

WHITE PAPER

The Benefit of Using Windows 7 in Small and Medium-Sized Businesses

Sponsored by: Microsoft

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June 2010

IDC OPINION

All indications suggest that Windows 7 will be a major success with business customers of all sizes as well as with consumers. Windows 7 has the ability to drive productivity and user satisfaction on its own strengths and features, but the product also benefits indirectly from the aging installed base of Windows PCs, which today continues to be dominated by Windows XP, making Windows XP emulation an especially useful capability, especially for small and medium-sized businesses (SMBs) that have delayed upgrading to Windows Vista.

IDC research finds that the benefits are not just qualitative in nature; small and medium-sized businesses with 250 or fewer PCs that are deploying Windows 7 are gaining more than happier users; they are lowering support costs, improving security, and making end users more productive. IDC found that four areas of performance improvement are particularly noteworthy.

IT professionals can reduce their support burden with Windows 7. When comparing Windows 7 with the previously used operating system (typically Windows XP, but in some cases, Windows Vista), our research indicates that service desk labor drops by a dramatic 65%, from 5.3 hours per PC per year to 1.9 hours per PC per year. Similarly, PC/OS support costs declines by 55%, from 4.8 hours per PC per year to 2.2 hours per PC per year.

End users spend considerably less time dealing with malware, downtime, and reboots when using Windows 7 compared with previous Windows products. In fact, when 14 categories of common end-user activities related to keeping Windows PCs operational are considered, the savings result in 43 additional hours of productivity per year per user when using Windows 7. That amounts to in excess of one full work week per year of productive time. Even more importantly, that means that Windows 7 PCs are significantly more likely to be operating at key times of the day, week, or month, when demands are the highest.

The return on the investment to deploy Windows 7 can be recognized quickly — in fact, in as little as 7.2 months.

METHODOLOGY

This IDC White Paper incorporated three areas of data collection and research including in-depth interviews with 9 individual SMB companies (having up to 250 PCs) that are early adopters of Windows 7 and were participants in Microsoft's Ignite program for early deployments of Windows 7. The second dimension was a quantitative study of 400 individual end users who have Windows 7 PCs and who work at SMB organizations of up to 250 PCs. Finally, there were interviews with 60 IT managers, also at SMBs that had some experience with Windows 7 deployments, for the purpose of rounding out the market adoption dynamics and validating the overall data set that was built as part of this IDC White Paper.

The paper includes an ROI analysis component:

- ☒ Time values are multiplied by burdened salary to quantify efficiency and manager productivity savings.
- ☒ Downtime values are a product of the reduction in downtime hours multiplied by the number of users affected and their hourly rate.
- ☒ Because not every hour of downtime equates to a lost hour of productivity, IDC specifically asks about the percentage impact of an hour of downtime and attributes a fraction of the hourly result to the dollar savings.
- ☒ All 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 based on the average deployment term.
- ☒ The net present value of the three-year savings is calculated by subtracting the discounted three-year investment from the discounted three-year benefit. IDC uses an estimated discount rate to account for potential outlays made at the time of deployment and interest on that expense.

IN THIS WHITE PAPER

This IDC White Paper takes a deep look at the operational costs of Windows 7 as experienced by small and medium-sized businesses and compares and contrasts them against operational costs associated with earlier versions of Windows client operating environments, including Windows Vista, but particularly Windows XP. This study takes into consideration both IT operational costs and selected end-user operational costs. The paper then aggregates the costs associated with deployment, ongoing support and maintenance, and response to outages and hardware and software failures on the part of IT staff and calculates the return on the investment associated with deployment of Windows 7.

SITUATION OVERVIEW

Microsoft has long been the dominant provider of client operating environments across virtually every segment of the industry, including the SMB market. IDC models and survey research show Microsoft capturing in excess of 90% of annual client operating environment shipments each year for the past decade, with Microsoft's installed base exceeding 90% of the market total. From a penetration perspective, more than 95% of SMBs currently use at least one version of Microsoft Windows.

Microsoft's strong position in the market, combined with significant user avoidance of Windows Vista, has led to an unprecedentedly large and continuing penetration of Windows XP, especially among small and midsize firms. While Windows XP was a modern product when it was launched, today it is nearly nine years old and has fallen well behind the capabilities and manageability of much more modern products.

