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The Next-Generation Workspace Will Revolve Around Mobility And Virtualization

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FORRESTER

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Executive Summary

Today's corporate workspace environment is changing rapidly. Many enterprises focus on providing employees with a flexible workspace that provides ubiquitous access to corporate resources and services — through any device and from any location. Factors driving demand for workspace flexibility include the growing number of employees who expect to use their own personally selected — and often personally owned — mobile devices, laptops, and other technologies at work. Additionally, many enterprises are implementing a variety of mobility, virtualization, and security solutions to improve employee productivity and to facilitate collaboration between and among their partners, customers, and suppliers across the globe.

In April 2012, Cisco Systems commissioned Forrester Consulting to conduct a study to better understand mobility, virtualization, and other technology initiatives enterprises are implementing to improve the productivity and flexibility of employees. Key focus areas included the benefits, challenges, and timelines for implementing workspace initiatives such as bring-your-own-device (BYOD) programs and collaboration, desktop virtualization, application virtualization, and security solutions. The study methodology was in-depth online surveys of 325 global information technology (IT) senior-level decision-makers in the US, Europe, and China. All of the study participants were either final decision-makers or part of a team of decision-makers addressing client services or mobility initiatives in their organization. Key findings from this study include:

- **A new generation of workers requires IT policies and practices that support mass mobility.** To support a distributed workforce, an agile and flexible model and common practices must be established to enable collaboration and leverage employee skill sets. The profile of the workforce is changing dramatically. Employees entering the workforce are increasingly mobile and technically savvy. In addition, many employees expect the corporate IT department to provide them with the flexibility to use their own devices for work-related activities and to facilitate collaboration with each other.
- **Consumerization and mobility momentum drive technical and security requirements.** More than one-third of employees are bringing technology to work to augment company-issued technology solutions, and nearly half of firms are implementing BYOD programs to support employee-owned devices.¹ This fragmented device and application landscape drives corporate demand for security solutions, including access control, data encryption, password protection, and antivirus solutions. Virtual desktop and application virtualization solutions are also in high demand to help firms control the digital workspace and secure corporate data and intellectual property.
- **New delivery models and management strategies help firms cost-effectively support these initiatives.** Many organizations are planning to use cloud-based deployment to enable cost-efficient, self-service delivery of IT services including software-as-a-service (SaaS), mobile apps, desktop-as-a-service, and security-as-a-service. In addition, many IT organizations are documenting formal policies and procedures to guide the deployment of and support for BYOD programs and to control the distributed workspace.

Globally Dispersed Employees And Consumerization Are Redefining The Workplace

Business and technology trends are redefining the workplace, transforming enterprises to meet the dramatically evolving and rapidly changing demands of the global workforce. By 2020, 80% of the 1 billion new consumers worldwide will come from Asian markets.² To take advantage of these new market opportunities, firms of all sizes, located all over the world, are setting up shop, either directly or through partnerships, in China, India, and Korea.

- **Networked business models and shared ecosystems create a mobile and distributed workforce.** Establishing global business models often requires organizations to interact with each other to create value for the ultimate customer and to enable the workforce to reside anywhere and everywhere. Manufacturers take advantage of labor arbitrage in emerging economies while increasing the number of cars sold to consumers in those same lower-wage markets. Giant retailers seek new products to satisfy the tastes of buyers residing in markets with lower margins but higher scale. And financial services firms balance capital performance against the risk of doing business around the world.
- **The mobile and distributed workforce demands new engagement models.** A single dedicated desktop device issued and owned by the company will no longer satisfy the performance and accessibility needs of the distributed mobile workforce. Flexible downloadable or cloud-based mobile apps are replacing traditional static solutions that are stored on employees' desk-bound machines. And some firms leverage new customer, partner, and employee engagement models to maximize efficiency and extend output by syncing data and apps to bridge traditional office hours around the world. The day may start with the workforce in Western Europe and end with workers in India, just as Eastern European workers are getting ready to come online again. For example, global oil and gas firms move their capital assets to keep them working around the clock, and major market high-tech and professional services firms are starting to internally outsource certain business functions to Indian or Chinese field offices that can complete projects while American workers sleep.
- **Highly social young workers use public and internal technologies to collaborate.** The new generation of information workers requires platforms to support always-on, location-agnostic, highly collaborative productivity. Young employees feel empowered to adopt these new work styles and use publicly available social tools irrespective of whether their firms support them or provide equivalent internal tools. Twenty-three percent of information workers report having access to public social networks at work; 15% use them for work at least once a week. In contrast, only 12% report having access to internal social networks; only 8% of respondents use these at least once a week.³

Technology Underpins The Increasingly Mobile Workforce

Technology enables organizations to address these new business trends and respond to changing workforce expectations:

- **Mobile is a new mode of engagement with its own requirements.** In response to the needs of the distributed, on-the-move workforce, firms are leveraging a mix of fixed and mobile technologies and solutions to provide workers with access to corporate information and services no matter where they are located. To support this distributed and shifting workforce, many companies are leveraging mobile platforms to interact with customers,

partners, and employees — and are expanding IT's ability to support a wide variety of mobile devices, operating systems, applications, and services across the global landscape.⁴

