WHITE PAPER

Business Value of Output Management

Sponsored by: LRS

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EXECUTIVE SUMMARY

IT executives and managers are always looking for ways to lower costs and deliver value to the enterprise. One of the more surprising ways to lower costs and deliver value that is often overlooked is in printing documents. In customer interviews, IDC found not only that tens of thousands of dollars were saved with automated, consolidated printing capabilities using Levi, Ray & Shoup's (LRS) software applications but also that the thousands of documents printed out daily were efficiently delivered through a management system engineered to provide visibility into document queues, enabling customers to troubleshoot and measure downtime, capabilities that didn't exist in customer environments prior to installing LRS software. Printer output was brought under control, which simplified complex printing processes, lowered help desk costs, and enabled printer hardware consolidation.

IDC interviewed 10 companies regarding their use of LRS solutions. In aggregate, the companies enjoyed the following benefits:

- Reduced IT labor costs by $28,771 per 100 managed printers annually by improving IT staff productivity
- Enhanced user productivity by $4,353 per 100 managed printers annually by reducing print services downtime and help desk issues
- Lowered annual business capital and operational print services costs by $20,744 per 100 printers
- Generated a three-year return on investment (ROI) of 310% and a payback period of less than 6 months

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

INTRODUCTION

It goes without saying that IT executives and managers are always charged with lowering costs, but the recent economic environment has made this only a bigger challenge. Further, belt tightening is never supposed to impact the delivery of game-changing IT capabilities that add business value. Thus, this need to find cost savings usually ends up as an exercise that forces IT departments to make difficult choices about where to save money, where to defer or delay expenditures, or whether to delay implementation of merely important — not mission-critical — initiatives.

One IT area that would benefit from a streamlined, process-focused approach to management is the printing of company documents. With the widespread use of management frameworks such as ITIL and IT service management, IT executives want as much visibility as possible into the hardware and software that support a mission-critical service. In some cases, the printed output from mission-critical applications is critical itself, as in the case of shipping labels, shipping instructions, and customer order documentation. In fact, one customer said that one of its biggest problems in this domain was from "a printing hang that forced a label to not be printed while the truck was at the loading dock, and the truck was waiting for the label." Such delays in shipping can cost a lot of money.

Effective management of printer output is hampered by:

- **No end-to-end visibility.** One customer reported that trouble tickets were "bouncing all over the place to find out who is responsible for fixing an issue; the Unix team members, [who were] thinking it was a Unix-based application [and] were trying to troubleshoot, and the basic support team would go back and forth until it was finally resolved."

- **No tools in place to troubleshoot printing problems.** Customers reported that the service desk would be burdened with printing problems. Customers noted that they were "trying to relieve level 3 and level 4 support teams from having to deal with managing problems in the printing area and empowering the help desk to resolve at first call. But it wasn't so much about that as it was about putting in a robust system so printing problems stopped — fixing the issue instead of using band-aids."