Microsoft has grown a stunningly large installed base of Windows client operating environments, with nearly 1 billion Windows operating systems in use as of the end of 2009 by IDC calculations. Ultimately, the vast majority of these installations will end up being replaced by Windows 7 over the next several years through one of three scenarios: a full replacement of the PC and the operating system (historically the most common way for new versions of Windows to be deployed), a replacement of the operating system alone, and a new scenario that has become popular only in the past few years — the use of a virtualized client infrastructure that makes Windows 7 accessible from a thin client.

Increasing Pressure to Move

For many customers, the release of Windows Vista in January 2007 marked the start of a period of "lost years" — lost because many business customers avoided Windows Vista and instead let the clock run up on the life cycle of Windows XP. Now, three years later, Windows XP is approaching a decade of service, a relative dinosaur in computer industry norms, and is fast running out of runway when it comes to support offerings. While lack of enthusiasm for Windows Vista was one factor in modest adoption levels, the recession that began in 4Q08 but was felt much earlier than that by many SMBs also contributed to the reluctance to make IT investments that weren't essential to maintaining business operations. In effect, delaying an OS upgrade was a relatively easy decision to make.

The clock began ticking down toward the end of Windows XP's support life cycle with the release of Windows Vista in January 2007 — with mainstream support usually ending around two years after the release of a subsequent product. In the case of Windows XP, Mainstream Support officially concluded on April 14, 2009, and Extended Support will retire on April 8, 2014. On July 13, 2010, the Extended Support phase for Windows XP Service Pack 2 will end, forcing existing Windows XP customers to move to Service Pack 3 if they want any form of commercial support aboard that product.

This leads to an interesting situation, especially when considering the market's broad resistance to move from Windows XP. Many organizations have frozen or locked down their Windows XP installations and today are simply not interested in making any changes to what is seen as working just fine, including adding new service packs or features, which would likely trigger a round of regression and compliance testing and documentation. Instead, firms are trying to ride through those deployments until they can move directly to Windows 7.

Of specific concern is the discontinuation of security patches under traditional support agreements. Typically, security patches are issued after vulnerability is discovered so that users can update quickly and protect their systems from possible malware attacks.

After Extended Support ends, Microsoft will no longer issue security patches for new vulnerabilities that could leave organizations susceptible to possible attacks. Organizations that do not address these resulting gaps in security are leaving themselves open to a variety of potential problems. Organizations that still have a significant number of Windows XP PCs in use face a hard deadline of April 2014 to move off of Windows XP if they are to have security patches for their Windows desktops.

IDC found that in response to this challenge, customers are aggressively planning for and moving to Windows 7. In fact, in a separate survey conducted by IDC covering 390 IT professionals mainly in the United States, respondents indicated intentions to begin migration of approximately two-thirds of their existing Windows XP installed base of PCs in the next 24 months. Companies recognize that the time for action is at hand.

To set the stage for IDC's assessment of the Windows 7 opportunity, Table 1 presents the average demographics of the SMB organizations that were studied for this white paper — firms that have already moved forward with Windows 7 implementation. The sample group included individual organizations with as few as 8 PCs and as many as 250 PCs. The average size of the 9 organizations studied in detail was 85 employees, and the companies had an overall average of 1.5 IT staffers to support their operations. This is in keeping with other IDC SMB research that indicates that the majority of firms with 50+ employees have at least one full-time IT staffer in place.

IDC also conducted an end-user study across 400 individuals using Windows 7 at SMB organizations to capture usage experiences and time savings realized by end users, which is factored into the overall results presented in this IDC White Paper. See Table 1 for more details.

TABLE 1	
SMB Windows 7 Users Surveyed: Demographic Profile	
Measurement	Average
Employees	85.4
IT staff	1.5
Employees per IT staff	55.8
Servers	8.9
Total clients	63.9
Desktops	49.8
Laptops	14.1
Percentage working remotely	23%

TABLE 1**SMB Windows 7 Users Surveyed: Demographic Profile**

Measurement	Average
Clients per employee	1.1
Clients per server	9.7
Replacement cycle for desktops (years)	3.9
Replacement cycle for laptops (years)	3.0

Source: IDC, 2010

Table 2 presents the mix of Windows operating systems in use at customer sites that were individually interviewed in IDC's study. It is important to note that these sites are enrolled in Microsoft's Ignite prelaunch program to encourage early adoption of Windows 7; hence the heavy penetration of Windows 7 into these organizations. In the industry at large, we would expect to see Windows 7 penetration not in excess of single-digit percentage levels. IDC's survey of SMBs, which was completed in early April 2010, indicates that while adoption of Windows 7 is not close to Microsoft Windows XP adoption, it is already outpacing Vista adoption.