- **Consumerization redefines expectations of how computer-based interactions work.** Employees use many different types of devices for work each day; more than one-third of them bring technology to work.⁵ Results from Forrester's survey of workers in North American and European enterprises show that 44% of workers use three or more devices — such as desktops, laptops, smartphones, and tablets — for work each day.⁶ In addition, more than half of the companies surveyed for this report say that employee demand to use multiple company-issued and employee-owned devices is driving their workspace strategies. Just as employees seek applications that enable work outside the office, they require apps and resources that enable personal devices to perform and interact seamlessly everywhere — and particularly within the workplace. Thirty-two percent of firms surveyed for this report indicated that the demands of work styles introduced by new workers are driving workspace strategies (see Figure 1).
- **IT can no longer control what devices people use.** Employees increasingly expect the corporate IT department to provide support for a wide range of personally owned smartphones, tablets, laptops, and desktops, as well as the applications and services deployed on these devices. The growing number of employees who bring their own devices to work is driving these expectations for IT to support personal devices. In fact, the survey results reveal that 43% of companies cite that BYOD requirements as driving workspace initiatives.
- **A new generation of social enterprise apps is redefining collaboration.** To support this connected, social workforce and to facilitate collaboration among customers, partners, and employees, companies are investing in new technologies that enable collaboration through a “social layer” — a full set of social capabilities, from microblogs to social analytics, integrated as a service into a wide variety of enterprise application and network platforms. This layer connects users, applications, and the communications infrastructure rather than trying to build interactive facilities within existing software and having to constantly refresh or update them to keep up with the social requirements.⁷
- **Security, performance, and management challenge IT's existing skills.** Many IT organizations are opening the doors to a wide variety of employee-owned mobile devices by supporting BYOD programs and enabling employees to access corporate applications and resources using these devices. But managing and securing this fragmented array of devices and ensuring the performance of the growing number of corporate applications and services deployed over them create major challenges. Forty-seven percent of respondents identified increased device and compliance risk as driving their workspace strategies.

Figure 1

Multiple Devices, Cloud Services, Collaboration, And Security Activities Are Driving Workplace Initiatives



Base: 325 global senior IT decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Firms Address Workforce Evolution With Mobility And Desktop Virtualization

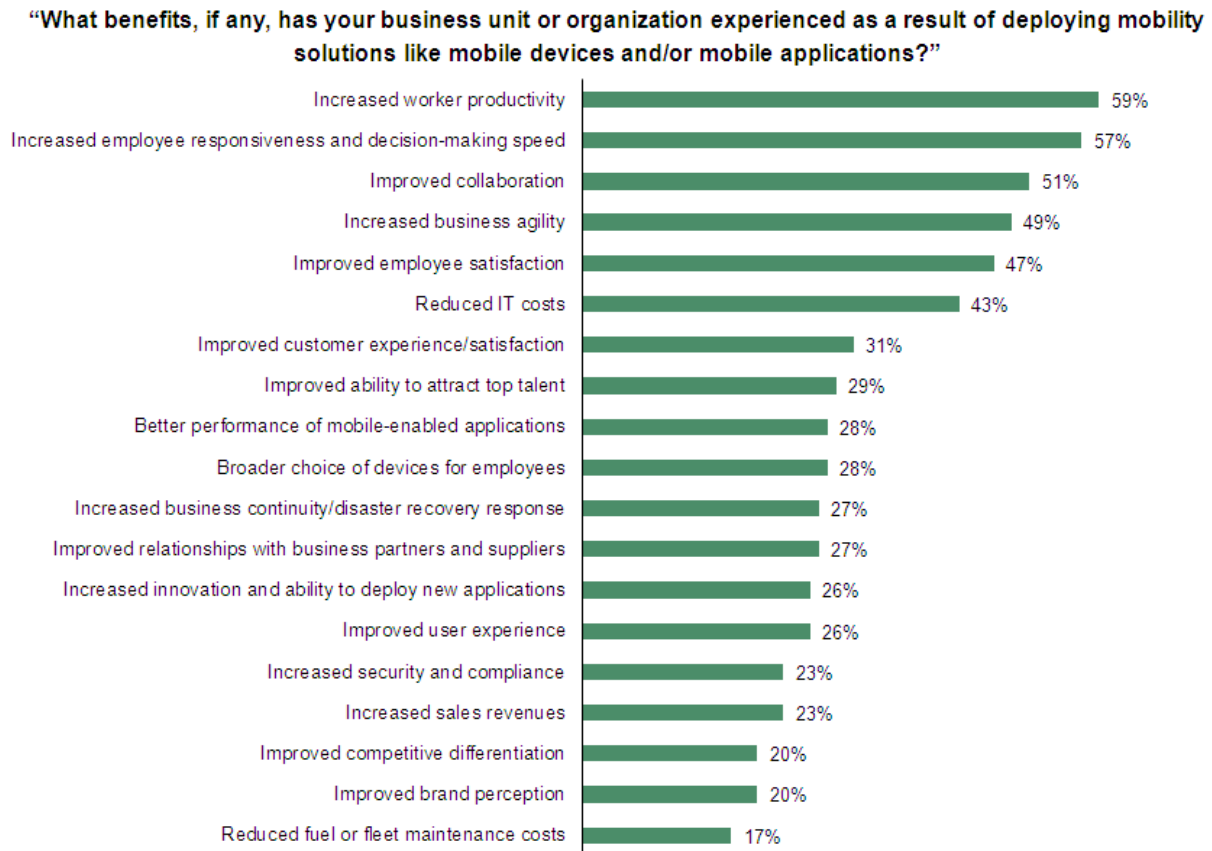
Enterprises seek to improve employee productivity and responsiveness amid massive business and workforce transformations. They have to because of the significance of workforce costs; keeping these increasingly distributed and mobile workers productive in the context of changing work styles is one of the keys to profitability. Employee salaries make up more than 50% of operating expenses in service industries like healthcare and education. Even in capital-intensive heavy industry like durable goods manufacturing, construction, mining, and oil and gas, salaries make up one-fifth of the operating costs.⁸

As a result, firms will be prioritizing and investing in expanded mobility, team collaboration, and virtualization services in the coming year. Key benefits enterprises expect to achieve from these initiatives include improved employee productivity and responsiveness, rapid creation of collaborative workgroups to increase business agility, and reduced costs (see Figure 2).

- **Multiple device strategies will dominate.** Unable to resist their employees' insistence on using personal devices, nearly 70% of the firms surveyed list BYOD program implementation as a priority (see Figure 3).
- **Desktop virtualization will help tame some of the BYOD complexities.** Seventy-seven percent of surveyed firms are prioritizing desktop virtualization programs as a key priority in the coming year. Forty-three percent of them have deployed or are expanding solutions to enable access to a virtual workspace, while another 43% are planning to do so in the future (see Figure 4). In addition, 58% of companies say that BYOD pressures are a driving force behind their desktop virtualization projects.
- **Cloud-based as-a-service solutions will address additional BYOD challenges.** Firms leverage new types of public-cloud-based deployment models to support cost-efficient, self-service delivery — like SaaS, mobile app stores, desktop-as-a-service, and security-as-a-service. Two-thirds of surveyed companies reported moving communications applications to the cloud as a top workplace and mobility priority over the next 12 months. Moreover, 58% of respondents identified adopting or expanding the use of telecom and mobile services from the cloud as a top priority in the next 12 months.

