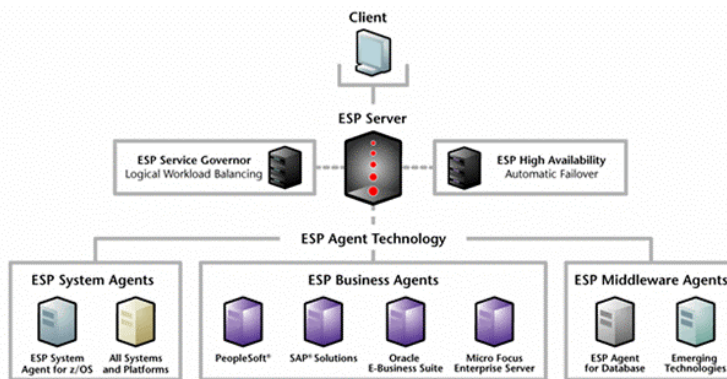
CA ESP Workload Automation products are designed to provide an integrated product set for zSeries mainframes and for distributed Unix, Linux, and Windows platforms. CA ESP Workload Automation provides business event– and IT event–driven, cross-platform workload scheduling and automation functions across mainframe and distributed platform environments, which can be operated from a single point of definition and control. As shown in Figure 1, the following products form the basis for IDC’s study:

CA ESP Workload Automation provides business event– and IT event–driven, cross-platform workload scheduling and automation functions across mainframe and distributed platform environments, which can be operated from a single point of definition and control.

- ☒ **CA ESP.** This product is hosted on mainframes and provides enterprise cross-platform, business event–driven workload automation functions.
- ☒ **CA ESP Agents.** These software components integrate CA ESP Workload Automation products with systems, platforms, databases, and applications, including certified solutions for SAP, Oracle, PeopleSoft, and Micro Focus.

FIGURE 1

The CA ESP Workload Automation Product Family



Source: CA, 2009

QUANTIFYING THE BUSINESS BENEFITS OF WORKLOAD AUTOMATION SOFTWARE

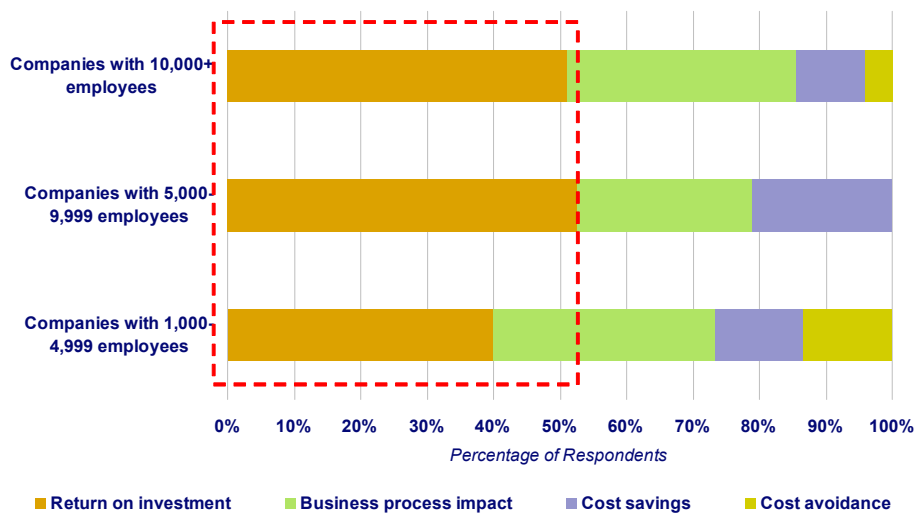
In assessing the business value of their management software purchases, organizations are increasingly using a return on investment (ROI) analysis. IDC's global research has shown that companies of all sizes have identified ROI as the most important factor considered in prioritizing their software purchases (see Figure 2).