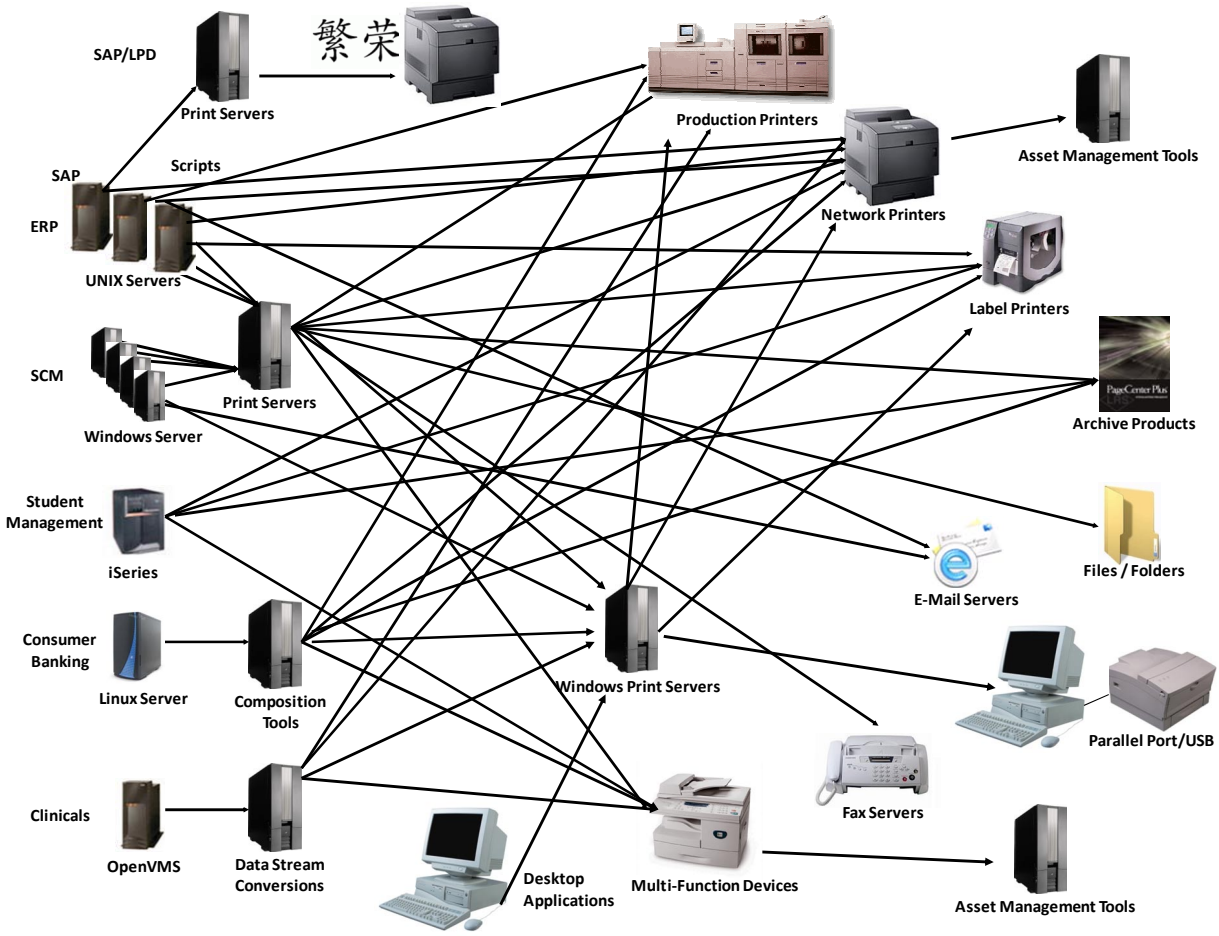
- **Lack of efficiency and loss of productivity.** According to one customer, "It was a big issue if you can't get the product out the door, especially in pharmaceuticals. We did have people we were paying an hourly rate in our warehouses to package merchandise drugs, and if the shipping label doesn't print out, it can't get onto the truck, and if the truck is waiting at the loading dock, it can't leave."

A task that is as simple and basic as printing documents or labels is not as easy as one might think.

As shown in Figure 1, printers are frequently distributed throughout a company's offices. Printers have evolved in capability, not just moving from printing in black and white to printing in color but also combining print, fax and copy capabilities. Of course, all these new capabilities mean more complexity. Further, networking allows printers to talk with multiple devices in a single office or in another physical location altogether. Because multiple people can send output to be printed to a single printer, a queue can develop that can take a significant amount of time to clear. In addition, this situation can make it difficult to track specific documents in the queue and effectively manage the queue. With no easy-to-document capability to determine the size or location of a print queue, no one individual can manage the traffic jams that occur at a single printer or troubleshoot what is happening. This troubleshooting itself can take minutes, hours, or even days, costing valuable downtime for the affected users. However, companies such as LRS provide solutions to address these challenges around print.

