
Sponsored by: **LANDESK**

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# The ROI of an Integrated Management Solution for the Mobile Enterprise

## Business Value Highlights

Organizations in this study experienced an average ROI of 696% and were able to pay back their investment within eight months after deployment.

**Average annual benefits include:**

Improved operational reliability:
61%

Increased IT staff productivity:
57%

Raised overall business productivity:
10%

Reduced IT infrastructure costs (per user):
$72

Total savings (per user):
$574

## EXECUTIVE SUMMARY

As the lines continue to blur between corporate-owned and personally owned devices and between work and home offices, a mobile and global workforce now expects to have access to corporate data on multiple devices anywhere at any time. This shift and the persistent consumerization of IT drive the need for IT executives to continually address their organizations' changing technology needs. Or they are faced with a user circumventing the IT department's procurement policies and procedures, commonly referred to as shadow IT, which is undoubtedly a growing trend. However, the long-term effects of shadow IT can be detrimental to both the business and the IT organization, often resulting in higher technology costs and less information continuity across the organization.

To ensure that new technology adoptions produce genuine business value, IT departments must have the resources to manage a vast array of device types and protect company data from potential compromise. IT executives are often caught between a rock and a hard place when attempting to empower business users while maintaining proper governance and control over the organizations' increasingly diverse and burgeoning IT assets.

Many IT shops are recognizing an increasing need for IT management software that provides consolidated views and integrations across a broad range of IT systems and services to allow traditionally segregated IT teams to share information more effectively, reducing knowledge silos along with the total cost of ownership of the systems management solution. In addition, many IT organizations have discovered that relying on a plethora of disparate point solutions and manual processes leads to inefficiencies that increase IT operational costs and decrease productivity.



In contrast, IT systems management solutions that integrate and centralize historically disjointed tools into comprehensive solutions can boost both IT staff and business user productivity through increased availability and IT resource utilization. For example, unified IT systems management suites enable IT organizations to maintain the continuity and integration of IT data sources across multiple service management disciplines (e.g., problem management, configuration management, and change management). LANDESK offers comprehensive solution suites that encompass systems life-cycle management, IT service management, IT asset management, mobile device management (MDM), workflow and process automation, and endpoint security management.

In an effort to quantify the benefits of using LANDESK solutions, IDC conducted an ROI analysis of using LANDESK products to automate IT change and configuration management processes. For this study, IDC conducted in-depth, structured interviews with IT managers and professionals from eight companies headquartered in Asia/Pacific, EMEA, and North America. Data gathered from these interviews was analyzed using IDC's standard ROI methodology to gain a quantitative assessment of the benefits users have been able to achieve by using LANDESK products.

## Situation Overview

Many IT organizations are increasingly seeking comprehensive toolsets that allow them to manage both new and legacy systems and applications more effectively while providing a secure and user-centric IT environment.

As business users grow accustomed to the convenient and simplified technology resources available to them in their personal lives (online purchases, banking transactions, travel arrangements), they expect the same kind of experience in the workplace. What's more, because of the increased accessibility of cloud-based technologies, business users are ever more inclined to bypass the IT department and procure resources on their own, if internal IT systems and services are viewed as inadequate.

Therefore, many IT organizations are increasingly seeking comprehensive toolsets that allow them to manage both new and legacy systems and applications more effectively while providing a secure and user-centric IT environment. In addition, with the rise and growing acceptance of BYOD and mobile workforce initiatives, savvy IT organizations are recognizing that simply empowering users with a device of choice won't of itself facilitate long-term productivity gains. In fact, failure to properly plan the implementation and management of these initiatives can lead to organizations becoming inundated with disparate systems and applications as well as inefficient point products for IT service delivery; this ultimately results in a less productive workforce and IT organization.

To that end, for IT executives to effectively reduce or prevent the influx of rogue hardware and software from penetrating the domain while also facilitating business user productivity through the optimization of technology, they must ensure that proper governance and controls are implemented only where needed and with the least amount of restriction to the business as feasible. The shift in how business users expect to consume IT resources will require IT organizations to strike a careful balance between end-user empowerment and IT control. Regardless of the device type, IT organizations must protect and maintain the integrity of an often greatly dispersed set of systems and networks. As a result, an increased level of infrastructure complexity can significantly heighten the importance of having centralized IT management and security solutions.