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FIGURE 2

Factors Considered in Prioritizing Software Purchases

Q. When you prioritize purchases, what is the most important factor to consider?



Source: IDC, 2007

To assess and quantify the business benefits of enterprise job scheduling software, IDC conducted in-depth interviews with a number of organizations using CA ESP Workload Automation solutions. IDC asked detailed questions about the implementation costs in deploying the solutions and the cost savings and other benefits realized. We then applied our proprietary methodology to the results to determine the average payback period and ROI realized by the surveyed companies.

Study Methodology

A structured set of questions was used to determine the internal and external costs of performing certain administrative, operational, and support functions and how costs changed as a result of implementing CA ESP Workload Automation software. The study was based on standard IDC ROI methodology, which was used to calculate average cost savings resulting from lower IT costs for labor and infrastructure, improved workload operations, and increased user productivity. See the Appendix for details of IDC's ROI methodology.

Demographics for CA ESP Workload Automation ROI Study

To assess the potential return on investment, IDC interviewed IT managers at organizations of different sizes and from various industries in the United States and Canada that had deployed CA ESP Workload Automation software. IDC interviewed key IT operations personnel, such as system and network administrators using the products, about specific management processes and time and staffing requirements. Focus was placed on reaching IT staff responsible for workload operations, such as defining workload objects and monitoring workload processing. These interviews were designed to gather measurement data about IT operations both before and after the implementation of the software.

The 17 companies included retail and healthcare firms, as well as education, ecommerce, service provider, and nonprofit organizations. Two of the companies had more than 100,000 employees, while the others fell in the range of 2,500 to 70,000 employees.

CA ESP Workload Automation software impacted an average of 17,511 clients at the surveyed companies, where the first-year loaded salary of users averaged \$34 per hour. Respondents said the software streamlined IT operations, allowing tasks to be set in accordance with business priorities and enabling greater integration and centralization of management. The loaded IT staff salary averaged \$103,828.

Determining the ROI and Payback Period

Based on the 17 CA ESP Workload Automation customer interviews, IDC was able to determine an average ROI and payback period from deploying CA ESP Workload Automation.

IT Productivity Gains Witnessed

To determine the increase in IT staff productivity from deploying the workload automation software, IDC asked questions about staff time needed for various activities related to IT administrative, operational, and support functions, before and after the software's implementation. Among the companies surveyed, IT productivity jumped by an average of 16%, resulting in an average cost savings over three years of over \$6.9 million annually, or \$15,310 per 100 users (see Figure 3). When normalized for company size, the savings amounted to \$42,401 per 100 users. The IT managers interviewed reported that they had realized substantial savings in staff hours expended on defining job schedules, monitoring batch job operations, and managing and supporting the desktops and other clients.

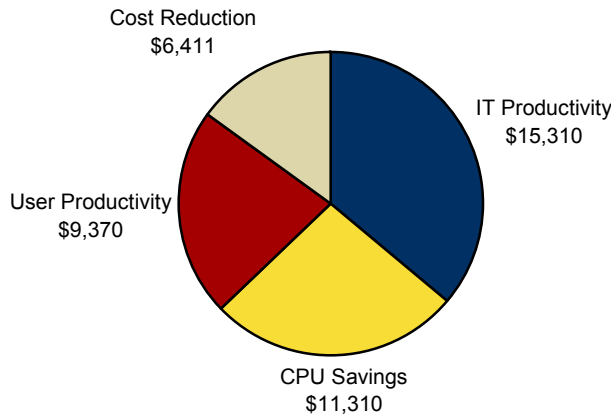
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Time savings on defining job schedules after deploying the software averaged 57.3%. On average, the companies also spent 53.3% less time on monitoring batch job operations. Additionally, there were average time savings of 16.7 % in problem diagnosis and 11.7% in problem resolution.

