Rethink Technology In The Age Of The Cloud Worker

Enterprises Are Evolving Their Device Strategies To Boost Security And Productivity In A Cloud-First World

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Executive Summary

Technology innovation and digital disruption have fundamentally changed how employees access information, collaborate with colleagues, and serve customers. Employees increasingly rely on cloud-based business apps to do their jobs, using the browser as a central access point. Anytime, anywhere, any device work is now the norm, and employees need technologies that support their productivity at and away from their desks or offices. Technology decision makers recognize these evolving needs and are evolving their workforce enablement approaches to meet them.

In February 2018, Google commissioned Forrester Consulting to understand how cloud computing has transformed employee technology needs, behaviors, and enterprise strategies for meeting these needs. Forrester conducted two global online surveys with respondents at enterprise companies using cloud services: one with 1,060 enterprise technology decision makers who oversee workforce devices and another with 468 information workers who use cloud apps at least weekly.[1] We found that as enterprises prioritize cloud-first architectures for business apps, a new type of worker has emerged: the cloud worker. IT organizations are rethinking their workforce device strategies, prioritizing cloud-first architectures for business apps, and placing greater emphasis on the browser as a strategic asset in order to serve the flexibility, collaboration, and security needs of the evolving workforce.

Cloud workers represent a new class of information workers who embrace cloud apps to serve their mobility and collaboration needs.

Four in five IT decision makers (ITDMs) are interested, evaluating, or already using cloud-based computers to support evolving workforce needs.

KEY FINDINGS

› **A new class of cloud workers is shaping the future of the workplace.** Technology innovation, shifting employee preferences, and evolving business expectations have propelled one in four information workers (26%) to become cloud workers. Cloud workers spend much of their day using browser-based business apps across various devices, and they feel that the ability to access company resources from any location is crucial to their work/life balance.

› **Enterprises are evolving their workforce technology approaches to meet these needs.** To serve the needs of employees, 81% of enterprises that use cloud services are taking a cloud-first approach or prioritizing cloud for new business apps. This increases the importance of the browser to employees and IT organizations alike. It also opens the door to new device form factors for specific worker segments as companies look toward refreshing their laptop/workstation fleets.

› **Cloud-based computers have emerged as a viable and valuable option for serving cloud workers.** Workers — especially cloud workers — value devices and browsers that foster productivity, flexibility, and convenience. IT organizations seek reliable, versatile devices and secure, fast, highly compatible browsers to meet employee and business needs. Cloud-based computers can serve both sets of goals. As a result, 79% of decision makers are interested in adopting, planning to implement, or currently using cloud-based computers for the workforce.

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Amid Rapid Technology And Business Change, A New Type Of Worker Has Emerged: The Cloud Worker

The future of the workplace has started to take shape. The business environments of today (and tomorrow) are more virtual, more connected, and thrive on real-time collaboration. Cloud computing has played a huge role in enabling this shift. In fact, the cloud has propelled 61% of enterprises to transform their approach in supporting employee productivity. Our study of workers and technology decision makers (ITDMs) at global enterprises using cloud services, revealed that:

› **Macro technology trends and evolving expectations fuel new workforce enablement approaches.** As technology innovation continues at a rapid-fire pace, 71% of decision makers agree that their firms' expectations of employees have also evolved. In turn, 65% of employees feel their technology needs are constantly changing, which spurs more technology innovation — and so the cycle goes. Employees entrust their IT organizations with selecting the technologies that will enable employee productivity. ITDMs take this responsibility in stride, 73% consider the employee experience as a top priority when making these technology decisions. For example, 80% of employees agree that their success depends on instant access to information from a variety of sources. To serve these needs, 73% of ITDMs prioritize cloud, AI, and mobility for supporting employee tasks (see Figure 1).

As a result of cloud computing, 61% of enterprises have significantly evolved or completely transformed their approaches to technologies that support employee productivity.