By automating manual processes, IT staff can more efficiently ensure the stability of their systems and in turn shift more of their focus on providing strategic value toward business objectives. What's more, integrated IT management software with advanced automation capabilities can significantly reduce the costs of relying on manual processes to manage core IT functions. Such processes are often error prone and reduce business user productivity and system security.

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IDC believes that IT systems management will only grow more complex as the consumerization of IT gains traction in the enterprise. This is due to the fact that all systems, regardless of platform, must be configured, secured, monitored, updated, and patched. Consequently, traditional systems management tasks for maintaining optimal system performance and data protection are as essential in modern mobile, virtual, and cloud environments as they are in conventional client/server infrastructures.

## The LANDESK Solution

LANDESK's unified IT management solutions stand to not only simplify the burdens that many IT organizations face when leveraging a cascade of decentralized tools but also reduce the total cost of ownership by centralizing common IT management tools leveraged by the varying teams within IT organizations. As a result, IT staff can invest fewer resources toward infrastructure management and direct more energy toward driving innovative technology adoptions that increase business efficiencies.

LANDESK's integrated suite approach offers significant benefits to IT managers, administrators, and IT executives:

» For IT executives, the suite approach offers a one-stop shop for IT service management solutions, reducing the efforts and costs associated with negotiating deals and maintaining contract agreements with multiple point solution vendors.

» For IT managers and administrators, the suite approach ensures that the products for asset discovery, inventory, software deployment, remote control, and workflow all work together seamlessly through a unified console. This allows IT managers and administrators to manage and secure multiple device types and systems from a common interface, increasing the IT organization's productivity while reducing the efforts required to train new staff.

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» **Systems management:** Inventory discovery, software distribution, asset management, remote control, OS deployment and imaging, and power management

» **Security management:** Patch management across multiple desktop and server OSs as well as virtual instances, antivirus management, encryption, software firewall, and host intrusion prevention

» **Service management:** 15 ITIL disciplines including incident, problem, change, and configuration management; a wide range self-service and service catalog offerings; and integrated connectors to major enterprise systems

» **Asset management:** Software license management (discovery and usage tracking), contract management, warranty and lease management, and request management as well as SNMP device management for printers, switches, and so forth

» **Mobility management:** Multidevice management for both corporate- and personally owned smartphones and tablets (iOS, Android, and BlackBerry), device provisioning, policy verification and enforcement, unmanaged device blocking, location tracking, voice enablement, and mobile enterprise browser and application advertisement

In addition, workflow automation and executive dashboarding capabilities are available throughout these offerings, scaling to support in excess of 250,000 users in order to provide an integrated and intuitive software solution for organizations ranging from midsize to large enterprises. The seamless integration of five IT disciplines into a single user management solution combines LANDESK's Management Suite, Security Suite, Data Analytics, Service Desk, and Mobility Manager. This solution provides IT administrators with a wide range of management capabilities such as real-time asset tracking, patch/update management, OS migration, power management, and endpoint security across multiple platforms — PCs, Macs, mobile devices, and servers.

IT staff can more effectively manage and secure IT systems by leveraging a wide range of

centralized tools. Likewise, automation capabilities can aid IT organizations in more effectively executing operational workflows, allowing for increased productivity. LANDESK has shown a solid commitment in developing its IT management solutions by adding advanced features and functionalities, such as console inspectors and the LANDESK SmartVue application, providing IT departments with real-time views of their IT environments via a tablet or smartphone device.

LANDESK's systems management strategy is to provide an integrated and intuitive software solution for the midsize to large enterprise segment. LANDESK's IT management solutions seek to simplify the burdens that many IT organizations face when leveraging a cascade of decentralized tools and manual processes to manage increasingly complex IT environments.