Figure 2

Increased Productivity, Employee Responsiveness, And Collaboration Are Key Mobility Solution Benefits

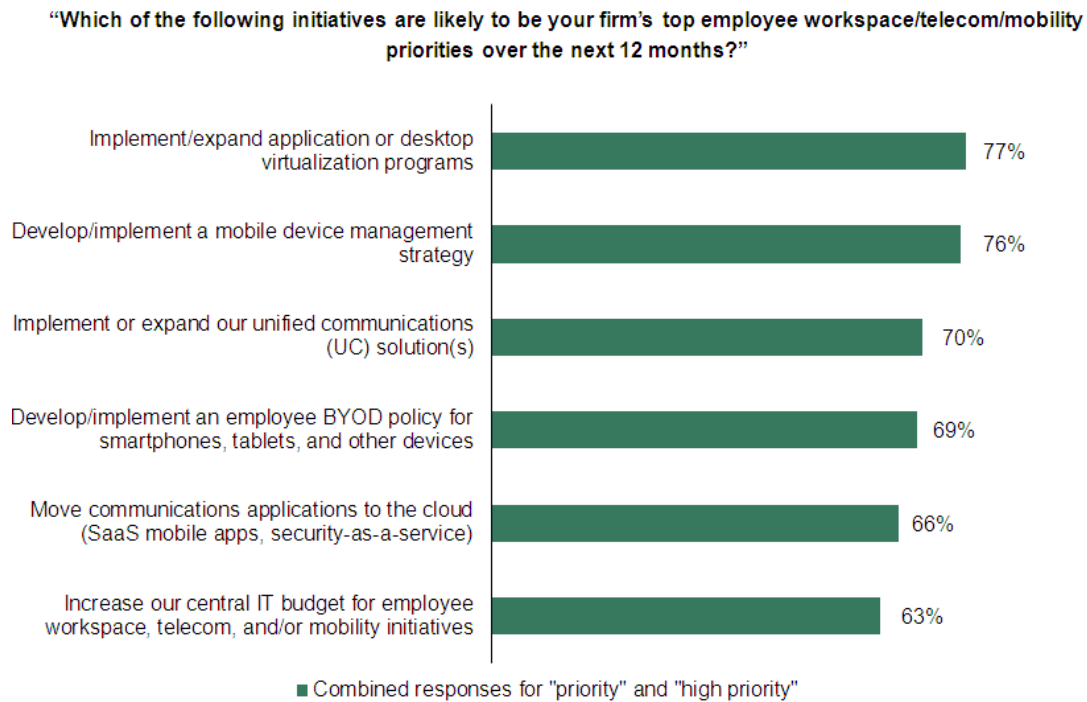


Base: 325 global senior IT decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Figure 3

Virtualization Programs, Mobile Device Management, UC Solutions And BYOD Policies Are Leading Priorities

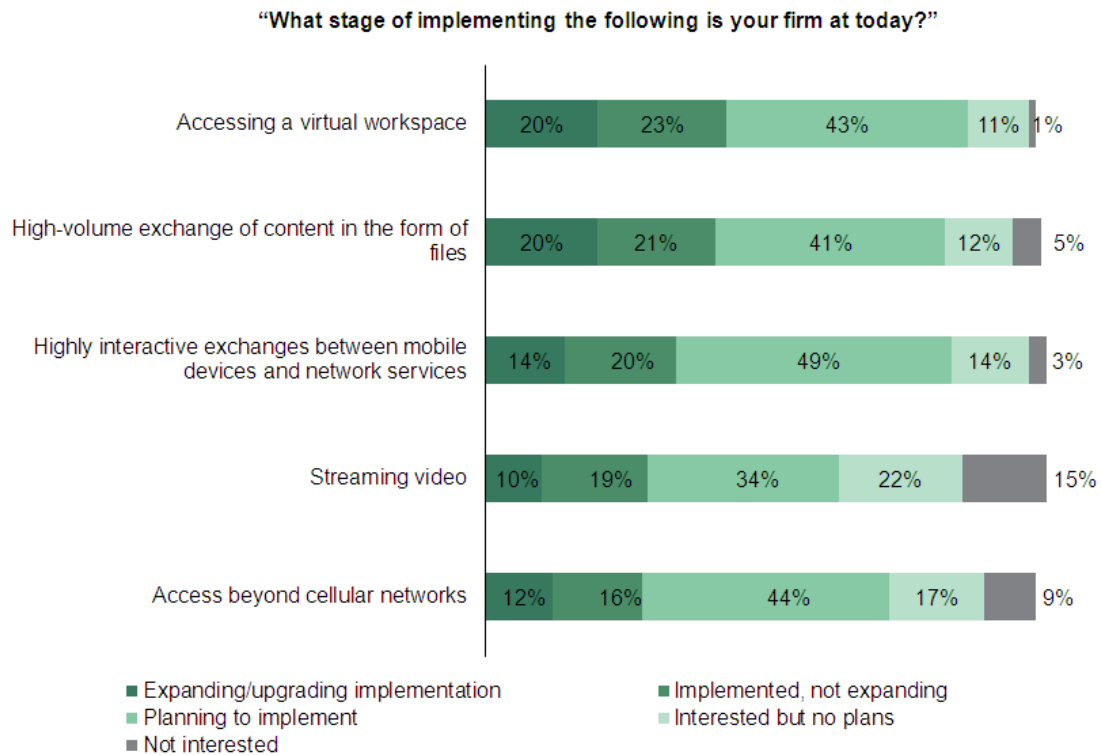


Base: 325 global senior IT decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Figure 4

Many Firms Currently Support Access To A Virtual Workspace And Enable Interaction Via Mobile Devices