Figure 1

Employee perspective
(Percent who somewhat or strongly agree with each statement)

65% My technology needs for work are constantly changing.

73% I rely on my IT org to continuously improve their approach to the devices/ apps that support productivity.

80% To succeed in my job, I need instant access to information from a wide variety of sources.

ITDM perspective*
(Percent who somewhat or strongly agree with each statement)

71% Rapid technology changes have drastically evolved the organization's expectations of employees' day-to-day work.

73% We always consider employee experience as a top priority in decisions about devices and business applications.

73% Complementing employee tasks with technologies like AI, cloud, and mobility is crucial to my organization's future.

Base: 468 global information workers who use cloud apps at least weekly for work
*Base: 1,060 enterprise technology decision makers in nine countries who oversee workforce devices and cloud applications
Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018
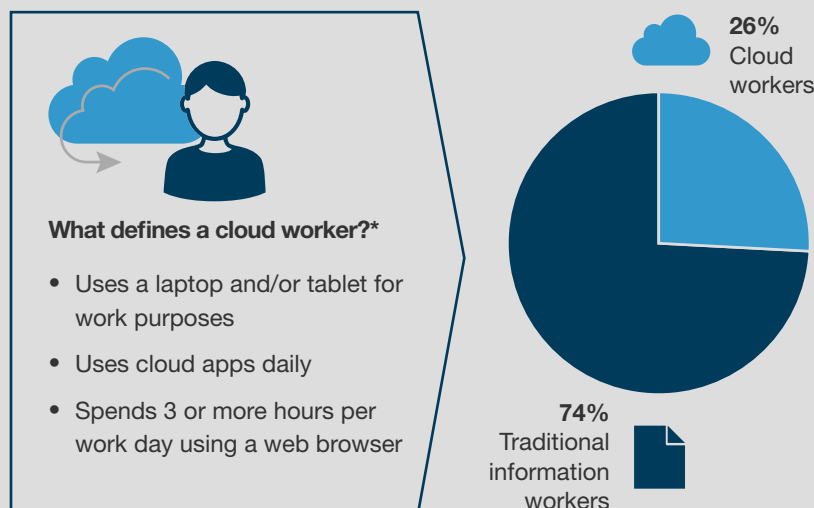
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› **Cloud applications have made anytime, anywhere, any device work the new normal.** The days of working exclusively at the office are gone forever. A whopping 94% of workforce respondents reported that they use their laptop, smartphone, tablet, or wearable device for work while commuting, traveling, or at home. Most employees see this new normal as a good thing; 69% agree that their ability to access company resources from everywhere gives them a better work/life balance. As employees spend more of their time using cloud applications, the browser has become a central access point for communication and collaboration. Employees now spend a third of the work day — 2.7 hours on average — working on a web browser.

› **One in four information workers are now cloud workers.** We identified a segment of workforce respondents who are at the forefront of a shift toward flexible work styles and locations, real-time collaboration, and connected global communities. For the purposes of the study, we defined cloud workers as laptop and tablet users who use cloud apps on a daily basis and spend at least 3 hours a day in the browser. These cloud workers already comprise 26% of today's information workers and are likely to be a high-growth segment as enterprises increase their use of cloud-based business apps (see Figure 2). Cloud workers are most prevalent in IT, product/engineering, and marketing roles and in the US and Australia. Employees in HR and sales roles and those who work in retail are less likely to be cloud workers. In some of these cases, client software remains prevalent, or mobile-centric use cases employ mobile apps rather than the browser.

> "The cloud has allowed us to push beyond the data, analytics, and intelligence boundaries that held us back in the past."
>
> *Director, retail company*

Figure 2

What defines a cloud worker?*

- Uses a laptop and/or tablet for work purposes
- Uses cloud apps daily
- Spends 3 or more hours per work day using a web browser

26% Cloud workers

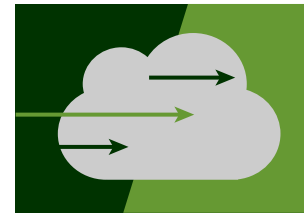**74%** Traditional information workers

One in four of the information workers we surveyed qualify as cloud workers.

