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# Modernize Your Device Management Practices Using The Cloud

New Cloud-Enabled Operating Systems Deliver  
Ease And Flexibility For IT Professionals

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# Executive Summary

Today's computing infrastructure acquisition, deployment, management, and servicing methods pose challenges to large and small organizations alike. As employees increasingly rely on myriad devices and applications to do their jobs, IT professionals must find efficiencies in how they provision and support new devices and applications. Luckily, operating system (OS) solutions that are fully integrated with the cloud and designed to work across devices are emerging. A cloud-based service model frees up resources so infrastructure and operations (I&O) teams can focus on helping the business be more agile and effective in serving customers and employees.

In February 2017, Microsoft commissioned Forrester Consulting to evaluate IT decision-makers' current device procurement and management practices and sentiment toward a cloud service model. Forrester conducted a global online survey of 459 companies with 100 or more employees and found that current IT procurement practices come with a number of challenges that a cloud service model is poised to solve.

## KEY FINDINGS

- › **IT decision-makers are looking to take advantage of new cloud functionality to improve the end user computing operations life cycle.** Shifting requirements are causing IT professionals to consider alternative methods of sourcing and managing their hardware and services. More than 90% of respondents expect to use the cloud in each facet of their device management operations within the next year.
- › **Device deployment today is taxing and costly.** The manual nature of provisioning and updating devices today means that every new OS and application release requires significant time and resources. This issue is compounded by complex, time-consuming licensing activities like activation and asset management.
- › **Modern IT involves leveraging the ease and flexibility of the cloud for device management.** Moving the device operations life cycle to the cloud presents a massive opportunity that is of great interest to I&O decision-makers. A transitional model — in which some devices are managed in the cloud and others via on-premises platforms — can make the migration easier and greatly improve IT efficiency, agility, productivity, and cost management.



The employee experience deeply depends on the successful use of technology.

# New Cloud Functionality Improves The Device Operations Life Cycle

The management of operating systems is moving to the cloud, enabling better processes for enterprises faced with supporting more devices and applications than ever. By providing one integrated, cloud-enabled app and OS platform for all devices, solution providers promise to make automatic updates easier to implement, improve version control, and spend less time on acceptance testing, wiping, and reloading OS images. Our study found that I&O professionals are eager to adopt this model as part of their evolving cloud-first and mobile-first strategies:

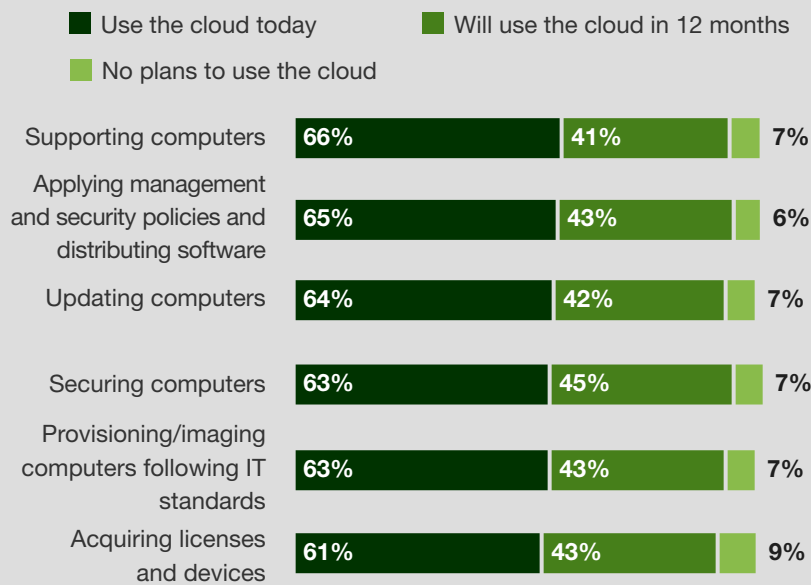
- › **IT now seeks to improve employee experiences.** The employee experience — how workers perceive their interactions with the company — deeply depends on the successful use of technology. Cloud-based device management systems can reduce device downtime, contribute to higher worker productivity, pave the way for easier experiences for remote employees, and get the right apps to the right people quickly. Positive employee experiences increase company revenue and improve customer experiences.<sup>1</sup>
- › **Device procurement is changing.** IT organizations have historically purchased both devices and services through a salesperson, most commonly from an OEM or managed service provider. Our study found that while the use of eCommerce websites is growing, few use internal app stores. The ability to procure and provision devices through a vetted service app store will increasingly become a viable alternative as business users expect more from self-service technology.
- › **More than 90% of companies will use cloud to support devices in the next year.** Most companies already use the cloud in at least one aspect of their device management operations: At least 61% use the cloud for technical support; software distribution; the management and security policy application; computer provisioning, imaging, and updating; and license and device acquisition. Ninety-one percent or more of companies plan to use the cloud for each of these functions in the next 12 months (see Figure 1).
- › **Shifting requirements are driving these changes.** The top device deployment challenges are the increasing need to manage data, rapidly evolving threats, and the emergence of bring-your-own-device policies (see Figure 2). As OS and application providers continue to improve cloud integration capabilities for mobile devices as well as PCs, software-as-a-service (SaaS) and platform-as-a-service marketplaces give IT decision-makers opportunities to save time, reduce shadow IT, and ensure that new applications are properly vetted and approved.