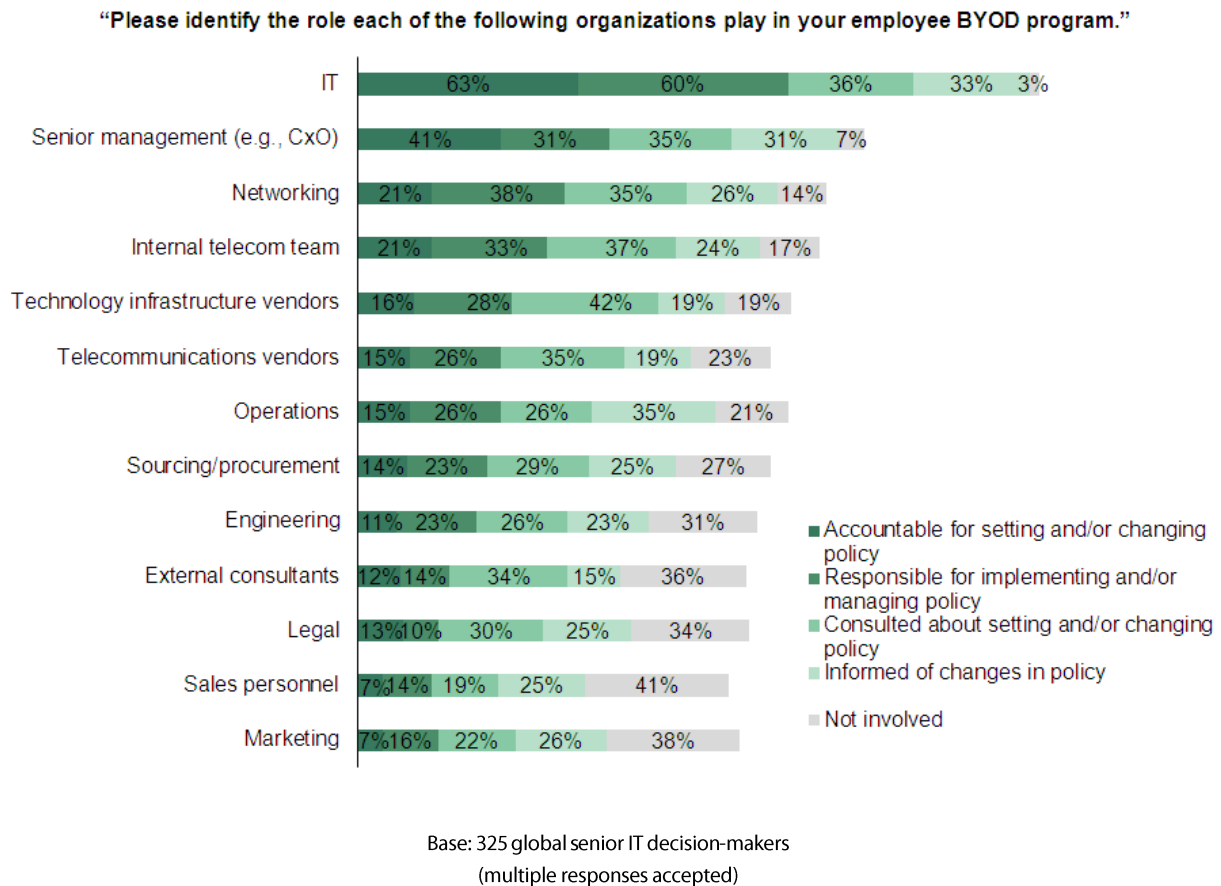


Base: 325 global senior IT decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Figure 5

Many Different Roles In The Organization Participate In BYOD Program Initiatives



Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

IT Seeks Structure And Control In Its Mobility And Workspace Services

Firms indicate that a variety of internal stakeholders participate in identifying and implementing virtual corporate workspace and mobility strategies. Additionally, third-party vendors also participate in identifying and developing these strategies and policies.

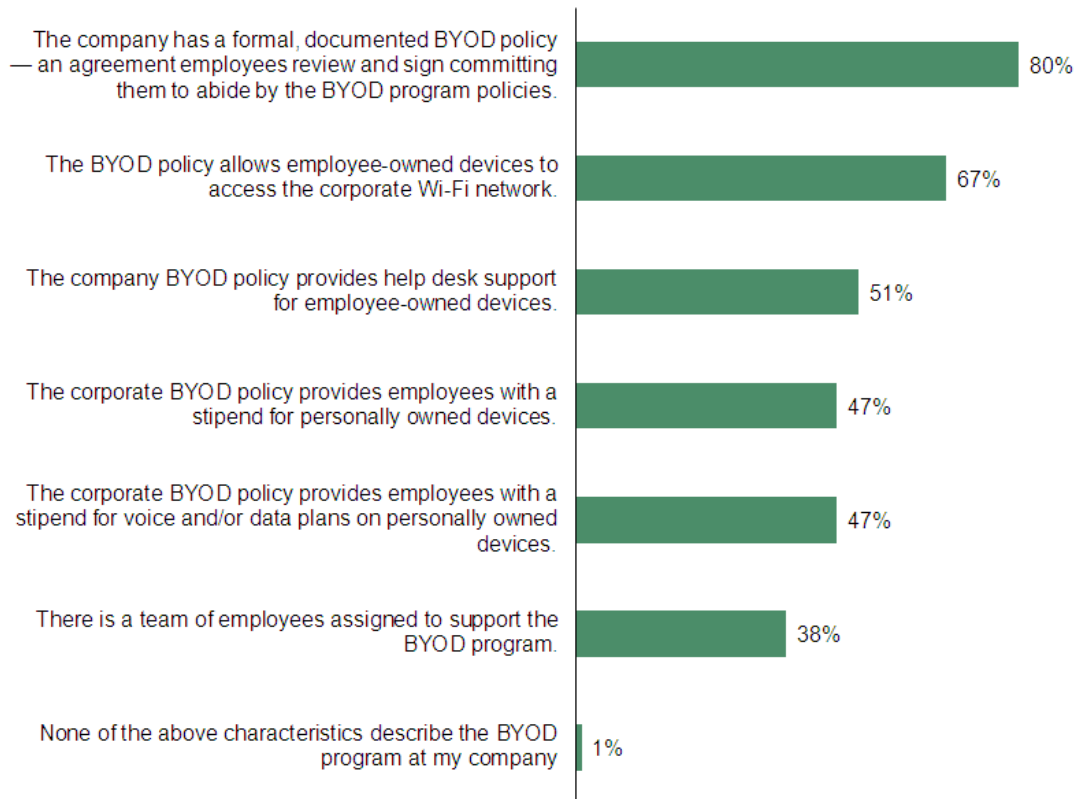
- **IT dominates the accountability and responsibility for setting and changing BYOD policies.** IT clearly plays the primary role: 63% of respondents identified IT as accountable for BYOD policies and 60% said that IT is responsible for them. However, less technical and more line-of-business-oriented roles were also included as BYOD policy drivers, with slightly more than one-fifth of respondents reporting sales and marketing as accountable or responsible for setting and changing BYOD policies.