Base: 468 global information workers who use cloud apps at least weekly for work
Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018

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Enterprise Are Rethinking Workforce Enablement With A Cloud-First Approach

Gone are the days of workers tethered to their desks: now workers can — and must — collaborate anytime, anywhere, and on any device to keep up with business demands. Yet, a minority of employees (43%) feel satisfied with the tools their organization provides them with to do their jobs and only a third are happy with the number and quality of apps their organization provides.[2] How can enterprises cater to evolving employee needs, as well as support the emerging cloud worker? The answer is in the cloud. Our research showed that:
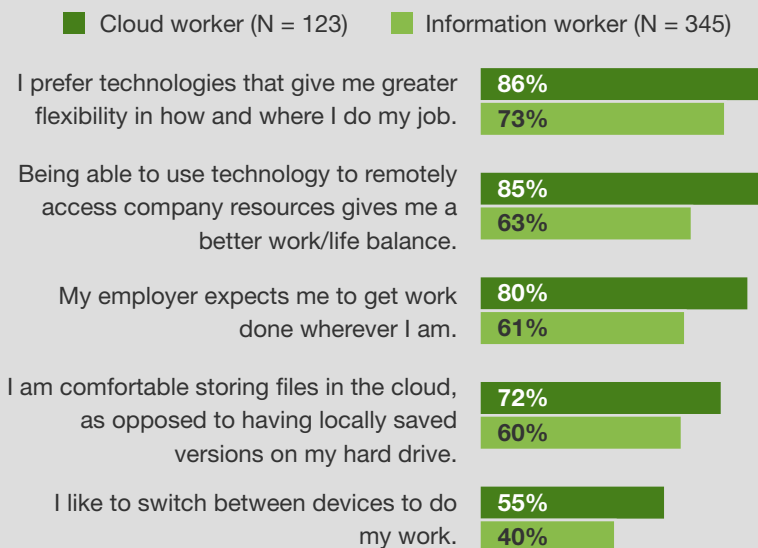
› **Employee productivity has moved beyond desktop — especially for cloud workers.** Today's information worker needs technology to be as mobile and flexible as their workstyle. Three in four (77%) prefer technologies that give them the freedom to choose how and where to get their work done. The stakes are raised when focusing in on the cloud worker. When compared to traditional information workers, 22% more of cloud workers agree that having remotely accessible technology improves their work/life balance. Cloud workers are also more comfortable storing their files in the cloud and more likely to prefer switching between devices to do their work (see Figure 3). These flexible work options would not be possible without cloud applications.

81% of enterprises have a cloud-first strategy or are prioritizing cloud for new business apps.

Figure 3

Respondents who "somewhat" or "strongly agree" with each statement:

■ Cloud worker (N = 123)   ■ Information worker (N = 345)

Statement	Cloud worker	Information worker
I prefer technologies that give me greater flexibility in how and where I do my job.	86%	73%
Being able to use technology to remotely access company resources gives me a better work/life balance.	85%	63%
My employer expects me to get work done wherever I am.	80%	61%
I am comfortable storing files in the cloud, as opposed to having locally saved versions on my hard drive.	72%	60%
I like to switch between devices to do my work.	55%	40%

Base: 468 global information workers who use cloud apps at least weekly for work.
Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018

Cloud workers see flexible, anywhere work as essential and embrace technologies that help them do that.

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> **To meet these needs, ITDMs take a cloud-first approach to business apps.** Four in five enterprise cloud users (81%) described their strategy for deploying new business apps as cloud-first or as prioritizing cloud. Legacy on-premises apps do still play an important role at most firms; only 16% of respondents said they exclusively use cloud-based options for internal, employee-facing apps. However, cloud is clearly the future.