FIGURE 1

Typical Printer Output Connectivity



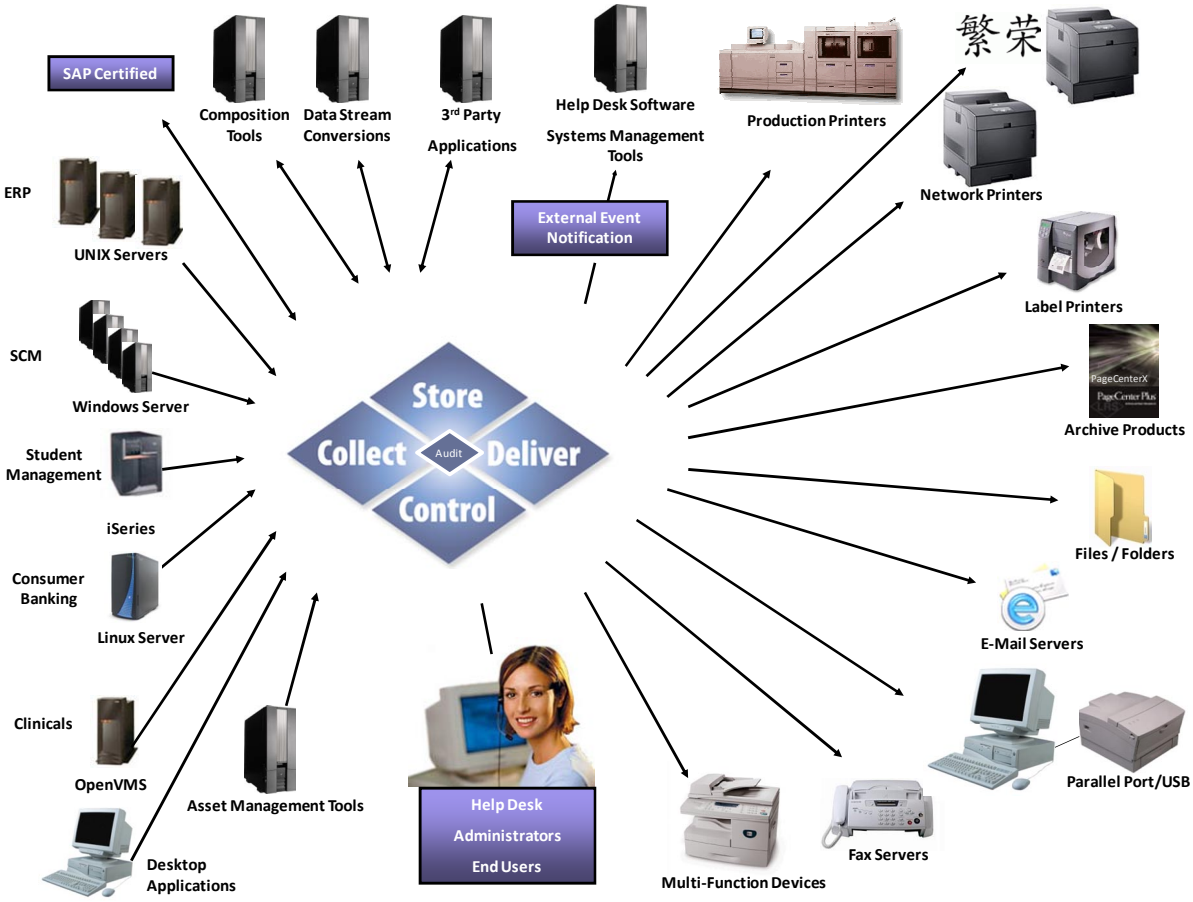
Source: LRS, 2011

PROFILE OF LRS

Founded in 1979 as a computer consulting services company, LRS has grown to serve 9,500 customers worldwide. The company's more than 600 employees located worldwide have created a capable product line that includes not only consulting services but also output management products. These types of products are designed to centralize, store, analyze, and distribute application output where it is needed. The main product responsible for these distribution and output management capabilities, VPSX, is tailored to streamline the output management function. Figure 2 highlights just how this is done.

FIGURE 2

Improved Output Environment



Source: LRS, 2011

VPSX collects business process output from SAP and other applications, often in the form of endorsements, forms, batch processed statements, contracts, and other documents. For example, SAP users may generate production reports or financial documents, and the VPSX solution manages this output through the entire document life cycle. Digital forms generated by a Web-based application can be captured by VPSX software, converted into device-ready print streams, and routed to the appropriate device. Likewise, output from the Microsoft Office suite and other Windows applications — such as Microsoft Word files, PowerPoint slides, and PDF documents — can be captured and stored electronically in the LRS repository. This output repository works with the solution's distribution functions to deliver documents to a nearby printer in a format the printer understands.