It is important to note that SMBs surveyed as part of this Windows 7 ROI study were selected because of their extensive Windows 7 penetration. Organizations with just a small percentage of machines running Windows 7 would not have adequate depth of experience to offer reliable conclusions about the relative support burden and the benefits received from using Windows 7 broadly across their company.

As a result, the mix of Windows deployments in use at these early-deployment sites depicted in Table 2 is understandably weighted to favor Windows 7. Although typical SMB customers deploying Windows 7 are expected to primarily utilize Windows 7 Professional, some customers in this study have been deploying Windows 7 Enterprise or Ultimate. However, we found that had little or no effect on the use experiences — because expanded capabilities of Windows 7 Enterprise and Ultimate — including BitLocker, AppLocker, BranchCache, and DirectAccess — are less likely to be exploited and used by SMBs.

In addition, we recognize that the residual penetration of Windows XP is lower than would be found in a typical SMB shop today, once again, because of the early-adopter profile of the companies that were interviewed. See Table 2 for more details.

TABLE 2**SMB Organizations Surveyed: Windows OS Product in Use**

Windows 7	66%
Windows Vista	10%
Windows XP	24%

Source: IDC, 2010

Cost Savings Associated with Windows 7

Table 3 describes the cost savings that SMBs in our study are experiencing. Like other tables in this IDC White Paper, Table 3 presents the metrics of costs in terms of hours of labor per PC per year for various categories. It highlights IT labor costs, including those associated with deployments, service desk support, and PC and OS support.

As noted in the table, the cost comparison of Windows 7 versus the collective "replaced OS" category (which, in the majority of cases, was Windows Vista or Windows XP) delivers a "before Windows 7 deployment" against an "after Windows 7 deployment" comparison. Figure 1 presents the same data as Table 3 in graphical format.

As indicated in Table 3, cost decreases were recognized across all three areas of IT labor tracked in this analysis. Seeing a cost decrease from one product to a newer, more modern solution is not unusual, especially when it is a comparison between an aging product like Windows XP and a modern replacement such as Windows 7.

What is telling is that the cost reductions apply well to all three categories measured, but of particular importance is that the greatest percentage reduction comes from a decrease in service desk support burden. This indicates that Windows 7 is less time consuming for IT professionals to manage, a benefit that has a direct, positive impact, lowering long-term operational costs.

For example, Remote Server Administration Tools for Windows 7 let IT administrators manage roles and features installed on PCs running Windows 7 regardless of their location. According to Ignite program participant Steve Hall at District Computers, "The quality of management is better with Windows 7. It's about half as much work and twice as secure."

See Table 3 for more details.

TABLE 3

Annual Labor Hours per Activity: Windows 7 Versus OS Replaced

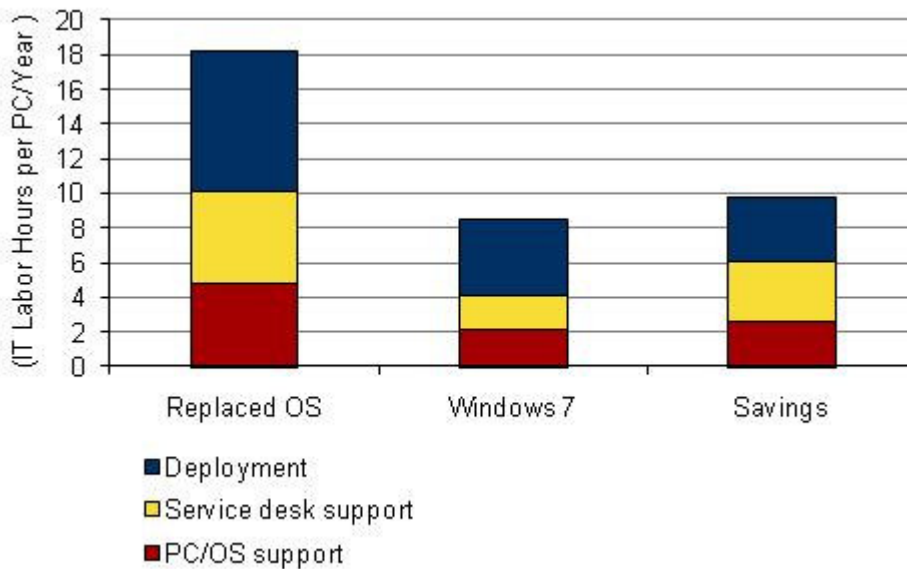
	Replaced OS	Windows 7	Savings	% Change
IT labor hours per PC per year — deployment	8.1	4.4	3.7	45
IT labor hours per PC per year — service desk support	5.3	1.9	3.4	65
IT labor hours per PC per year — PC/OS support	4.8	2.2	2.6	55

Source: IDC, 2010

See Figure 1 for more details.