## THE BROWSER HAS BECOME A STRATEGIC ASSET IN THE AGE OF THE CLOUD WORKER

The shift to collaborative, cloud-based work increases the relevance and strategic nature of the browser — and browser security. Our study found that (see Figure 4):

> **Employee demand for browser-based apps is growing.** Sixty-seven percent of workforce respondents agreed that they rely much more heavily on web browsers today than two years ago. A decisive 94% of information workers find browser-based apps are as easy, if not easier to use than desktop apps. This growing appetite for browser-based experiences, combined with enterprises' cloud-first strategies, will transform more information workers into cloud workers.
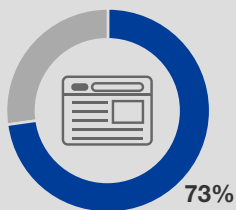
94%
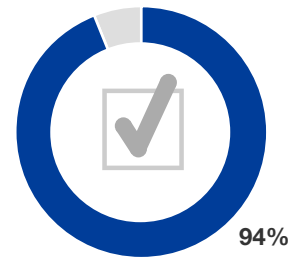
94% of information workers feel browser-based business apps are equally as easy or easier to use than desktop apps.
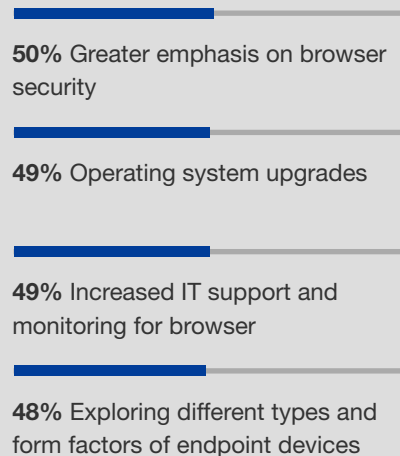
Figure 4

67%
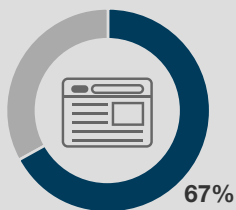
Employees agree: I rely much more heavily on a web browser to do my job today than I did two years ago.

73%

ITDMs agree: The browser has become increasingly important to our IT strategy because employees are using browser-based business apps.

Changes IT orgs have made to device and application management processes as a result of adopting cloud services:

50% Greater emphasis on browser security

49% Operating system upgrades

49% Increased IT support and monitoring for browser

48% Exploring different types and form factors of endpoint devices
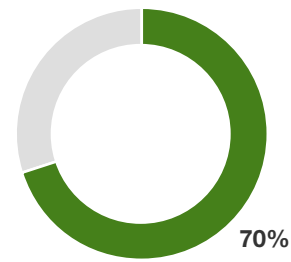
The browser has become more important for both employees and IT organizations.

Opportunities for new operating systems and form factors also arise from greater use of cloud services.

Base: 468 global information workers who use cloud apps at least weekly for work
Base: 1,060 enterprise technology decision makers in nine countries who oversee workforce devices and cloud applications
Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018

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› **This elevates the importance of the browser, and browser security, in IT strategies.** As cloud workers spend increasing amounts of time in the browser, IT organizations must keep pace. Most decision makers (73%) agree that the browser has become more important to their IT strategies due to cloud-based business apps. To support employee needs and keep company data secure, IT leaders place greater emphasis on browser security, support, and monitoring.

› **ITDMs are upgrading operating systems and exploring new device form factors to serve and enable cloud workers.** As enterprises double down on their use of cloud apps, nearly half are investing in operating system upgrades (49%) or evaluating new types and form factors for endpoint devices (48%). One-size-fits-all device strategies are giving way to more tailored approaches. Seven in ten enterprises segment employees for their specific device needs, rather than providing every employee with a standard-issue laptop or workstation. For example, the retail industry supports a wide variety of workforce computing options to support their many employee segments — from frontline workers, to warehouse/logistics teams, to digital business professionals.