# Business Value Research

## Study Demographics

In mid-2013, IDC conducted a study with eight LANDESK customers to understand the business benefits they had achieved. IDC interviewed senior IT managers at organizations headquartered in Asia/Pacific, EMEA, and North America. In addition to a wide range of regions, multiple industries are represented, including distribution, government, healthcare, manufacturing, and retail. These organizations range in size from 2,600 to 35,000 employees (average of 11,644 employees) and 10,497 users (91% of employees). Table 1 displays the demographics summary.

**TABLE 1**

Demographics

| Category | Details |
|---|---|
| Average number of employees | 11,644 |
| Average number of users | 10,497 |
| Users per IT staff | 66 |
| Average number of devices | 14,699 |
| Percentage of mobile devices | 58% |
| Devices per user | 1.4 |
| Percentage migrating from another tool | 75% |
| Geographies | North America, EMEA, and Asia/Pacific |

*Source: IDC, 2013*

Over the past several years, IDC has assessed the impact of the LANDESK suite on varied organizations. Naturally, each group is different, and as a result, the benefits change. In this study, there were two significant differences:

- **Mobile users:** 58% of the devices managed by LANDESK are mobile (laptops 30%, specialized handheld computers 19%, smartphones 6%, tablets 3%, and netbooks 1%). On average, each user is carrying 1.4 devices.
- **Complex mix of OSs to support:** In 2010, 96% of the devices were running Windows XP, 3% had Windows 7, and 1% had other OSs including Mac, Linux, and Windows 2000. In 2013, only 38% of devices were running Windows XP, while 53% were running Windows 7 and the rest were mobile OSs — iOS, 4%; Mac OS, 3%; Chrome OS, 1.2%; Windows 8, 0.5%; Android, 0.2%; and Linux 0.1%.

## Financial Benefits Analysis

In our interviews, we probe for business benefits but let each customer tell its own story. All eight customers were able to articulate significant financial benefits from deploying LANDESK management solutions:

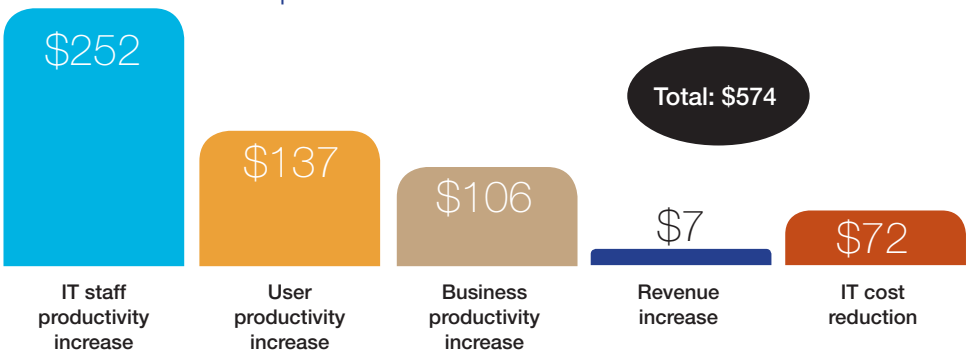
Optimizing IT staff activities through automation reduced IT staff time spent keeping the lights on by an average of 57%, freeing up valuable staff resources for more business-related initiatives.

- **IT staff productivity increase:** Optimizing IT staff activities through automation reduced IT staff time spent keeping the lights on by an average of 57%, freeing up valuable staff resources for more business-related initiatives. This led to an annual benefit of $252 per user.
- **User productivity increase:** The negative impact of unplanned losses of application access (from system outages, virus attacks, security intrusions, software incompatibilities, and change and configuration activities) decreased by 61%, leading to annual savings of $137 per user.
- **Business productivity increase:** On average, companies have seen to boost operational productivity by 10%, generating an additional $106 per user.
- **IT cost reduction:** Optimizing IT operations reduced the costs in multiple areas, including infrastructure, outsourced services, management software, and IT travel, leading to annual savings of $72 per user.
- **Revenue increase:** Companies recognized $750,000 in additional revenue, which translates to a net margin increase of $7 per user.

Total benefits were $574 per user annually, as shown in Figure 1.