- **Third-party vendors may also participate in guiding workplace and mobility strategies.** Fifteen percent of those surveyed identified their telecom vendors as accountable for BYOD policies, while another 26% think that these suppliers are responsible for them.
- **Formal, documented policies establish control and support while providing employee flexibility.** Four-fifths of global IT decision-makers with a formal BYOD program have employees review and sign an agreement to abide by the firm's formalized, documented BYOD policy; 67% allow employee-owned devices to access the corporate Wi-Fi network. However, not all firms *support* personal devices — only 51% provide help desk support for employee-owned devices, while another 47% of surveyed firms provide employees with a stipend for personally owned devices (see Figure 6).

Figure 6

Corporate BYOD Programs Support Various Features And Characteristics

“Please identify whether the BYOD programs for employees in your organization meet the following characteristics.”



Base: 109 global senior IT decision-makers who have a formalized BYOD program for employees
(multiple responses accepted)

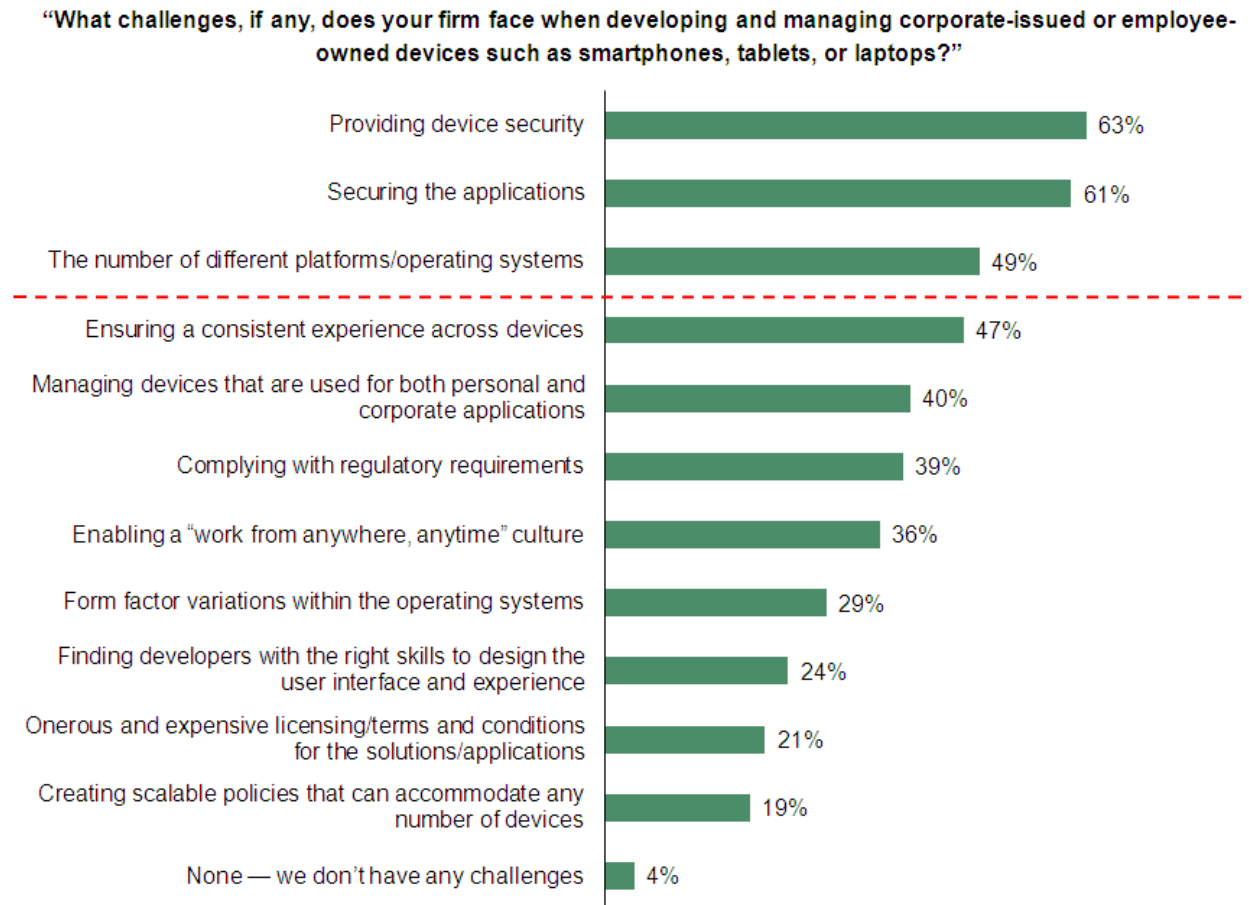
Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

No Surprise: Security Remains The Top Concern

Security leads the list of topics for both mobility and workspace virtualization. Device and application security are the leading concerns no matter who owns the device. Nearly two-thirds of the IT decision-makers surveyed identified providing device security as a key challenge to supporting smartphones, tablets, or laptops. Another 61% add securing applications to the top of the list (see Figure 7). Firms are also using multiple strategies to tackle security for smartphones and tablets (see Figure 8).