FIGURE 1

Annual Savings Metrics Associated with Windows 7



Source: IDC, 2010

The Effect on End Users

The benefits of Windows 7 are felt not just by IT professionals. In fact, IDC believes that end users suffer a heavier burden from using outdated products than many IT professionals fully appreciate. For example, the time lost when a service fails to work or when a user reboots as a way to solve a problem (an approach that may have worked in the past) can siphon several minutes of productivity from users each time it happens. Ignite program participant Cory Strait, general manager of Ames Golf and Country Club, noted that since deploying Windows 7, "there are fewer reboots." He added, "That saves me money, We're talking about six users, and they easily save an hour a day each. They are more efficient and get more done every day."

IDC has calculated that these outages can add up to significant numbers, with reboots alone accounting for eight hours per year, or about 8% of the downtime users experience during a year. These estimates are based on user experiences amortized through the course of a year.

Even so, reboots are in sixth place in terms of the most impactful issues SMBs face with older Windows operating systems, as much as users can point to them as a key irritation. Other issues that are even more impactful include downtime (20% of the time lost), the impact of spyware and malware (14.8%), installing software, and service desk waits.

As presented in Table 4, it is clear that Windows 7 improves on every metric examined. Of all the improvements, a reduction in the time lost to reboots ranks as the most significantly improved factor when it comes to the time spent by end users addressing problems with their systems.

Not depicted in Table 4, but included in the financial calculations, is the time savings that end users associate with new productivity features in Windows 7 (including better sleep/hibernate recovery, taskbar thumbnails, preview panes, better diagnostics, problem step recorder, and IE 8). This savings amounted to 7.9 hours per year. Because IDC had no baseline comparison for the "replaced OS," we did not incorporate this line into Table 4. However, it is included in the subsequent financial analysis. Figure 2 presents a subset of this same data in graphical form.

See Table 4 for more details.

TABLE 4

Annual Time Associated with Common User Activities/Problems

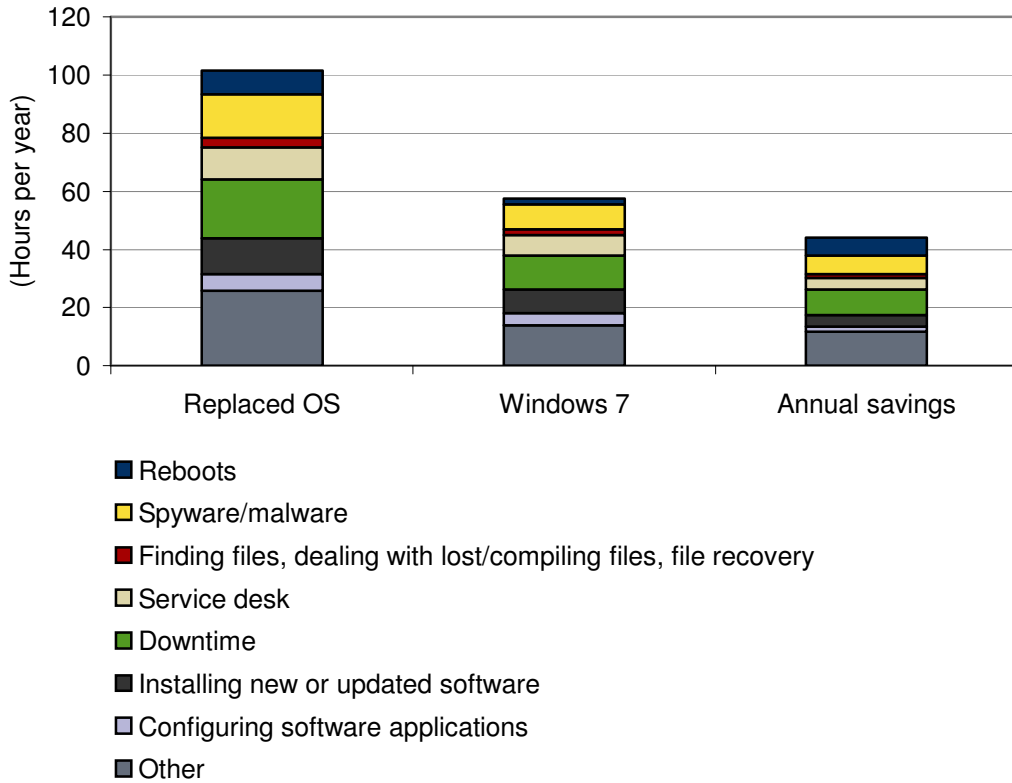
Hours per Year	Replaced OS	Windows 7	% Change
Reboots	8.2	2.0	76
Software failure	3.1	1.3	59
File search	7.5	3.8	49
Recreating lost files	1.5	0.9	38
Spyware/malware	15.0	8.6	42
Dealing with lost data not backed up	1.0	0.6	42
Dealing with compromised sensitive data that was unprotected by encryption	0.8	0.5	35
Waiting for files that were accidentally erased or modified	0.8	0.5	40
Service desk	11.1	7.1	36
Downtime	20.3	11.6	43
Troubleshooting	8.3	4.5	45
Troubleshooting peer's PC	6.1	3.8	38
Installing new or updated software	12.2	8.2	33
Configuring software applications	5.8	4.1	29
Total	101.6	57.6	43