**FIGURE 1**

## Annual Benefits per User



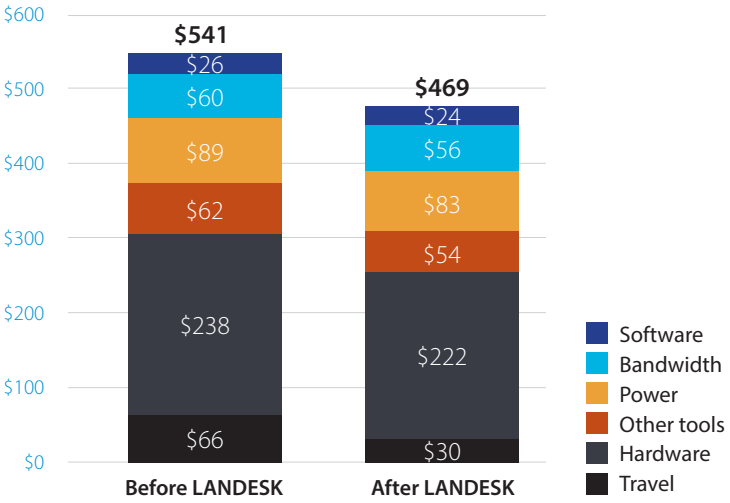

*Source: IDC, 2013*

## IT Infrastructure Cost Reduction

By improving IT operations, LANDESK enabled each company to optimize its use of IT assets, which in turn generated savings in both capex and opex. Savings are achieved by reducing operational costs such as power and bandwidth consumption as well as IT staff travel. Five of the eight companies reported significant travel reductions (54% less) via LANDESK remote management. Savings came from avoiding on average 1,900 trips a year, which led to reductions in travel reimbursements, fuel costs, and vehicles. Figure 2 illustrates the categories in which IT cost reduction was achieved using LANDESK solutions as well as their values.

**FIGURE 2**

## IT Cost Savings per User




*Source: IDC, 2013*

Better asset management reduces hardware and software costs. One of the primary reasons why organizations in this study selected LANDESK asset management solutions was to improve inventory management and avoid unnecessary purchases. In this way, companies in this study were able to reduce their PC consumption by 5%. One company explained:

> What we have is that we look at the asset management register and then we look at the age of the device and then we work out how many actually need to be replaced now, and how many need to be replaced next year, and the next. I reckon that we probably save about $90,000 a year. Every year, we should be replacing about 1,500 devices, and now we know that there are probably 60–70 that we don't need to replace.

Similarly, savings resulted from managing software licenses. Because many companies do not track licenses, the number of software licenses often goes unchecked. With LANDESK, when a new user requires access to an application, the IT organization can identify unused licenses in the company and reallocate the license. Conversely, by monitoring usage, companies were able to drop unused licenses.

In addition to reducing waste in hardware and software purchasing, the organizations in this study were able to eliminate the hardware and software associated with the management tools replaced by LANDESK.

In addition to reducing waste in hardware and software purchasing, the organizations in this study were able to eliminate the hardware and software associated with the management tools replaced by LANDESK. One example was provided by a healthcare organization:

> We have the visibility now, so when we have people inquiring about licenses, we can respond. For example, we had one site wanting to have a particular license on all of their machines. By looking at the original install base, with this one application, I could tell that there were only about 3–4 licenses out of about 100 installs that were even being used. They wanted to increase that to about 250 systems, but now we could show them they aren't even using this stuff, so why increase the installed base. What we did instead was put the app on about a dozen machines to accommodate what they truly needed.

LANDESK's multicasting capability, so critical for software distribution, requires fewer network resources, using about 10% of the bandwidth used for unicasting. This efficiency is especially important with organizations with a high volume of remote users. One company using LANDESK to manage handheld computing devices was able to reduce bandwidth costs by over $350,000 per year across its 160 branches. LANDESK's power management module directly addresses the power issue. By being able to power down during periods of nonuse, the customers in this study were able to reduce their desktop power consumption by 5–30%.