As Enterprises Seek Flexible, Secure Solutions, Cloud-Based Computer Adoption Is On The Rise
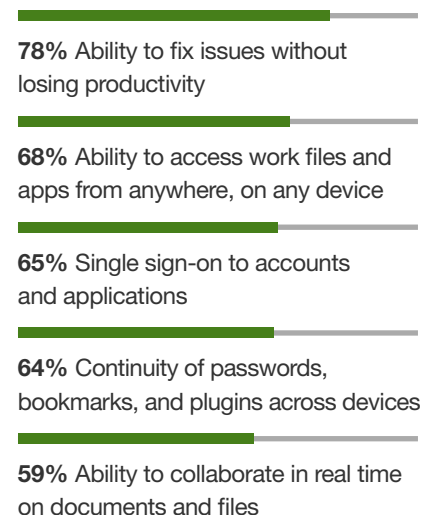
IT organizations are tasked with selecting devices, browsers, and a wide range of software to serve the needs of an increasingly cloud-centric workforce. The enterprises we surveyed update their fleets of company-owned laptops and workstations a little less than every three years, on average. As companies prioritize employee device segmentation over one-size-fits-all approaches, new form factors are on the table. Our study showed that:

› **Workers value devices and browsers that foster productivity, flexibility, and convenience.** Above all, employees want devices that enable continuous productivity; they can't afford to wait around for an issue to be fixed before continuing their work. Flexibility and easy, cross-device experiences are another must. The majority of workers value: the ability to access files and apps from any location or device; the continuity of passwords and single sign-on across devices; and the ability to collaborate with colleagues in real time (see Figure 5). Cloud workers place even greater emphasis on flexibility and collaboration capabilities than traditional information workers do. Cloud workers are also more likely to value browser extensions that help maximize their productivity in the browser.

70%

70% of enterprises support multiple laptop models for different employee segments.

Figure 5

Most important capabilities in devices used for work (showing percent "very important" or "critical"):

78% Ability to fix issues without losing productivity

68% Ability to access work files and apps from anywhere, on any device

65% Single sign-on to accounts and applications

64% Continuity of passwords, bookmarks, and plugins across devices

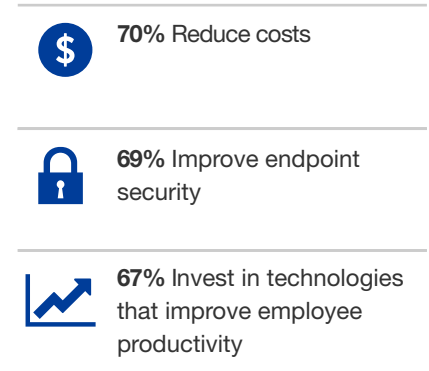**59%** Ability to collaborate in real time on documents and files

Base: 468 global information workers who use cloud apps at least weekly for work
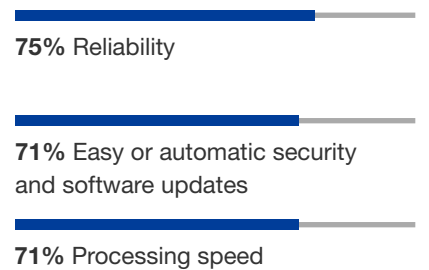Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018

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› **ITDMs seek reliable, versatile, and secure devices and browsers that help reduce costs and increase productivity.** Enterprises' top overall IT priorities for the next 12 months are to reduce costs, improve endpoint security, and invest in technologies that support employee productivity. Device and browser decisions are critical to achieving these goals. When selecting laptops/workstations for the workforce, ITDMs look for the most reliable options on the market. They also look for devices that are easy to manage and have easy or automatic security updates to reduce the burden on their support teams. A wide variety of other capabilities are considered "very important" or "critical," so versatility is key. Top sought browser capabilities include compatibility with business apps, security features, and performance speed (see Figure 6).