Source: IDC, 2010

See Figure 2 for more details.

FIGURE 2

Annual Time Associated with Common User Activities/Problems



Source: IDC, 2010

Show Me the Money Saved

When it comes to the cost associated with running desktops, it's all about acquisition and operational costs. Ironically, for many organizations, the focus tends to be on the initial acquisition costs, which tend to be used as a proxy for operational costs; yet the two metrics are totally independent of one another.

Many IDC research projects over the past decade have confirmed that IT labor costs associated with supporting operating systems and applications aboard a system accumulate through the life of a PC. At the end of the three-, four-, or five-year life cycle for that PC, the total IT labor costs generally account for two-thirds to three-quarters of the total cost of ownership of the machine.

IDC analysts believe strongly that the way to lower total cost of ownership certainly includes managing — as much as possible — acquisition costs, but we believe the bigger ticket item — and the holy grail of IT — is to lower the amount of manual labor that has to be applied to a PC through its life to support the software stack being used. Table 5 gets specifically to that topic. It breaks down the IT labor costs associated with existing operating systems and compares the costs of Windows 7 that early adopters are experiencing.

Particularly noteworthy in Table 5 is that end-user labor — you might think of that as incidental IT support — ends up being a larger contributor to cost reductions than IT-related labor. Of course, in many organizations, there is not necessarily a lot of motivation for IT to reduce end-user costs because those costs show up on a budget other than IT. A contrarian would argue that reducing the cost of self-support by end users means that those same users are having a better user experience, improving internal customer satisfaction. See Table 5 for more details.

TABLE 5

Operating System Cost Benefits per PC per Year (\$)

	Replaced OS	Windows 7	% Change	Annual Savings
IT labor				
Service desk	199	70	65	129
Annual PC/OS support	197	90	55	108
Deployment	88	48	45	40
Total IT labor	484	208	57	277
End-user labor				
Self-support of PCs	1,047	576	45	471
Downtime/help desk	1,167	678	42	489
Increased productivity hours				163
Total end-user labor	2,214	1,254	51	1,123
Total annual benefit per PC				1,400

Source: IDC, 2010

Return on Investment Analysis

Table 6 presents IDC's ROI analysis for the deployment of Windows 7 to replace an older Windows product. This ROI analysis constitutes a three-year view of the payback associated with moving to a newer product, such as a move from an older Windows client operating system to Windows 7.

The ROI analysis takes into consideration change in costs associated with internal and external administrative costs, reduced management and support costs, as well cost savings and gains in productivity. Costs are calculated based on burdened salary values and prorated downtime costs. The values are then discounted to account for the investment being made up front versus an ongoing recognition of costs as they are incurred. ROI methodology is detailed in the Appendix.

As illustrated in Table 6, the payback in months for a new deployment of Windows 7 is calculated at 7.2 months, which produces a 375% return on investment needed to deploy Windows 7.

TABLE 6

ROI Analysis

Discounted benefits	\$2,877
Discounted investment	\$606
Net present value (NPV)	\$2,271
ROI = NPV/investment	375%
Payback in months	7.2
Discount rate	12%
Deployment	1.3

Source: IDC, 2010

FUTURE OUTLOOK

IDC believes that Windows 7 will become the Windows XP of the next decade. Regardless of how feature rich the so-called "Windows Next" product might be (expected by IDC to possibly arrive as soon as 2012), once momentum ramps up for Windows 7, it will be unstoppable and will propagate through the billion-plus installed base of Windows PCs.