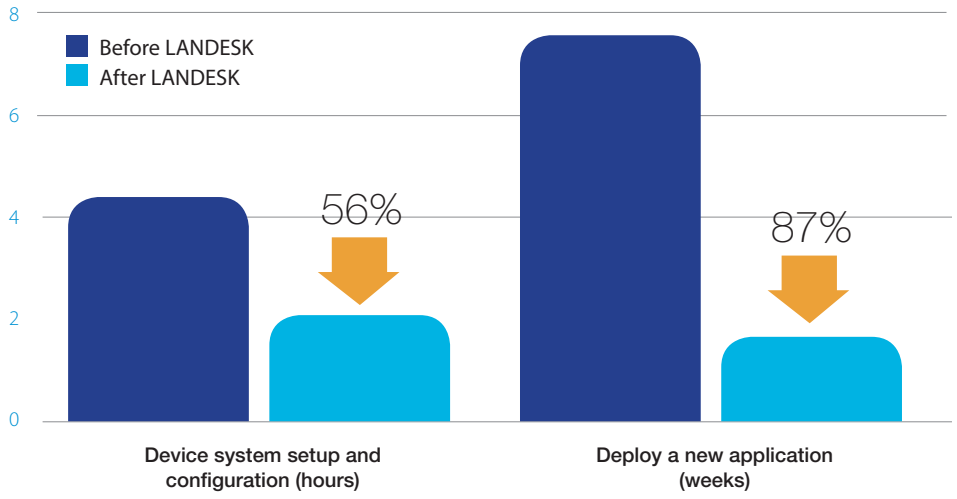
## *Integrating All Aspects of IT Management*

As in previous LANDESK studies, the most significant impact comes from integrating IT service management. This has become a critical element for organizations today as they deal with the explosion in mobile applications, which drive their business. To be successful, CIOs know they must continually provide new applications running on multiple types of devices with variable OSs and deliver high-quality services while mitigating the risks of data loss and significant downtime. It's a complex and changing environment, and LANDESK solution suites deliver all facets of IT management to include systems life-cycle management, mobile device management, endpoint security management, IT service management, IT asset management, and workflow and process automation. Increased IT staff productivity comes from automating and integrating the key management activities from initial configuration and deployment through annual patching and asset management to dealing with security and other risk mitigation issues.

This support starts with desktop system setup and configuration. Companies in this study were able to reduce the time to set up and configure each desktop from 3 hours to 1.3 hours and the time to build and package each image from 8 hours to 30 minutes. The IT department can push applications out to new parts of the organization without actually visiting the site or having mobile users come in, reducing software distribution time by 87% (see Figure 3).