› **Cloud-based computers are rapidly becoming an important part of the solution.** Cloud-based computers are designed to be cloud-first; most applications and files live in the cloud as opposed to on the device's local drives, with a browser as the main user interface. Increasingly, cloud-based computers offer a variety of mobile apps to complement browser-based apps. Our survey showed that enterprise cloud users are beginning to consider these types of devices as a valuable option for certain workforce segments. While 28% of decision makers reported already using cloud-based computers, this number is likely to increase dramatically over the next few years because an additional 52% reported interest in adopting or plans to implement these devices for the workforce (see Figure 7). For now, decision makers are considering cloud-based computers for certain employee segments that align to the use case — 42% of the workforce, our respondents reported on average. Specialized software needs may deter some types of workers from this device option, but two in three ITDMs are open to supporting virtual desktop infrastructure (VDI) if it meant reducing capital expenditures or operating costs.

› **Cloud-based computers support many of the features and capabilities that cloud workers and IT organizations need.** Cloud-based computers are a viable and valuable option for cloud workers who spend more of their time in a web browser, who need the ability to both collaborate in real-time with colleagues and access their files from any device. Employees who share a device with their colleagues can also benefit from this form factor because they can use their universal account information to log into any device. ITDMs appreciate the security and management implications of this feature; they save time on PC imaging and gain peace of mind that company data won't be compromised if a device is lost. Many cloud-based laptops come at a much lower price point than traditional PC alternatives, which is a welcome benefit for IT organizations striving to reduce costs.

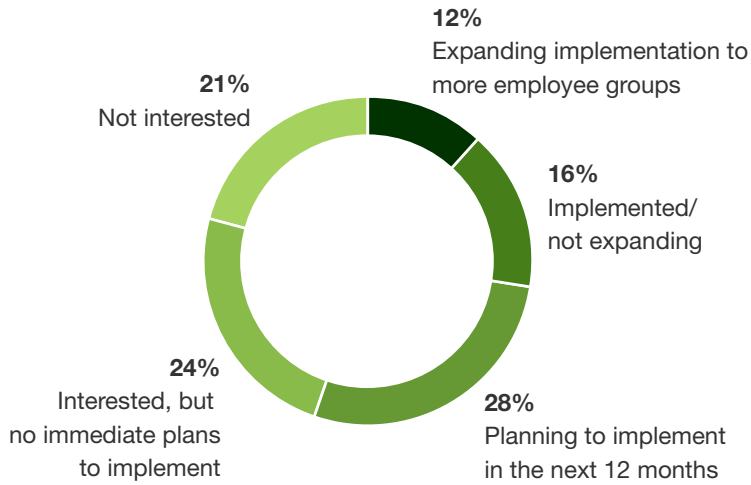**Figure 6**
Top enterprises IT priorities

$ **70%** Reduce costs

🔒 **69%** Improve endpoint security

📈 **67%** Invest in technologies that improve employee productivity

Most important capabilities when selecting laptops/ workstations for the workforce:

75% Reliability

71% Easy or automatic security and software updates

71% Processing speed

Base: 1,060 enterprise technology decision makers in nine countries who oversee workforce devices and cloud applications
Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018

Figure 7

Planned adoption of cloud-based computers for the workforce:

12%
Expanding implementation to
more employee groups

21%
Not interested

16%
Implemented/
not expanding

24%
Interested, but
no immediate plans
to implement

28%
Planning to implement
in the next 12 months

Base: 1,060 enterprise technology decision makers in nine countries who oversee
workforce devices and cloud applications
Source: A commissioned study conducted by Forrester Consulting on behalf of
Google, February 2018

Seventy-nine percent
of enterprises report
interest, plans, or
current use of
cloud-based
computers for a
portion of the
workforce.