IT leaders are eager to embrace the benefits of cloud-based PC management.

**Figure 1**

**“When deploying devices to your organization, do you use cloud technologies for any of the following?”**

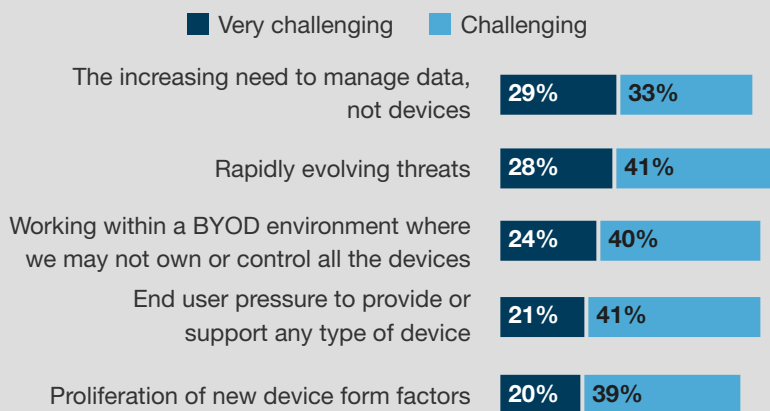


**91% or more of companies will leverage the cloud to acquire, provision, set up, secure, support, and update their computers and mobile devices within the next year.**

Base: 459 IT hardware decision-makers at the manager level and above who influence technology investments in North America, EMEA, and Asia-Pacific  
 Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, February 2017

**Figure 2**

**“Thinking about how your organization currently deploys devices, how much of a challenge are the following?”**



**Shifting business requirements drive organizations to consider alternatives to how they deploy devices.**

Base: 459 IT hardware decision-makers at the manager level and above who influence technology investments in North America, EMEA, and Asia-Pacific  
 Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, February 2017

# IT Professionals Face Challenges Across The Device Life Cycle

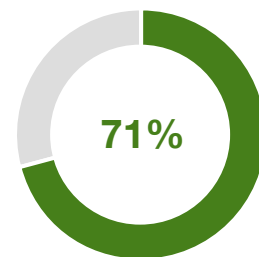
The accelerated adoption of apps and devices has traditionally been challenging for I&O teams to manage, as they need to test and support each new device and application needs to be tested and supported every time a new device or OS version is released. This problem is compounded by employees' everyday experiences with technology; mobile app stores have driven their desire for more self-service applications — and if employees aren't provided with the tools that they need, they will resort to shadow IT.<sup>2</sup> In this environment, the inefficiencies of traditional processes for device management lead to wasted resources and potentially compromised security and productivity. Our study found that IT professionals face challenges with their current processes across the device management lifecycle:

- › **IT professionals are complacent.** When device issues arise, the business suffers in myriad ways. Some 66% of respondents told us that device issues result in increased costs and reduced user productivity, and 68% said that inoperative devices are difficult and time consuming to replace for remote users. Despite this — and the acknowledgements that their processes are clunky and labor intensive — 71% of IT pros say they are satisfied with their time-to-resolution (see Figure 3). We do generally see some bias when we ask respondents how well they feel they are doing their jobs, but this still indicates an alarming level of complacency that their inefficient support processes are 'good enough.'
- › **Device acquisition is lengthy and complex.** Most respondents agreed that device procurement is complex (56%), involves lengthy discussions with PC providers (65%), and is time-consuming (72%) (see Figure 4-1). Key drivers of this challenge are the need for new form factors to go through extensive testing, as well as navigating contract restrictions. As a result, 74% of respondents agreed that they spend a lot of time and resources trying to improve their device acquisition processes.
- › **Updates are manual and disjointed.** IT professionals find managing, securing, and updating devices to be even more difficult than initial acquisition and deployment. IT faces issues with fragmentation, device compatibility, end user training, and testing. On average, it takes IT pros half a day to image a new device for a new user — 3 hours for an existing user — and more than four days each to test app compatibility and create images across the organization for a new release (see Figure 4-2).

Figure 3

## MOST IT PROS ARE SATISFIED WITH CURRENT PROCESSES

**“We are satisfied with our time-to-resolution when device issues arise.”**

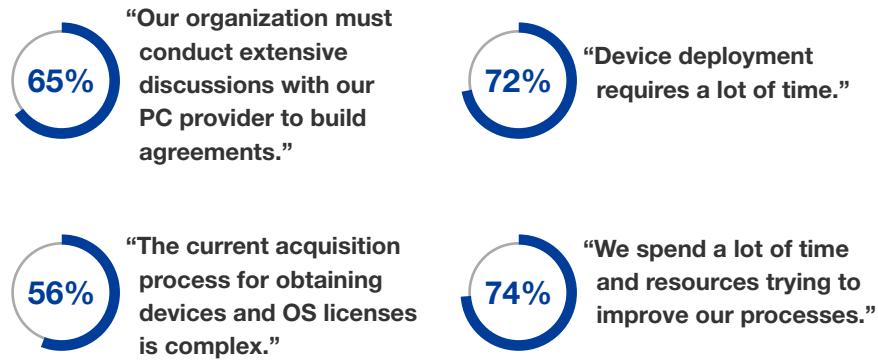


“Agree” or  
“strongly agree”

Base: 459 IT hardware decision-makers at the manager level and above who influence technology investments in North America, EMEA, and Asia-Pacific  
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, February 2017

**Figure 4-1**

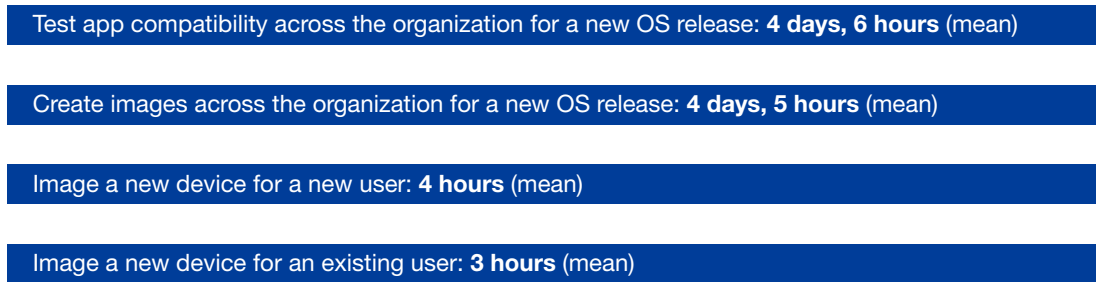
**“Please rate your agreement with the following statements:”** (Only “agree” and “strongly agree” responses are shown)