**FIGURE 3**

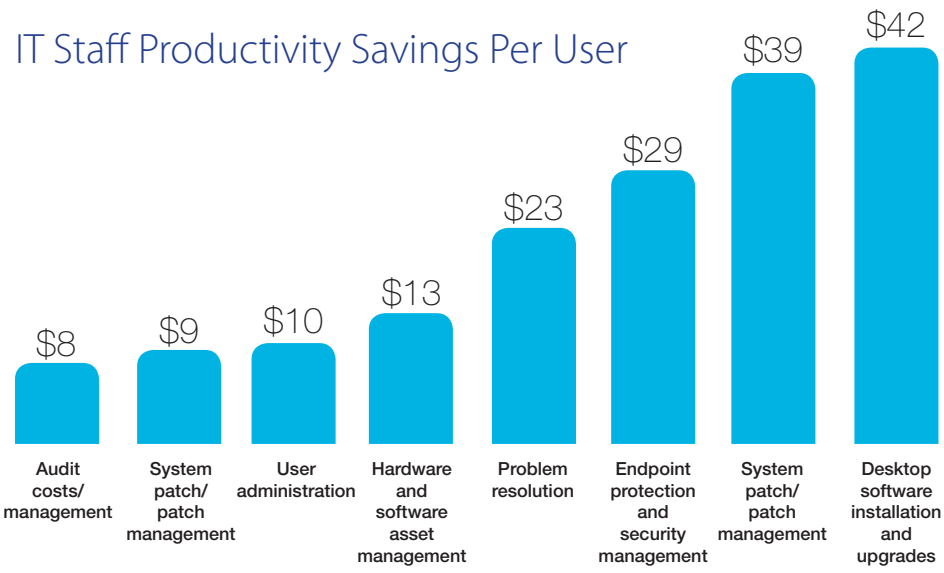
IT Service KPIs




*Source: IDC, 2013*

Companies in this study were able to reduce their IT staff time spent in day-to-day management and problem troubleshooting and response by 57%, reducing their client management costs by $173 per user. The most significant financial benefits came in managing software with software distribution and patch management where companies saved $42 and $39 per user, respectively. With an integrated platform, the IT staff can see the whole environment, so addressing security breaches and virus outbreaks and other problem resolution functions is easier and quicker. Maintaining quality-of-service cost benefits included endpoint protection and security management ($29 per user) and problem resolution ($23 per user). The costs for asset management ($13 per user) and user administration ($10 per user) are reduced through automation as well. Figure 4 shows the cost savings related to increased IT staff productivity.

**FIGURE 4**




*Source: IDC, 2013*

## *Help Desk Optimization*

Every company in the study related how LANDESK solutions help it optimize its help desk operations. Automating the setup, configuration, security, and administration of help desk functions improves the quality of IT services and reduces the costs of providing help desk support. In addition, the help desk can predominantly support the users by remote control to troubleshoot problems and deploy packages. Automation reduces errors, in turn reducing help desk calls by 24%. By reducing the number of problems, the companies in the study were able to more quickly identify and resolve individual incidents. First-level responders are now able to resolve 66% of problems; before LANDESK, they could address only 31% of problems. For problems beyond level 1 response, MTTR was reduced by 69%. Overall, more efficient help desk operations resulted in reducing help desk labor costs by $28 per user and resulted in user productivity savings of $16 per user.

## *Avoidance of Additional Hiring*

A third major benefit of increased IT staff productivity came from avoidance of hiring additional IT staff.

A third major benefit of increased IT staff productivity came from avoidance of hiring additional IT staff. By optimizing IT operations, the organizations in this study were able to increase the range of their IT services at a higher level of quality in growing environments, without adding staff. While about 50% of this savings came from PC support and 19% from PC user support (help desk), another 25% came from server support and 3% came from application and network management. On average, companies were able to avoid increasing staff by 18%, which saved each company $74 per user annually.

In summary, improvements in IT staff productivity came from three major sources:

- Automation, which saved $171 annually per user
- Improved help desk operations, which saved $28 annually per user
- Avoidance of hiring, which saved $74 annually per user

Together, improvements in IT staff productivity from these three sources saved a total of $252 annually per user (refer back to Figure 1). This was the highest value benefit experienced by the organizations interviewed for this study.

## User Productivity

IT operations have become increasingly user focused. It is about empowering the increasingly mobile user with applications that allow him/her to communicate with customers, collaborate

with internal assets, and coordinate processes. Optimizing IT services directly impacts user productivity by reducing the impediments to the use of key business applications. The most significant impediments are system and network outages and security intrusions and virus attacks. Not only is the user workflow disrupted, but chronic disruptions lead to lower levels of utilization as users become wary of using the applications. LANDESK helped reduce downtime hours per year by 65% (see Figure 5). Patch management and security management contributed to the improvement in downtime by keeping the security applications environment up to date.

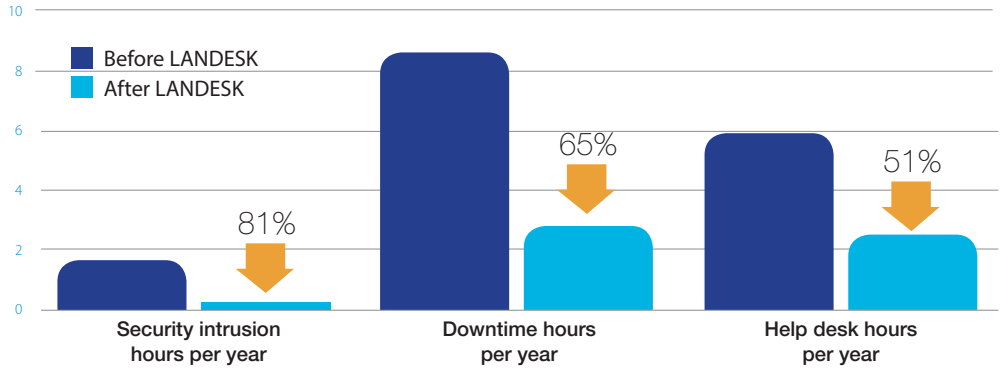
Most companies were strong in controlling downtime overall but plagued by difficulties with mobile devices. One healthcare provider had significant problems, with its mobile systems suffering around 80 downtime incidents per month. According to the company:

> The biggest thing that we've seen is that we look at different severities for the type of calls that we get. And so the high impact … where someone's down, that's probably been cut by like 50%, because we've got the visibility to the systems. We patch them on a regular basis now, which we didn't before. So we've got all of those processes in place now.

We have previously discussed the reduction in IT labor resulting in more efficient help desk operations. Users also enjoy this benefit. On average, each user was wasting six hours annually calling the help desk to resolve performance or compatibility issues. LANDESK was able to improve support so that users gained back about 3.05 hours annually.

**FIGURE 5**

## User Productivity




*Source: IDC, 2013*

## Business Benefits

Our interviews uncovered several cases where companies were able to improve productivity in business operations because LANDESK was able to provide more reliable, agile, and scalable client operations. One distributor is reliant on mobile computers to manage its warehouses. By speeding up configuration times, the distributor was able to add 15–20 operational hours per month for 4,000 employees at 300 branches.

In addition to using LANDESK to manage mobile devices, a couple of the organizations deployed LANDESK's Speakeasy product, which is a voice interactive solution for handheld computers. One retailer reported using the devices in its warehouses rather than traditional systems, which required that data be manually typed in. As a result, the retailer was able to reduce inventory shrink and incorrect orders and increase efficiency by 35%.

On average, companies were able to increase their productivity by 10%, which generated $106 per user in annual business productivity.

Customers described ways in which implementing LANDESK solutions contributed directly to their revenue. One company using LANDESK to manage all its mobile PCs and devices described how it was making additional revenue because of the reliability of its systems. According to the company:

> We make a lot more money thanks to LANDESK. There's less downtime on the handheld systems. I would guess the total additional revenue could be $1 million to $2 million. A lot of that revenue is the result of the reduction in downtime.

On average, respondents credited LANDESK solutions with contributing $750,000 in new revenue per year. To determine the impact on an organization's bottom line, IDC assumed a 10% operating margin, implying that companies were able to realize a $75,000 operating margin benefit, which amounts to $7 per user (see Table 2).

**TABLE 2**

Business Productivity

| Business Productivity | Value | Annual Value per User |
|---|---|---|
| Increased productivity | 10% | |
| Annual benefit from increased productivity | $1,255,858 | $106 |
| Revenue savings from reduced downtime | $750,000 | |
| Operating margin | 10% | |
| Net margin increase | $75,000 | $7.14 |

*Source: IDC, 2013*

# ROI Analysis

The bottom-line analysis that all companies should perform when considering optimizing their IT management is whether the economic benefits of the investment will outweigh the costs associated with implementing the solution. IDC uses a discounted cash-flow methodology for deriving ROI and payback period metrics.

In this study, IDC found that all customers that implemented LANDESK solutions were able to enjoy a positive ROI — the benefits of the LANDESK solutions far outweighed the costs for purchasing, deploying, and maintaining them. On average, they realized a 696% return on their total investment, achieving a three-year (discounted) benefit of $1,356 per user and payback of the initial investment in 7.7 months (see Table 3).