FIGURE 3

Average Annual Savings from Deploying CA ESP Workload Automation Software per 100 Users

Annual Savings per 100 Users - \$42,401



Source: IDC, 2009

User Productivity Improvements Noted

To determine the impact of CA ESP Workload Automation software on user productivity, IDC asked about the increase in productive time and percentage of users affected after deploying the software. IDC also inquired about the number of downtime incidents and amount of downtime before and after the implementation, as well as the percentage of users affected and their average loaded salary. According to the respondents, productive time increased by an average of 13.1 hours per user annually. Downtime dropped by an average of 1.6 hours per month. Based on an average first-year loaded salary of \$34 per hour and annual 5% increases, the savings in user productivity averaged close to \$1.76 million annually over three years, or \$9,370 per 100 users.

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Significant Cost Savings Achieved

Further savings came from reductions in IT costs including reductions in IT labor costs dedicated to the workload automation through more efficient operations; from adding more usable CPU hours; and from hardware and software savings and reductions in IT travel, missed SLAs, and training costs.

To determine increases in IT efficiency, IDC asked questions about the average number of users and jobs supported by each staff member before and after deploying the workload automation software. IDC also asked about IT staff salaries. For the companies surveyed, the average number of users supported by each FTE rose from 1,212 before deploying the software to 2,908 afterward, an increase of 140%. The number of jobs supported by each FTE rose by an average of 391%, from 166,955 per day to 819,319 per day. With an average annual loaded salary of \$103,828, the

payroll savings from increased management efficiency averaged \$243,920 a year over the three years. Additional IT savings came from reductions in IT travel, missed SLAs, and training costs, as well as from hardware and software savings. These cost reductions averaged \$748,835 a year. Taken together, the savings from improved IT management efficiency and cost reductions yielded an average total savings of \$1.19 million a year, or \$6,411 per 100 users.

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The added CPU benefit came from lowering CPU utilization rates through optimized operations. Batch operations ran 18% faster because of 55% fewer errors requiring diagnosis and recovery. Customers added between 75 and 912 usable CPU hours per year. Over the three-year period, the CPU savings averaged more than \$2.1 million annually, or \$11,310 per 100 users.

The Payback and Return on Investment for these CA Customers

Overall, the companies invested an average of more than \$3.2 million over three years in deploying the CA ESP Workload Automation software, including purchase and installation, IT support, training, and maintenance. The total benefits reported averaged more than \$7.4 million annually, or \$42,401 per 100 users. IDC accounts for the opportunity costs realized by not having invested the initial amount in some other instrument yielding a 12% return. This results in a net present value for the three-year savings of close to \$13.2 million for the companies surveyed, or \$75,246 per 100 users.

Based on the average annual investment over the three years for those companies surveyed, IDC identified an average payback period from deploying the CA ESP Workload Automation software of 4.9 months, yielding an average three-year return on investment of 410%.

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EXAMPLES OF THE BENEFITS ATTAINED

Case Study #1: A Department Store Chain

Workload automation is a critical operational requirement for this major United States-based department store chain, which operates over 1,000 stores across North America in addition to extensive catalog and ecommerce retail sales channels. The magnitude of the operation is evident from the volume of jobs that have to be scheduled, estimated to be over 100,000 jobs per day.

The Business Challenge

Given the average volume of jobs and the number of platforms available, cross-platform workload scheduling is a key requirement for this company's IT department. It was critical for the organization to put work where it needed to be done in a time- and process-effective manner. The department chain's IT department chose CA ESP Workload Automation products because "the ability to move from the mainframe to open systems back and forth multiple times through the processing cycle is very valuable to us," considering the scope and scale of its workload automation requirements.

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Benefits of Implementation

This CA ESP Workload Automation client identified a number of benefits upon implementation:

- ☒ **Cost savings.** The retail industry's "brick and mortar" operations are under increasing pressure to cut costs in order to survive, and the move to CA ESP offered cost savings in terms of the computing time as well as in the staffing levels needed to support operations. According to one IT staff member, "Ultimately, ESP saves us time because it saves us compute time."
- ☒ **Improved service-level requirements.** Another benefit witnessed was the ability to deliver timely reports needed to make operational business decisions — particularly whether to buy merchandise or mark down existing inventory.
- ☒ **Robust feature set.** The CA ESP Workload Automation interface, which enables the support of jobs that transition between mainframes and open systems, not to mention the ability to conditionally schedule jobs based on the completion of an event, was identified as a key benefit of the implementation.