Key Recommendations

The era of mobility has segued into the era of cloud for an increasing number of employees. These cloud workers expect their data, applications, and digital experiences to live independent from individual devices — or even independent of all devices. Instead, they seek a truly ubiquitous access to their computing experiences through a cloud-centered approach. Increasingly, enterprise decision makers will need to address the needs of these cloud workers with technologies, policies, and experiences.

Forrester's in-depth survey of employees and enterprise decision makers about workforce cloud computing yielded several important recommendations:

Segment your workforce. Not every worker today is a cloud worker. Consistent with the demise of "one-size-fits-all" end user computing strategies, you should segment your workforce to determine which classes of employees can benefit most clearly from cloud-centric devices and services. This group can pilot new solutions and become your early adopters.

Conduct "cloud-first" audits. The move toward cloud centricity requires updating, upgrading, and sometimes replacing legacy software infrastructures. For cloud workers, you must audit these systems to determine which are imperative to their work. For legacy applications that cannot easily or inexpensively be moved to delivery over the browser, you should consider VDI as a bridge, allowing cloud workers to access legacy applications through the browser in virtualized fashion.

Focus on employee experience. Just as customer experience has rightfully grown into a top priority for enterprises, employee experience must be its shepherd. Happy employees lead to happy customers, and the technology choices that organizations make impact employee experience at nearly every moment of their day. Analyze the employee journey and employ journey mapping to determine what devices and software maximize cloud workers' productivity, then deploy those solutions with employee experience as the key measurement of success.
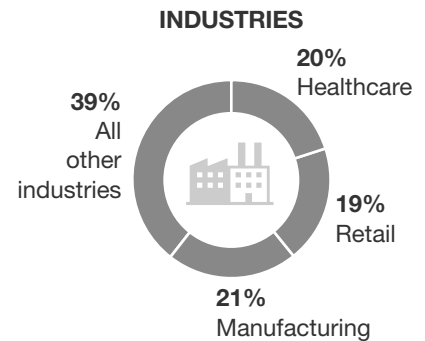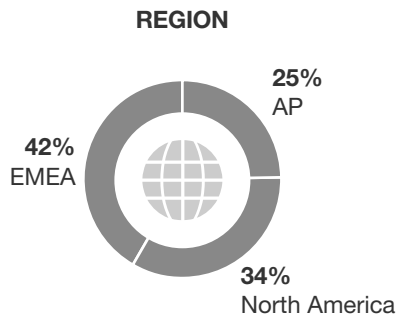
Follow the experience, not the device. Once you have employee journey maps in hand, you can also trace employees' access to devices — be they individual or shared, fixed or mobile — to determine cloud computing contexts. Our study shows an increasing diversity of locations, times, and needs for computing access, and gaining insight into these contextual moments will help you optimize experiences for people rather than for specific devices.

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Appendix A: Methodology

In this study, Forrester conducted an online survey with 1,060 technology decision makers at enterprises in nine countries (the US, Canada, the UK, France, Germany, Sweden, Netherlands, Australia, and Japan) to evaluate workforce technology approaches. Forrester also conducted an online survey among workers at organizations in seven countries (the US, Canada, the UK, France, Germany, Australia, and Japan) to understand evolving needs of employees in the cloud era. The decision maker survey included technology decision makers in IT and business roles and the workforce survey included information workers (full-time employees across roles who use a mobile connected device at least one hour per day). Healthcare, retail, and manufacturing industries were among industries targeted for the study, but all industries were included. Respondents in both surveys needed to be current users of cloud services. Questions provided to the participants asked about trends related to cloud computing, employee preferences and behaviors, IT support processes, and what employees and ITDMs value in employee devices and browsers. Respondents were offered a small incentive as a thank you for time spent on the survey. The study began in January 2018 and was completed in February 2018.
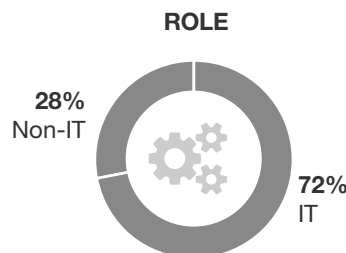
Appendix B: Demographics/Data