Base: 459 IT hardware decision-makers at the manager level and above who influence technology investments in North America, EMEA, and Asia-Pacific  
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, February 2017

**Figure 4-2**

**“Approximately how long does it take for your organization to do the following?”**

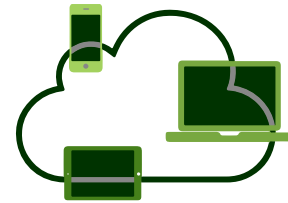


Base: 106 director level and above contact center operations/senior leaders in the US  
Source: A commissioned study conducted by Forrester Consulting on behalf of Contact Solutions, February 2017

# Move To The Cloud To Improve Speed And Flexibility And Reduce Costs

SaaS app stores can mitigate device management challenges if properly deployed with cloud-based mobile device management, identity, and file storage tools. Organizations can acquire licenses and devices, provision them following IT standards, apply management and security policies, keep them up to date, and resolve issues quicker via the cloud with less effort than ever. Within this model, organizations with on-premises infrastructure can move their device life-cycle operations to the cloud. The I&O pros we spoke with see great value in the cloud device management model and its associated benefits:

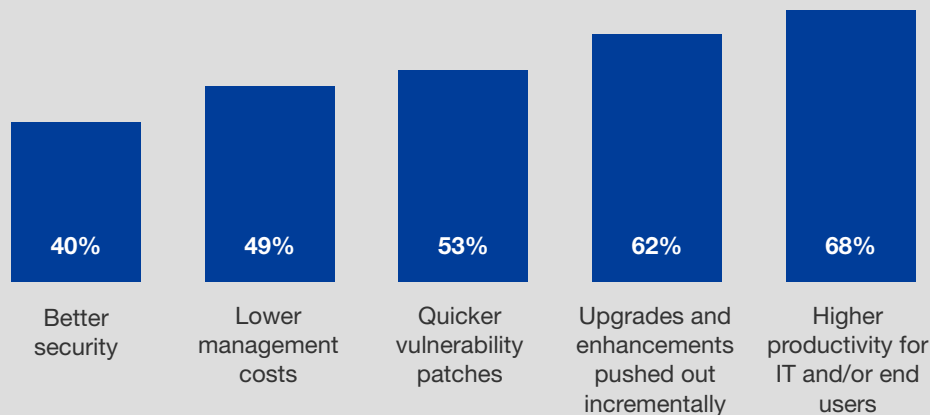
- › **IT leaders are optimistic about the business benefits of cloud.** According to the leaders we spoke with, the top reasons to adopt cloud are better overall IT cost management and improved IT infrastructure management and flexibility. Overall, decision-makers expect many benefits from a cloud-based operating system service model with more frequent updates: 68% expect higher productivity for IT and/or end users, 62% expect more incremental upgrades and enhancements, and 53% expect quicker vulnerability patches (see Figure 5).



77% of IT leaders agree that cloud-based provisioning would improve that process for remote employees.

Figure 5

“Which of the following benefits would you expect from a cloud-based operating system service model with frequent updates?”



Base: 459 IT hardware decision-makers at the manager level and above who influence technology investments in North America, EMEA, and Asia-Pacific  
Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, February 2017