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Case Study #2: A National Retailer

The vision of a national retailer of automotive, finance, and home products and services businesses is to leverage the core capabilities and privileged assets of each division to support its expansion plans. The diversity of this distributed and diversified operation is supported by a key supply chain application that manages the distribution of goods from the company's warehouses to over 400 stores and outlets across North America.

The Business Challenge

Before the retailer implemented the CA ESP Workload Automation software, over 10,000 jobs per day were running using separate scheduling products, one for z/OS mainframes and the other for distributed Unix and NT servers. The use of these separate products created two particular problems for this retailer: One, a consolidated view across both platforms of the general processing schedule was not available, and two, while the IT department had built an interface to indicate that a job had completed and a new job could be started, the process took about 30 seconds each time, and about 5,000 such interactions per day were required. Both of these issues added up to wasted time, effort, and money.

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Benefits of Implementation

This retailer's move to the CA ESP Workload Automation software produced significant identifiable benefits:

- ☒ **Reduced licensing costs.** The first benefit was the ability to manage cross-platform workload automation from one single interface, producing direct software license fee savings because multiple products were not required.
- ☒ **Improved operational efficiencies.** The efficiencies gained allowed IT operations to complete the standard batch window in two and a half hours, down from the three hours required before the software's implementation. Overall, the company estimates that it is saving about 10 batch processing hours per week, based on scheduling with CA ESP Workload Automation.
- ☒ **Reduced operational costs.** A single user interface for both mainframe and distributed workload automation jobs and the automation of routine tasks amounted to an estimated savings equivalent of two full-time staff members in terms of time and ability to handle increased workload.

The company's Manager of Technology Services sums up the company's view of its investment as follows: "We would not have been able to manage [our supply chain management application] without it."

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Case Study #3: A Market Intelligence Firm

An international market intelligence firm provides healthcare- and pharmaceutical-related data and research reports and monitors healthcare product availability. The company tracks over 1 million products from more than 3,000 active drug manufacturers, requiring databases containing over 60 terabytes of data across a heterogeneous environment of centralized mainframe, distributed, and local production systems. The EMEA division alone processes over 300,000 jobs per month across all of these platforms.

The Business Challenge

Prior to the introduction of CA ESP Workload Automation, workload automation operations were served by several legacy scheduling solutions. These legacy workload automation systems were not integrated and were not able to interface with the production processes operated on the centralized systems, while the localized production platforms were operated in isolation. Operational status and load information including alerts for the localized systems was collected and reported manually.

Benefits of Implementation

The move to CA ESP Workload Automation software brought tangible financial and administrative benefits:

- ☒ **Increased operational efficiency.** The company has eliminated approximately five man-months of administration annually by reducing the need for manual intervention in passing data from the Unix to mainframe systems.

- ☒ **Reduced overhead.** The company has eliminated production scheduling overhead costs in the Americas operation and has reduced the cost of ownership for workload automation solutions.
- ☒ **Increased automation.** The company has been able to increase the number of production systems, offerings, and data sources, without increasing the size of the associated product staff. "Moving to ESP and taking advantage of the automation capabilities has enabled us to do more with less. We were able to make better use of our resources."
- ☒ **Increased functionality.** The company has introduced cross-platform applications that function independently of location and time zones, thanks to a common architecture and a more efficient workflow. "This fully integrated cross-platform production process enables us to track the workflow as it moves from system to system, pinpointing the passage of data and providing enhanced error reporting."

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CHALLENGES AND OPPORTUNITIES

The benefits to IT of deploying enterprise workload automation software products, such as CA ESP Workload Automation, are clear and quantifiable, as evidenced by this study based on actual user experiences. With a track record extending over two decades, the CA ESP Workload Automation solution has strong credentials with the user community in terms of product capabilities. The opportunity for CA is to continue to move in the direction of broader workload automation solutions that address larger business and IT needs such as service delivery and service quality.