Figure 7

Security Is A Key Challenge Facing Firms That Support Smartphones, Tablets, Or Laptops

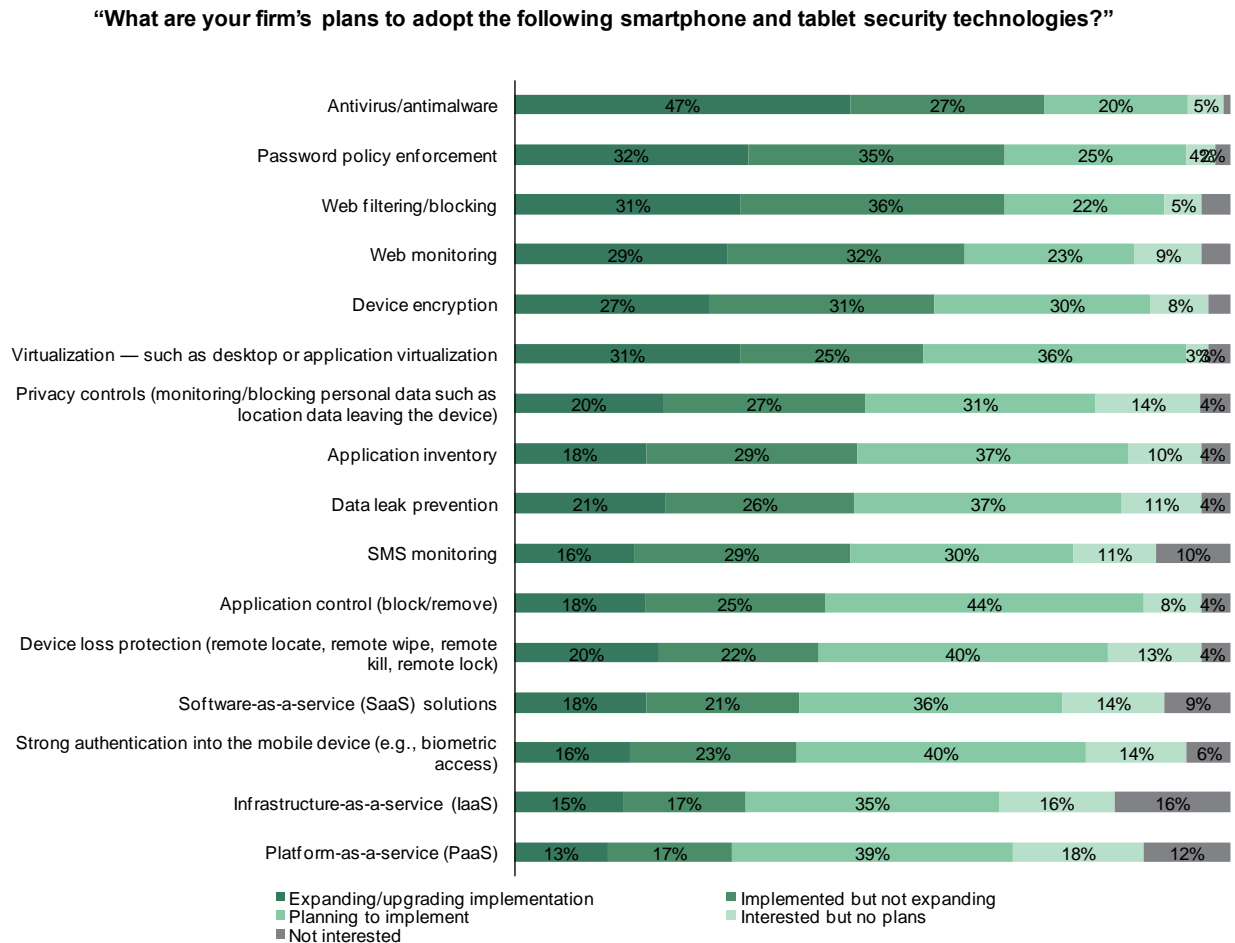


Base: 325 global senior IT decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Figure 8

Most Firms Are Deploying Or Plan To Deploy Security Solutions To Support Smartphones And Tablets



Base: 325 global senior IT decision-makers
 (percentages may not total 100 due to rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Mobile Workers And Their Multiple Devices Force Workspace Redesign

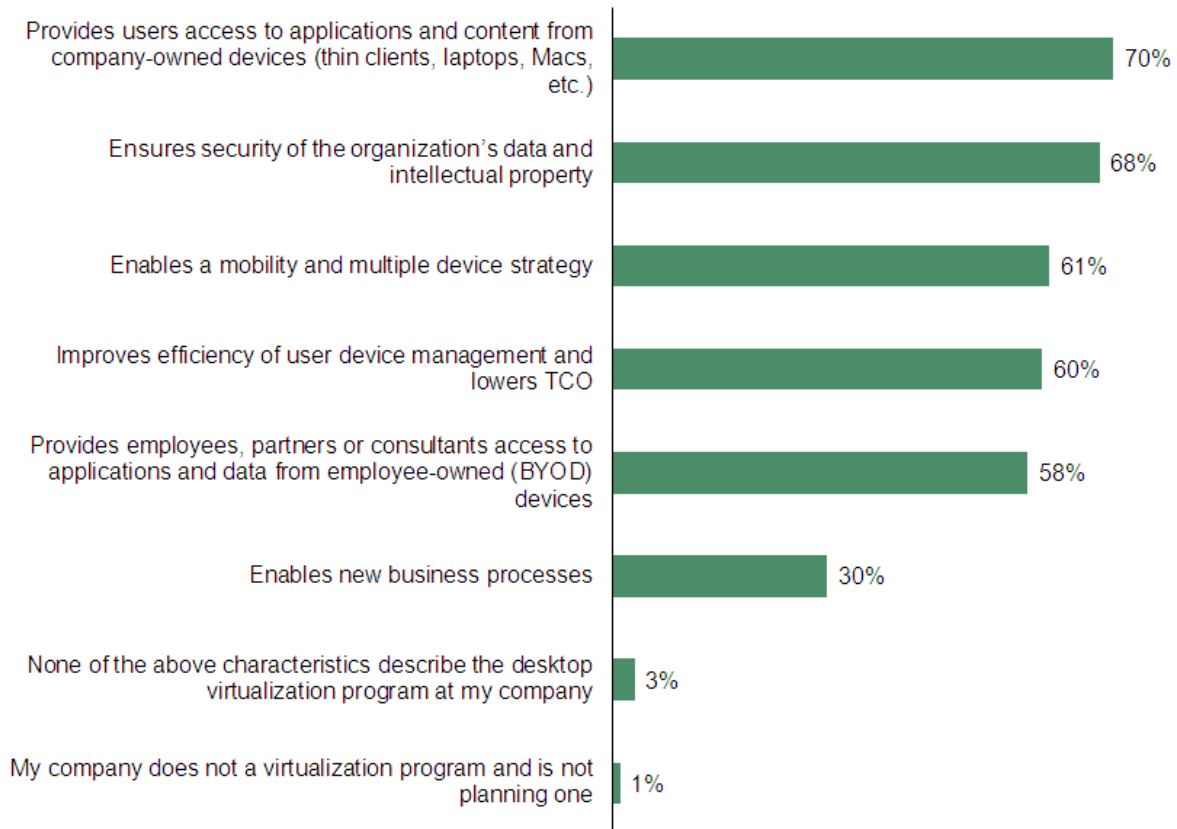
Employees located around the world and empowered by consumer technologies are driving firms to develop and adopt new workspace strategies to deal with content, application, and security challenges. Fifty-five percent of those surveyed identified the use of multiple corporate-issued and employee owned devices for work-related activities as driving new virtual workspace strategies. Virtual workspace strategies depend on application and desktop virtualization technologies that allow all data and applications to be hosted securely in data centers.