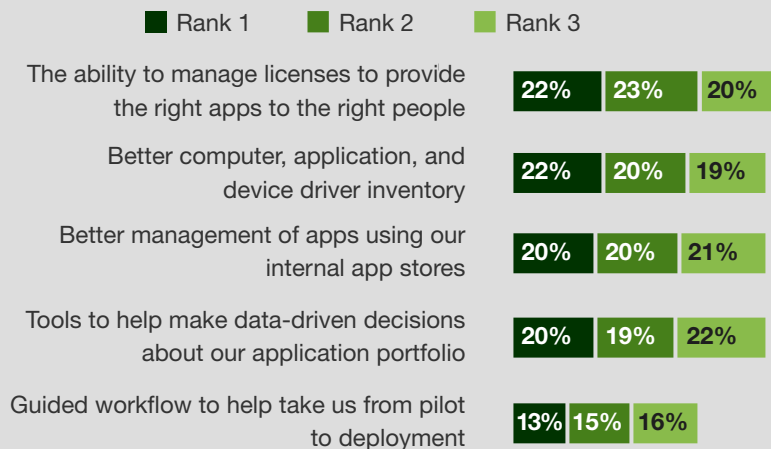


- › **App stores ease application management.** IT decision-makers look forward to better license management; an improved inventory of computers, apps, and devices; better app management via internal app stores; and tools that help make data-driven decisions about the application portfolio. All of these are benefits of an app store software procurement model. 77% of IT leaders agree that cloud-based provisioning would improve that process for remote employees, 77% feel that better analytics can make compatibility and testing smoother, and 75% agree that bulk provisioning will drive significant cost savings in IT labor (see Figure 6).
- › **Decision-makers look for capabilities that will simplify and improve device support.** Managing and securing devices — the most challenging steps in the PC management life cycle — are also the processes that should benefit the most from a cloud model. IT decision-makers will prioritize vendor solutions that provide the ability to update devices automatically, empower IT with broad app deployment powers, simplify troubleshooting if devices are not updated, and identify and remediate potential issues before they affect end users.



**Figure 6**

**“What benefits do you perceive from using an app store as the mechanism for delivering enterprise software?”**



Base: 459 IT hardware decision-makers at the manager level and above who influence technology investments in North America, EMEA, and Asia-Pacific  
 Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, February 2017

Application marketplaces offer easier and more flexible management.

# Key Recommendations

Today's leading digital enterprises recognize the need to move to a modern IT infrastructure, which entails cloud-based management of devices. A move to the cloud reduces costs, gives remote employees a better experience, improves security, and increases the productivity of both IT and workforce employees.

Forrester's in-depth survey of IT professionals responsible for device management yielded several important recommendations:



## **Build a case for modern IT by looking at the employee experience.**

Build the internal case for cloud-based device management on higher productivity, better experiences for remote employees, and getting the right apps to the right people quickly. In the past, IT leaders focused too much on control at the expense of user experience; prove to your internal stakeholders that you've left that model behind by describing the benefits of modern IT in terms of the employee experience. Better employee experiences, you should argue, will increase company revenue and improve customer experiences.<sup>3</sup>



## **Establish modern device management as the foundation for everything else.**

Testing and rolling out OS upgrades are particularly burdensome tasks today. IT departments spend weeks preparing for a new OS upgrade, a process that includes testing for compatibility, deploying across all devices, and providing user training. Organizations must evolve their identity management to be cloud-compatible as a step toward alleviating some of these challenges. Establishing the benefits of modern IT here with cloud-based device management — and showing clear benefits — will allow your organization to continue the cloud journey toward app stores.



**Drive your modern IT strategy across the device life cycle.** This life cycle includes five phases: acquisition, deployment, management and security, updates, and support. Focus on the benefits of cloud at each phase. A modern approach can simplify licensing at the acquisition phase, then radically shift the economics of device imaging during deployment. Management and security benefit from lower personnel costs, better access to apps, and higher responsiveness to emerging threats. You can complete updates with less testing and downtime and make support easier for users and IT pros alike.