The upside to this scenario is that this massive movement will lead to broad opportunities for independent software vendors (ISVs) and OEMs to replace the existing installed base of PCs, operating systems, and application suites. However, we expect that transition will likely get under way more quickly than many ISVs, systems integrators (SIs), and value-added resellers (VARs) realize, leaving some companies at risk of underestimating how much time they will have to prepare to help customers with this important transition.

CHALLENGES/OPPORTUNITIES

No transition of the scale that Windows 7 will usher in is without challenges, yet those same challenges can represent opportunities for vendors that are helping SMBs move to Windows 7.

Challenge: Application compatibility was perhaps the rock that sank Windows Vista. While Microsoft has done a good job of addressing some of the application incompatibility issues that Windows Vista faced, a portion of applications continue to be difficult or impossible to move to Windows 7 without some porting or modification work.

Opportunity: There is a large opportunity for SIs and VARs to assist customers with the migration to Windows 7.

Challenge: Upgrading to Windows is typically through a system replacement. Customers tend to acquire new Windows operating systems when they acquire a new PC. As a result, it usually takes three to five years of time in market for a Windows product to displace the majority of earlier versions of the product.

Opportunity: Helping customers understand the benefits associated with Windows 7 can lead to opportunities to help accelerate this transition.

CONCLUSION

Windows 7 presents a rare opportunity to replace an aging Windows product with a more modern operating system. As part of that opportunity, it is possible to lower operational costs for SMB customers and recognize a tangible return on the investment required to move to Windows 7.

APPENDIX

Methodology Details

IDC's ROI methodology measures the efficiency of solutions and uses the findings to calculate ROI for the deployed systems. The method includes four steps:

1. Evaluate the internal and external costs of administering the systems before deploying the solution.

2. Ascertain the investment in the purchase, implementation, and deployment of the solution. It is important to estimate not only the initial purchase cost but also the required implementation, integration, consulting, and/or training costs. To measure the total deployment investment required, IDC includes questions that cover both the cost of purchase, setup, and integration and ongoing software fees and IT maintenance time.
3. Measure the cost savings and gains in productivity, availability, and efficiency achieved using the solution. Portions of the interviews are dedicated to the discovery of cost reductions, including both "hard" IT costs, such as savings in server and backup tape purchases, and "soft" costs, including IT staff productivity, IT management efficiency, and end-user productivity. For this study, we have modified our standard category labels to what is found in the parenthesis:
 - Cost reduction (reduced backup costs):** IDC asks about what costs have been avoided or reduced for servers, backup tapes, bandwidth, licensing fees, and avoided travel. Savings are reported in terms of dollars per unit saved or annual reduction in spend.
 - IT staff productivity (increased IT productivity):** To measure changes in IT productivity, IDC specifically asks about the reduction in time to restore databases or mission-critical business applications, the reduction in backup window time, and time spent auditing and uploading/reloading data.
 - Improved management of space (improved storage management):** IDC asks the customers specific questions about the number of data storage errors per week, recovery times, failed backups per week, restore times, and user productivity lost during restore.
4. Calculate the payback period and ROI for the deployed solution. Based on the aggregated interview data, IDC calculates the payback period and rate of return based on the overall cost savings resulting from the investments in Microsoft systems.

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 reduction in downtime hours multiplied by the number of users affected and their hourly rate.
- Because not every hour of downtime equates to a lost hour of productivity, IDC specifically asks about the percentage impact of an hour of downtime and attributes a fraction of the hourly result to the dollar savings.

- ☒ All 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 based on the average deployment term.
- ☒ The net present value of the three-year savings is calculated by subtracting the discounted three-year investment from the discounted three-year benefit. IDC uses a 12% discount rate to account for potential outlays made at the time of deployment and interest on that expense.

Table 7 presents a detailed list of the cash flow analysis that was used to build the ROI analysis depicted in Table 6.

TABLE 7				
Cash Flow Analysis				
	Year 0	Year 1	Year 2	Year 3
Benefits	\$-	\$1,243	\$1,400	\$1,400
Costs	\$606			
Cash flow	\$(606)	\$1,243	\$1,400	\$1,400
Running cash flow	\$(606)	\$637	\$2,037	\$3,437

Source: IDC, 2010

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