DECISION MAKER SURVEY

REGION

25% AP

42% EMEA

34% North America

Top other industries

- Software
- Financial services
- Transportation
- Healthcare

INDUSTRIES

20% Healthcare

39% All other industries

19% Retail

21% Manufacturing

RESPONDENT LEVEL

23% C-level executive

11% Vice-president

35% Director

31% Manager

ROLE

28% Non-IT

72% IT

One hundred percent of respondents have technology selection/purchasing as one of their primary job functions.
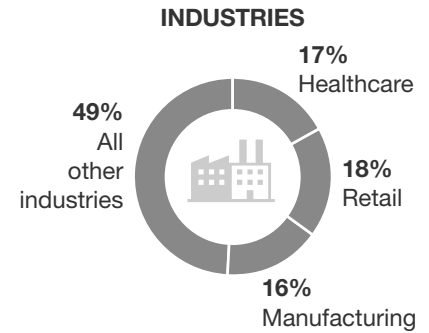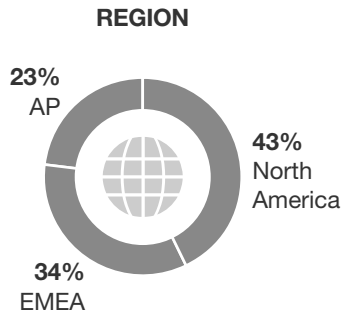
COMPANY SIZE
(number of employees)

13% 20,000 or more

26% 5,000 to 19,999
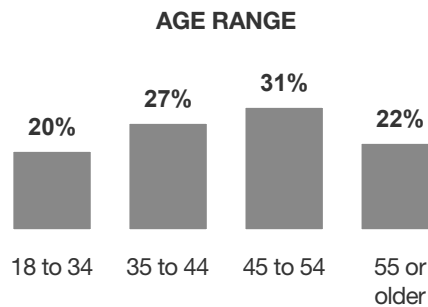
56% 1,000 to 4,999

4% 500 to 999

Base: 1,060 enterprise technology decision makers in nine countries who oversee workforce devices and cloud applications.
Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018.

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REGION

23%
AP

43%
North
America

34%
EMEA

Top other industries
- Government
- Other
- Software
- Financial services

INDUSTRIES

17%
Healthcare

49%
All
other
industries

18%
Retail

16%
Manufacturing

RESPONDENT LEVEL

6% C-level executive

2% Vice-president

12% Director

27% Manager

8% Project manager

45% Full-time practitioner

AGE RANGE

20% 18 to 34

27% 35 to 44

31% 45 to 54

22% 55 or older

COMPANY SIZE
(number of employees)

36% 20,000 or more

26% 5,000 to 19,999

36% 1,000 to 4,999

2% 500 to 999

Base: 468 global information workers who use cloud apps at least weekly for work.
Source: A commissioned study conducted by Forrester Consulting on behalf of Google, February 2018.

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

"The Technology-Augmented Employee," Forrester Research, Inc., February 13, 2018.

"Everyday Technology Choices For A Better Employee Experience," Forrester Research, Inc., September 26, 2017.

"Engineer Your Technology Environment To Improve Employee Productivity And Flow," Forrester Research, Inc., December 15, 2017.

"The Employee Experience Imperative," Forrester Research, Inc., December 15, 2017.

Appendix D: Endnotes

[1] Forrester defines information workers as full-time employees, across roles, who use a mobile connected device for at least one hour per work day.

[2] Source: "Everyday Technology Choices For A Better Employee Experience," Forrester Research, Inc., September 26, 2017.

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