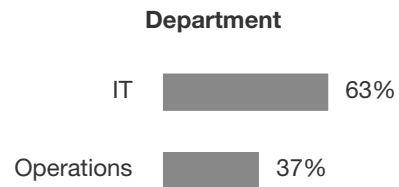
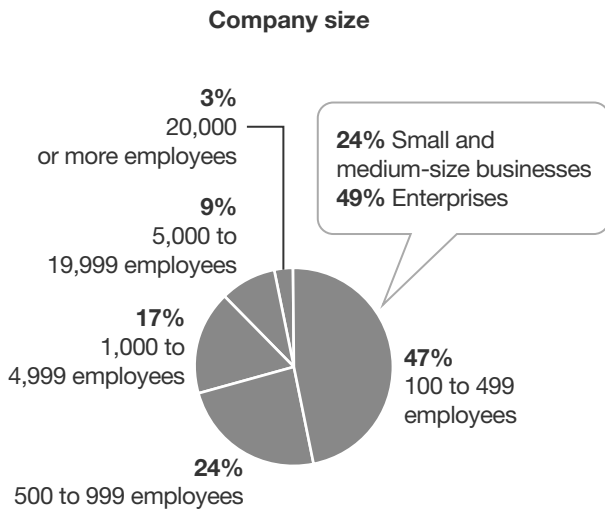
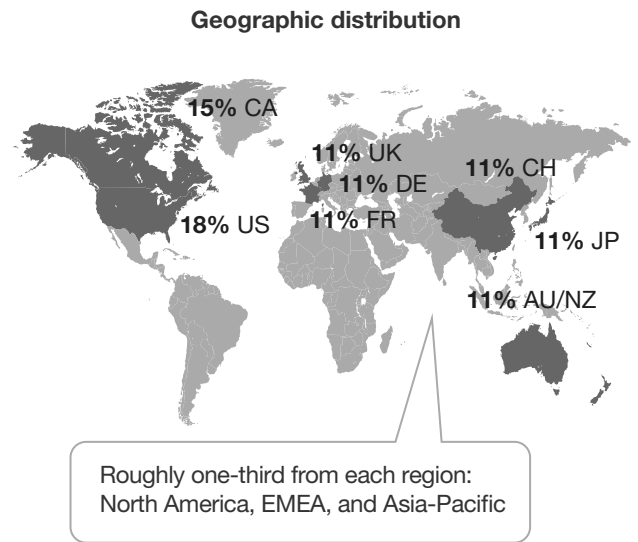
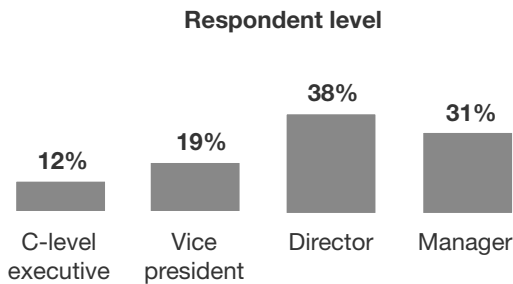


**Allow self-service and automation to drive additional value.** Once your organization has moved to a modern IT infrastructure, you should encourage additional streamlining. App stores can remove a great deal of the complexity associated with software licensing, allowing employees to engage in self-service and then automating license management. Consider these benefits when constructing a business case for your modern IT migration project.

# Appendix A: Methodology

In this study, Forrester conducted an online survey of 459 enterprises and small and medium-size businesses in the US, Canada, France, Germany, the UK, Australia, New Zealand, China, and Japan to evaluate their IT practices and sentiments towards operating systems that are managed in the cloud. Survey participants included manager-level and above decision-makers in infrastructure and operations roles. Respondents were offered a small incentive as a thank-you for time spent on the survey. The study was conducted in February 2017.

# Appendix B: Demographics/Data



# Appendix C: Supplemental Material

## RELATED FORRESTER RESEARCH

“Use The Service App Store To Enable Customer Obsession In I&O,” Forrester Research, Inc., July 25, 2016

“Brief: What App Store Models Mean For SaaS Sourcing And Governance,” Forrester Research, Inc., February 11, 2016

“Establish The Business Case For I&O Transformation,” Forrester Research, Inc., August 4, 2016

“Brief: Microsoft Gets Its Flagship OS Back On Track With Windows 10,” Forrester Research, Inc., January 21, 2015

## Appendix D: Endnotes

<sup>1</sup> Source: “Assess Your Workforce Maturity To Deliver A Better Employee Experience,” Forrester Research, Inc., April 18, 2017

<sup>2</sup> Source: “Use The Service App Store To Enable Customer Obsession In I&O,” Forrester Research, Inc., July 25, 2016

<sup>3</sup> Source: “Assess Your Workforce Maturity To Deliver A Better Employee Experience,” Forrester Research, Inc., April 18, 2017