One major challenge for CA is to build on its existing reputation in terms of products, technology, and customer satisfaction in order to continue momentum for growth in an increasingly competitive marketplace.

The enterprise system management software market has been characterized by major vendor consolidations during the past two years. Increasingly, the challenge for the large, broad function management software vendors such as CA, which offer numerous bundles of products, is to continue to bring a "best-of-breed" focus to the development and support of specialized product technologies and at the same time provide cross-product integration.

One major challenge for CA is to build its reputation in terms of products, technology, and customer satisfaction in order to continue momentum for growth in an increasingly competitive marketplace. CA must maintain its focus on the core enterprise workload automation products, and their value to customers, even while integrating with products in other functional markets. The ability to continue to support the large frameworks and major application platforms, regardless of vendor, is essential in terms of the ability to interoperate and to add value to more specialized solutions.

SUMMARY AND CONCLUSION

The use of automated workload automation and workload automation software tools typically brings direct benefits to both IT operations and end users in terms of cost savings, operational efficiency, reduced downtime, and increased productivity. These areas were the principal focus of the CA ESP Workload Automation ROI study.

Based on the results from in-depth surveys of 17 companies, the use of CA ESP Workload Automation software has resulted in average total benefits of more than \$7.4 million annually, or \$42,401 per 100 users on a normalized basis. The average payback period averaged a short 4.9 months, and the three-year ROI averaged 410%. These results clearly demonstrate the direct benefits realized by the CA ESP Workload Automation software users interviewed for this study.

APPENDIX

IDC's ROI Methodology

IDC's ROI methodology measures the efficiency of management software products and processes and uses the findings to calculate ROI for the deployed management software. The methodology does this in four steps:

1. **Evaluates the internal and external costs** of administering the systems, networks, and applications before deploying the management software tools.
2. **Ascertain the investment** in the purchase, implementation, and deployment of the management software tools. It is important to estimate not only the initial purchase cost of software but also the required implementation, integration, and training costs. To measure the total deployment investment required, IDC is careful to include questions about not only the cost of purchasing and setup of the software but also the integration and the annual software maintenance fees.
3. **Measures the cost savings** and gains in productivity, availability, and efficiency achieved using the management software tools. The portions of the interviews dedicated to the discovery of cost savings including both "hard" IT costs, such as savings in software rental and maintenance fees, and "soft" costs, including IT staff productivity, IT management efficiency, and application availability.
 - **IT staff productivity.** To measure changes in IT productivity, IDC asks about the use of staff time in such deployment and operational areas as setting up servers, deploying and updating software, tracking hardware and software assets, and dealing with user problems. Staff time for these tasks before and after implementation is recorded, together with the fully burdened (i.e., after fringe benefits and overhead) hourly staff salary rate.
 - **IT management efficiency.** IT management efficiency pertains to efficiencies achieved in user administration and support by obtaining better management scalability. Some questions asked relate to the ability to centrally manage remote locations to achieve reductions in travel costs, while others relate to the additional staff that would be required to support expected growth in the user or server population with and without the tools.

- ❑ **Application availability and user productivity.** To measure the effects of application availability, IDC concentrates on determining the effect on user productivity and business revenue caused by downtime by asking questions about systems, network, and application unavailability patterns before and after implementation. The fully burdened hourly salary rates of the user base are also required, and an estimate is sought of the loss of business that would be associated with an hour of downtime.

4. **Calculates the payback period and ROI** for the deployed enterprise management software. Based on the interview data, IDC calculates the average payback period and rate of return based on the overall cost savings resulting from the investments in CA ESP Workload Automation software. To normalize the data, IDC presents the results in terms of per 100 users.

ROI and Payback Period Calculation Assumptions

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

- ☒ Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings.
- ☒ 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.
- ☒ Lost revenue is a product of downtime multiplied by the average revenue generated per hour.
- ☒ 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.

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.

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.

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