- **Virtual workspace solutions provide firms with a variety of benefits.** Enterprises deploy virtual workspace environments to achieve benefits including: reduced management overhead for company-issued and employee-owned devices; seamless roaming from device to device or station to station; consistent secure access to applications, data, desktops, and content from any device; intellectual property and data protection in the data center or cloud; and access to new and changing applications.
- **Virtual workspaces provide control and security.** Seventy percent of surveyed firms are using a virtual workspace to provide users access to applications and content from company-owned devices like thin clients, laptops, ultrabooks, and Macs. Sixty-eight percent report using the virtual workspace for ensuring security of the organization's data and intellectual property (see Figure 9).
- **Benefits of the virtual workspace reach beyond mobile worker support.** Fifty-one percent of those surveyed report reducing IT costs; 44% report increasing worker productivity; and 40% report improved collaboration and agility as leading benefits achieved from desktop virtualization (see Figure 10).
- **However, virtual workspace delivery models are not suitable for every use case.** In many cases, a native model — where applications and data are hosted, managed, and secured on the end devices — may be preferable. Virtual workspace challenges that need to be addressed include infrastructure costs, implementation complexity, the user experience on mobile devices with different form factors, the need for always-on network connectivity, and the user experience with voice and/or video.

Figure 9

Enterprises Deploy Desktop Virtualization Solutions To Address A Variety Of Different Use Cases

“Please indicate whether your organization has embarked or has plans to embark in the next 12 months on a desktop virtualization/VDI program that addresses the following use cases.”



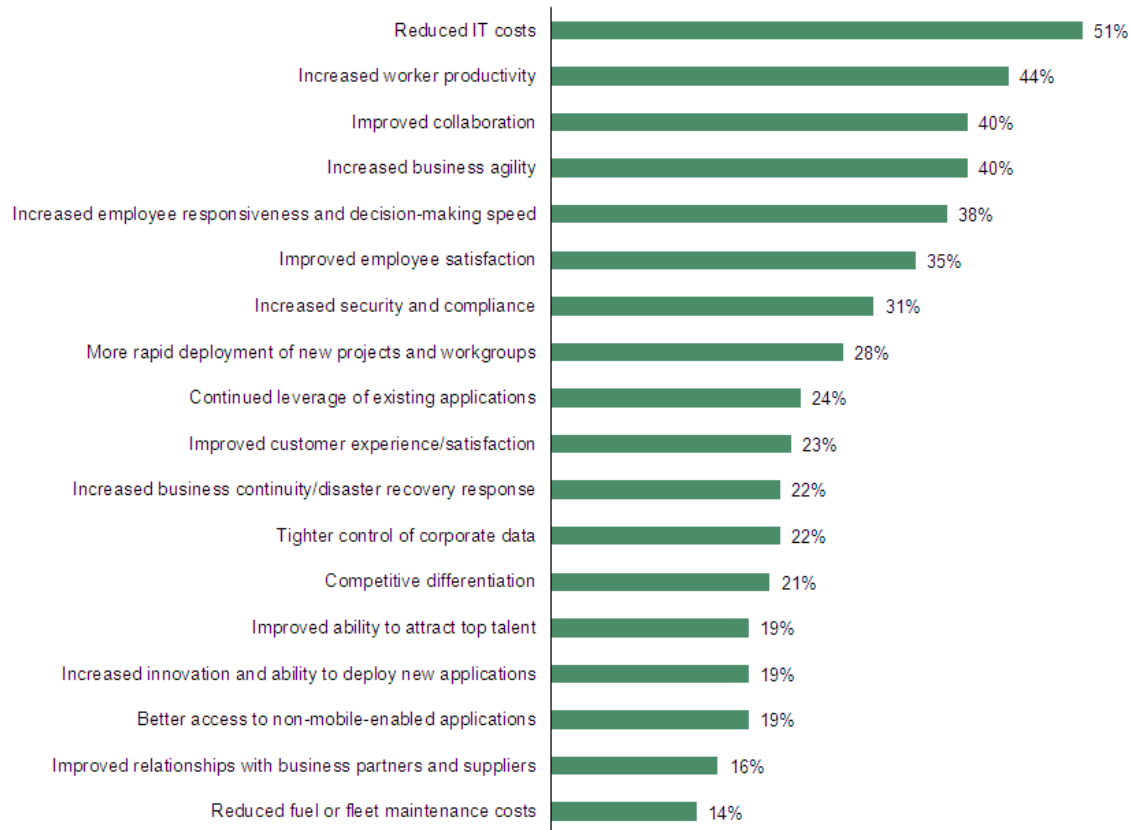
Base: 325 global senior IT decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Figure 10

Reduced IT Costs Are The Leading, But Not Only, Benefit Of Desktop Virtualization Solutions

“What benefits, if any, has your business unit or organization experienced as a result of deploying desktop virtualization solutions?”