Much of the business value of output management is that it greatly simplifies the logical connections between applications that create output and the destinations for that output. The great thing is that this centralized capability captures information never before captured, giving management a view of printer volumes as those volumes increase or

decrease or as print jobs may hang up and fail to be deleted. Better yet, the VPSX application itself allows visibility into which users are printing to a specific printer, how often they print, what they are printing, and how much it costs to print. This type of print awareness now provides IT with cost data that it frequently lacked prior to installing the VPSX software. Further, in an era of IT service management and cloud-based IT services, an end-to-end view of the printing queue helps speed troubleshooting of problems as they develop in mission-critical areas for customers, say, on a loading dock that is waiting for a billing statement and label to be printed out so that a package can be shipped. Business value details can be further explored through interviews with customers about the LRS solutions they used and the benefits they gained.

IDC BUSINESS VALUE ANALYSIS OF LRS CUSTOMERS

To investigate the business value of LRS solutions, IDC interviewed IT and operations managers at 10 large companies, ranging in size from 700 to over 100,000 employees (median is 11,000 employees).The companies are primarily United States based, save one that is located in Northern Europe. The companies represent experiences from across several industries — construction, manufacturing, healthcare, financial services, insurance, and biotech (see Table 1).

TABLE 1

Demographics

Employees (median)	11,000
IT staff (median)	367
Printers (median)	1,803
Print services users (median)	9,000
Industries	Construction, manufacturing, healthcare, financial services, insurance, biotech
Regions	North America, EMEA
LRS solutions	**% of companies using the product**
VPSX solution for enterprise output management	90
PageCenterX document archive and storage solution	30
Innovate/Audit auditing, tracking, and measurement add-on solution	10
Transform and Fonts solution to move documents from device to device and tap into a very large array of (nonprinter-specific) fonts	10

Source: IDC, December 2010

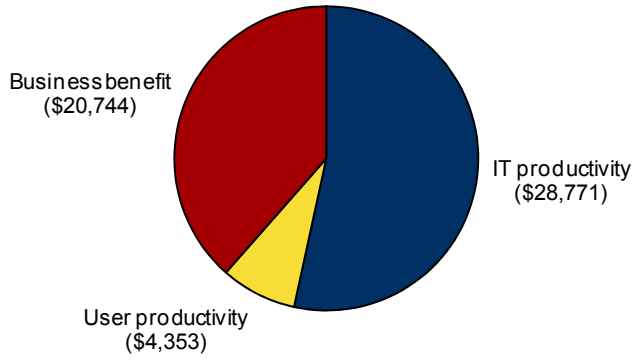
The Benefits of the LRS Solution

Eight of the 10 companies in this study chose LRS primarily to reduce their costs of printing through better management, with compliance and archiving capabilities as added key criteria. However, all 10 experienced substantial cost reduction and productivity enhancement totaling on average $53,868 per 100 managed printers annually (see Figure 3). Benefits could be divided into the following categories:

- **IT productivity** — reduced the IT staff time associated with printer management and support and dealing with printer downtime and printer-related help desk issues
- **User productivity** — reduced the printing services user time associated with printer downtime and printer-related help desk issues
- **Business benefits** — reduced printing capital costs through consolidation
- **Other printing costs** — reduced nonstaffing costs related to printing services, such as paper and toner, external services costs, and hardware/software costs for print servers

FIGURE 3

Annual Benefit per 100 Printers



Source: IDC, December 2010

IT Productivity

The value of end-to-end visibility across a company's printing environment is experienced most critically by the staff responsible for printing services. The ability to centrally monitor and manage printing resources enabled the staff to reduce the time it spent on several functions:

- Performing upgrades is now automated efficiently so that the time required to update drivers to match business software upgrades — a process that used to take from 10 minutes to several hours — has been reduced by 92%, saving 15 hours per 100 printers annually.
- Compliance and control of data are now readily available, saving 30 hours per 100 printers annually preparing for audits.
- Managing moves, adds, and changes across thousands of printers was reduced by 86%, saving 70 hours per 100 printers annually.
- The time required to physically inspect printers was reduced by 88%, saving 8 hours per 100 printers a year.
- Server administrators managing print servers saw a decrease of 13 hours per year per 100 printers for configuring, patching, and upgrading print servers.