**TABLE 3**

## Three-Year ROI Analysis per User

| Category | Details |
|---|---|
| Benefits | $1,356 |
| Investment | $170 |
| Net present value | $1,185 |
| ROI = NPV/investment | 696% |
| Payback period | 7.7 months |
| Discount factor | 12% |

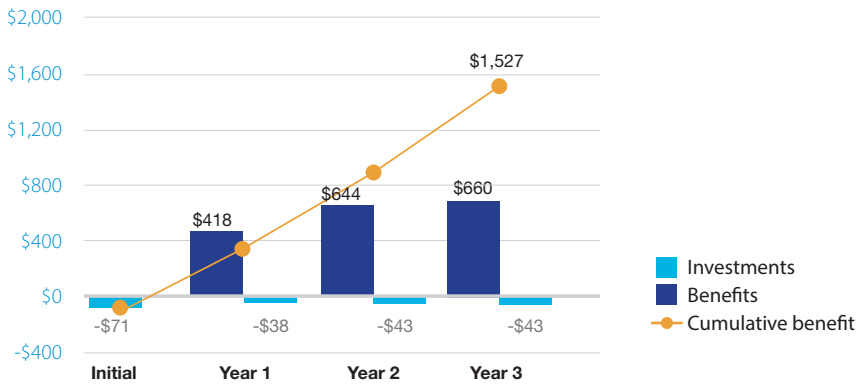
*Source: IDC, 2013*

IDC assessed the cost, benefits, and value of deploying LANDESK solutions over a three-year period (see Figure 6). Initial installation of LANDESK solutions cost $71 per user. Based on that investment, the organizations realized average annual benefits of $574 per user (the first year is prorated to allow for deployment). Over three years, these companies will realize a cumulative net gain of $1,527 per user.

Figure 6 illustrates the costs and benefits of deploying LANDESK solutions over time. Note that the cumulative net benefit is positive beginning in year 1.

**FIGURE 6**

## Cost Benefit Analysis per User




*Source: IDC, 2013*

# Challenges/Opportunities

LANDESK's comprehensive suite approach to IT systems management stands to reduce the complexity and cost associated with delivering optimal IT systems and services to the business. This allows IT executives to focus less on keeping the lights on and more on becoming strategic business partners, driving technology adoptions that directly result in increased business efficiencies.

However, many IT organizations have made significant investments in niche products and may be content with leveraging them to address specific IT pain points such as mobile device management, data analytics, and endpoint security. Furthermore, mobile device management is a rapidly expanding and competitive space.

As such, LANDESK will need to clearly articulate the value proposition of its board-based, unified management suites as well as how these products integrate with third-party solutions, hosted both on-premise and in the cloud. In addition, LANDESK will need to present compelling messaging, specifically around its workforce segmentation and policy-based approach to enterprise MDM.

LANDESK may also consider investing in cloud-based management solutions for smaller organizations. Smaller IT organizations increasingly need standardized IT management software at a price point they can afford. Frequently, these smaller organizations lack a sizable IT organization with several IT administrators. Such an organization could benefit from an "as a service"-based software solution that offers subscription-based pricing as well as an off-premises hardware and software delivery model and that can also scale for future growth.

# Conclusion

Researching and implementing innovative technologies can seem nearly impossible for IT organizations already heavily burdened with both managing legacy systems and mitigating the impacts associated with rogue technology entering the corporate domain via the BYOD and shadow IT trends. Therefore, many IT organizations seek to leverage unified IT systems management solutions in order to automate and streamline the management and security of existing systems and optimize and simplify the adoption of new technologies to drive business growth.

IT organizations need to:

- Leverage solutions that increase both business user and IT staff productivity
- Increase IT efficiencies so that IT can dedicate more time to driving business-impacting innovations
- Provide both a secure and a user-centric IT environment by automating the costly manual processes involved in systems management, security management, service management, asset management, and mobility management
- Integrate IT systems management solutions essential for IT organizations to control the costs associated with the infrastructure, staff, and services needed to react quickly to support business initiatives and add new capabilities

LANDESK's integrated user management solutions provide a comprehensive answer to IT organizations seeking to simplify the management of core IT functions across multiple hardware and software platforms. This comprehensive solution enables IT organizations to more effectively demonstrate their value proposition. Through this enhanced ability to empower business users with innovative technologies, organizations can simultaneously reduce the efforts and costs associated with IT systems and service management.

# Appendix

IDC utilized its standard ROI methodology 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:

- 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.
- Ascertain the investment made in deploying the solution and the associated training and support costs.
- Project the costs and savings over a three-year period, and calculate the ROI and payback for the deployed solution.

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 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 (NPV) of the five-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.

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.

## 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.

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