Base: 325 global senior IT decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

KEY RECOMMENDATIONS

The changing nature of business, customers, partners, and employees is forcing firms to redesign their approach to engaging with these constituents. Global value chains and markets leverage a distributed and shifting workforce and the consumerization of technologies — few firms have remained unaffected. Forrester's in-depth surveys with senior IT decision-makers yielded several important observations of how firms are responding. IT leaders should:

- **Make mobile devices and solutions a key platform for engaging with customers, employees, and partners.** Firms find no alternative approach to providing information and services to these constituents, forcing IT's attention to the mobile platform as the face of engagement.
- **Anticipate supporting a wide variety of internally and externally provided mobile devices and solutions.** The era of IT-defined devices and apps has passed, and firms are using a variety of strategies to make this work — like BYOD, virtual workspaces, and cloud-based solutions.
- **Prepare for complexity and variety to push the limits of policy, security, and performance.** Today's command-and-control approaches won't work in this new, mobile mode of engagement. Firms are changing how they provision and manage end user devices and applications to reflect significant changes in how devices and applications are acquired and managed. And firms are redefining policies and procedures to provide security in this less controlled world.

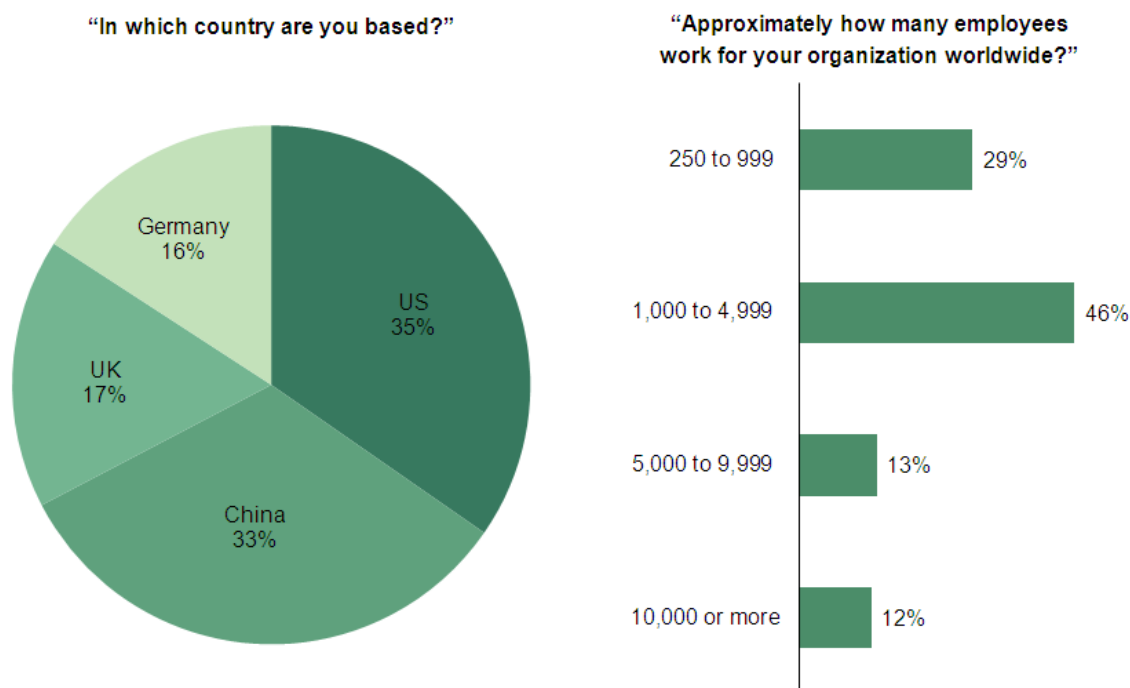
Appendix A: Methodology

In this study, Forrester conducted an online survey of 325 senior IT decision-makers in the US, the UK, Germany, and China to evaluate mobility and the challenges it poses for CIOs. Survey participants included decision-makers in the CIO role, as well as other very senior IT executives, such as the VP, senior VP, or executive VP of IT and other execs reporting directly to the CIO. We asked these executives questions about their current and future strategies for implementing this new workspace as well as challenges and benefits of doing so. The study began in February 2012 and was completed in May 2012.

Appendix B: Demographics/Data

Figure 11

Geography And Size Of Companies



Base: 325 global senior IT decision-makers
(percentages may not total 100 due to rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012

Appendix C: Endnotes

¹ Source: “BT 2020: IT’s Future In The Empowered Era,” Forrester Research, Inc., January 7, 2011.

² Source: Ian Davis and Elizabeth Stephenson, “Ten trends to watch in 2006,” *McKinsey Quarterly*, January 2006 (http://www.mckinseyquarterly.com/Ten_trends_to_watch_in_2006_1734).

³ Source: “Social Enterprise Apps Redefine Collaboration,” Forrester Research, Inc., November 30, 2011.

⁴ Source: “Mobile Is The New Face Of Engagement,” Forrester Research, Inc., February 13, 2012.

⁵ Source: “BT 2020: IT’s Future In The Empowered Era,” Forrester Research, Inc., January 7, 2011.

⁶ Source: Forrsights Workforce Employee Survey, Q2 2012.

⁷ Source: “Social Enterprise Apps Redefine Collaboration,” Forrester Research, Inc., November 30, 2011.

⁸ Source: “Salaries as a Percentage of Operating Expense,” SHRM, November 1, 2008 (<http://www.shrm.org/Research/Articles/Articles/Pages/MetricoftheMonthSalariesasPercentageofOperatingExpense.aspx>).