The single largest contributor to IT productivity was the reduction in print server downtime by 60%, which saved the IT staff 306 hours per 100 printers per year. In a similar vein, problems usually requiring help desk support could be headed off, nearly eliminating the number of calls (reduced by 99%). When calls occurred, the level 2/3 support was needed less than half of the time as opposed to 80% of the time before. Help desk savings amounted to 122 hours per 100 printers (see Table 2).

TABLE 2

IT Productivity

	Savings — Annual Hours per 100 Printers	Value ($)	% of Total
Response to downtime	306	15,603	54
Moves, adds, and changes	70	3,565	12
Help desk	122	6,234	22
Compliance	30	1,532	5
Performing upgrades	15	772	3
Print server management	13	674	2
Physically inspect printers	8	391	1
Total	563 hours	$28,771	

Source: IDC, December 2010

User Productivity

User productivity is measured in the time that users have access to the applications needed to do their jobs. In this case, we are referring to printing services. By enabling the IT staff to reduce the instances of printing services downtime and lowering the causes that lead to help desk issues, LRS solutions positively impact user productivity. Prior to the deployment of the LRS solutions, end users in the companies were experiencing an average of 11 hours of downtime per user per year. As Table 3 shows, LRS solutions reduced downtime by 60%, saving each user 6.5 hours of productive time. In addition to outages, users experience other printing issues — everything from software upgrades and driver mismatches to low toner. By monitoring usage patterns and printing resources, IT staff can manage output and keep printers up to date and ready, saving each user an average of 1–2 calls and three hours of lost productivity per year.

TABLE 3

User Productivity

	Hours per User per Year Before	Hours per User per Year After	Annual Savings (in Hours)	% Change
Help desk	0.39	0.04	0.3	89
Downtime	11.00	4.50	6.5	59
Total hours per year	11.39	4.54	6.8	60
Savings per 100 printers			$4,352.7	60

Source: IDC, December 2010

Business Benefits

Better output management led to other cost savings beyond IT and user productivity. All printing resources benefited from central control and management. The annual costs for paper and toner were reduced. Print server costs to include hardware, software, and services were reduced by 77%. By using LRS solutions to optimize print services resources and operations, several companies in our study were able to consolidate their printing resources. One company was able to close down two of its four printing centers, including selling back high-end printers. Another company was able to eliminate its CD ROM data archiving service. Overall, these types of capital and operating cost reductions amounted to annual savings of $20,744 per 100 printers.

ROI ANALYSIS

IDC uses a three-step methodology for conducting ROI analysis:

- **Gather quantitative benefit information during the interviews using a before and after assessment.** In this study, the benefits included IT staff productivity increase, user productivity increase, and IT cost reduction.

- **Create a complete investment (three-year total cost analysis) profile based on the interviews.** Investments go beyond just the solution's hardware and software. IT departments spent staff time installing and configuring the new solution, removing old equipment and/or software, and then maintaining the new solution over three years. Ancillary costs directly related to the solution, such as user input to planning, outsourced installation, configuration or maintenance costs, and IT staff or user training, are also included in the analysis.

- **Calculate the ROI and payback period by conducting a depreciated cash flow analysis of the benefits and investments over a three-year period.** IDC uses a 12% discount rate in the ROI analysis to account for risk and to ensure a conservative analysis.

As these were large companies, there really was limited growth in terms of users, so for the three-year analysis, we kept benefits constant. Investment in the LRS solution included the following elements:

- Hardware. This includes the purchase of one to six servers depending on the size of the implementation or the annual hosting fees if using a third-party hoster. The average annual cost for hardware/hosting is $2,800 per 100 printers.

- IT labor. Initial installation amounted to $1,600 per 100 printers. Annual support averaged $1,000 per 100 printers.

- LRS software license. Annual fees averaged $7,600 per 100 printers.

- No training or consulting costs were associated with these deployments.

The three-year ROI analysis shows that on average, the companies in this study spent $29,462 (discounted) per 100 printers deploying and maintaining LRS solutions and received $120,764 per 100 printers in benefits for a net present value (NPV) of $91,302. The companies saw a payback period of less than 6 months and an ROI of 310% (see Table 4).

TABLE 4

Three-Year ROI Analysis per 100 Printers

Benefit	$120,764
Investment	$29,462
Net present value	$91,302
ROI = NPV/investment	310%
Payback period	5 months
Discount factor	12%

Source: IDC, December 2010

CHALLENGES FACING LRS

Because printing costs are usually buried deep within overhead, or are not billed back to customers, it is not always easy to demonstrate the value of output management until hard metrics are available to identify existing printing costs, how many users are using the most paper and in which departments, where printer queues are forming, how long those queues are, or which departments make the most demands of printer resources. While LRS is moving to address this issue with the introduction of its Innovate/Audit product, the challenge of cost visibility will remain until such solutions gain widespread adoption.

Further, senior-level IT executives are frequently looking for integrated solutions across multiple IT functional areas such as in the datacenter, managing servers, or rolling out mission-critical applications. As a result, there is not as much visibility around a solution or set of solutions that address a single pain point such as a printing queue, unless high-profile issues are associated with printer output, such as being unable to troubleshoot a printer problem resulting in a delay in the delivery of a customer's critical order. That being said, several customers interviewed for this study recounted one or more such high-profile printing failures.

OPPORTUNITIES FOR LRS

Certainly, broadening solutions to other application vendors such as Oracle would provide other growth avenues, bolstered by the automated output management capabilities and results demonstrated in this paper. IT executives must be made aware that a business case can be successfully made around output management. This business case will revolve around not just the savings associated with the efficient output management but also being able to effectively manage future corporate output management growth, whether that growth occurs organically or through mergers and acquisitions.

Another opportunity exists as IT executives in smaller companies also need visibility into their output capabilities yet may lack the market awareness that solutions exist or that the existing solutions can automate some of their existing manually generated processes for output management. Again, IT executives must be made aware that a business case can be successfully made around output management.

CONCLUSION

One of the more surprising ways to save costs that IT executives and administrators may overlook is in printing documents. IDC's interviews with LRS software users showed that users gained significant financial benefits using LRS. These benefits include reduced labor costs of over $28,771 per 100 managed printers annually and enhanced user productivity of $4,353 per 100 managed printers annually. Further, the interviews also showed that LRS solutions lowered annual business capital and operational print services costs by $20,744 per 100 printers and generated a three-year ROI of 310% and a payback period of less than 6 months. Customers reported significant improvements in printer output management from using the LRS software suite to manage document output. Further, customers also reported being able to troubleshoot output management problems, which in some cases they had not been able to do efficiently, or at all.

Many managers and executives certainly keep an eye on mission-critical business applications, and in the era of ITIL and IT service management, they are more concerned about the underlying hardware and software for the business application, as well as the application itself. Output management capabilities allow end-to-end visibility into printer queues, in some cases preventing problems from occurring or, if they occur, allowing quick and effective troubleshooting.

APPENDIX: IDC'S ROI METHODOLOGY

IDC's standard ROI methodology was utilized for this project. This methodology is based on gathering data from current users of the technology as the foundation for the model. Based on these interviews, IDC performs a three-step process to calculate the ROI and payback period:

1. Measure the savings from reduced IT costs (staff, hardware, software, maintenance, and IT support), increased user productivity, and improved revenue over the term of the deployment.
2. Ascertain the investment made in deploying the solution and the associated training and support costs.
3. Project the costs and savings over a three-year period and calculate the ROI and payback for the deployed solution.

IDC uses the NPV of the savings and increased revenue over three years in calculating the ROI and payback period for the deployment. The NPV of the savings is determined by subtracting the amount that would have been earned by investing the original sum in an instrument yielding a 12% return (to allow for the missed opportunity cost that could have been realized using that capital).

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

1. Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings.
2. Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.
3. The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.
4. Lost productivity is a product of downtime multiplied by burdened salary.
5. Lost revenue is a product of downtime multiplied by the average revenue generated per hour.
6. The NPV 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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