

# ENABLING THE NEXT GENERATION OF CLOUD WORKERS

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## **SPONSOR PERSPECTIVE**

The workplace is constantly improving. Information is useful, yet boundless. Our jobs are global, collaborative, and ever-changing. Modern machines are fast, offering the opportunity to get work done without interruptions. Organizations of all sizes are embracing these key shifts and discovering the wonderful advantages offered by cloud technology. Individuals are embracing the cloud too: from shopping and ordering food to transport and connecting with loved ones. We use the cloud to operate in our everyday lives and expect the workplace to mirror this seamless, personalized experience.

This is not a futuristic idea. One in four workers already spends more than four hours a day working in a browser. Challenging “traditional” workplace norms, these workers are more likely to operate beyond a structured nine-to-five routine, spend significant time on the go, use shared devices to access information, and work in diverse, global teams. With so many already using cloud-based apps and SaaS tools to serve their mobility and collaboration needs, the necessity to facilitate new ways of working is becoming more and more urgent.

This is the age of the Cloud Worker.

Yet in spite of preoccupations with agility, efficiency, and productivity in today’s working culture, enterprise tools continue to lag behind. More than 40% of workers<sup>1</sup> avoid using prescribed software applications at work because they simply don’t get the job done. This has created a global condition of wasted time, wasted resources, and a daily risk of losing opportunities, profits, and—most crucially—employees.

Organizations looking to remain competitive are moving information, processes, and interactions outside the physical office space and into a virtual arena. As a result of cloud computing, 61% of enterprises<sup>2</sup> have significantly evolved or completely transformed their approaches to technologies that support employee productivity.

We have partnered with Harvard Business Review Analytic Services to uncover how to enable the next generation of Cloud Workers. Our research has shown that employee retention is of paramount importance. Providing smart tools to empower workers leads to increased productivity, increased efficiency, higher employee satisfaction, and ultimately a better end product for customers. We’ve already seen AI harnessed to perform repetitive tasks, freeing up human workers to focus on innovation, creativity, and growth.

As IT decision makers, it’s our responsibility to drive the business to higher outputs. So ask yourself: How can you help your workers achieve their full potential?

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<sup>1</sup> Automation Report 2017. Smartsheet.

<sup>2</sup> Rethink Technology in the Age of the Cloud Worker, a commissioned study conducted by Forrester Consulting on behalf of Google, May 2018.

# ENABLING THE NEXT GENERATION OF CLOUD WORKERS

Cloud-native computing will empower an essential evolution of the workplace—for organizations that actively move ahead and dedicate appropriate resources.

The worldwide spread of cloud computing is driving rapid advances in traditional business operations and enabling deep digital transformations for corporations. Forrester Research, for example, predicts that in 2018 more than half of global enterprises will rely on at least one public cloud platform to drive digital transformation.

Adoption of cloud-optimized technologies and practices now is also bringing in the next generation of worker—the cloud worker, working each day in a fully enabled cloud environment with dramatically enhanced tools. Fully supporting this new class of worker is a core challenge for executives and managers across the entire organization.

Today, cloud-native systems support faster and more flexible operations, often with lower costs. Even more importantly, these systems offer major new potential to radically rebuild work and the organization itself. Companies at the forefront of digital transformation are focusing on improved experience for employees that can help attract and retain crucial talent, and they often seek to create a similar experience for their “gig” contingent workers as well. Such firms also are exploiting artificial intelligence technologies to augment human workers and take over repetitive tasks, and some are implementing emerging management schemes such as “agile at scale” as well.

In all these efforts, companies must grapple with security issues and build up solid and versatile security safeguards. And cloud-native platforms are a practical requirement to support all these services.

Managing a full transition to cloud-native computing and digital transformation is a major commitment and an ongoing exercise in change management for the organization—rethinking the business, investing resources, and actively reshaping and reskilling workforces as needed. Moreover, cloud workers themselves must bring change management perspectives to their own careers. “There’s no future-proofing possible,” says J. P. Gownder, vice president and principal analyst at Forrester Research. “We all will have to adapt.”

**CLOUD SYSTEMS OFFER MAJOR NEW POTENTIAL TO RADICALLY REBUILD WORK AND THE ORGANIZATION ITSELF.**

# GARTNER EXPECTS THE WORLDWIDE PUBLIC CLOUD SERVICES MARKET TO GROW 21% IN 2018 TO \$186.4 BILLION.

## Under a Spreading Cloud

“The cloud plays a huge role in connecting us to our work, to our customers, and to our colleagues,” Gownder notes. “We can take our work with us, connect no matter where we are, store and share files and digital assets, and work with other people on those assets. Every aspect of our jobs, from basic communications to business processes to asking for time off, now runs through this technology. Every time employees today face an issue in their jobs, they turn to technology to solve it.”

Global investment in cloud services continues to soar; for example, Gartner expects the worldwide public cloud services market to grow 21% in 2018 to \$186.4 billion (not counting advertising). IDC estimates that cloud spending is growing at more than six times the rate of overall IT spending, and in 2020 combined IT infrastructure spending on public and private cloud will surpass spending on traditional data centers.

Along similar lines, a 2018 Forrester survey of more than a thousand enterprise decision makers in nine countries highlights the critical role that IT sees for the cloud in meeting leading computing needs including cost, security, and productivity. [FIGURE 1](#)

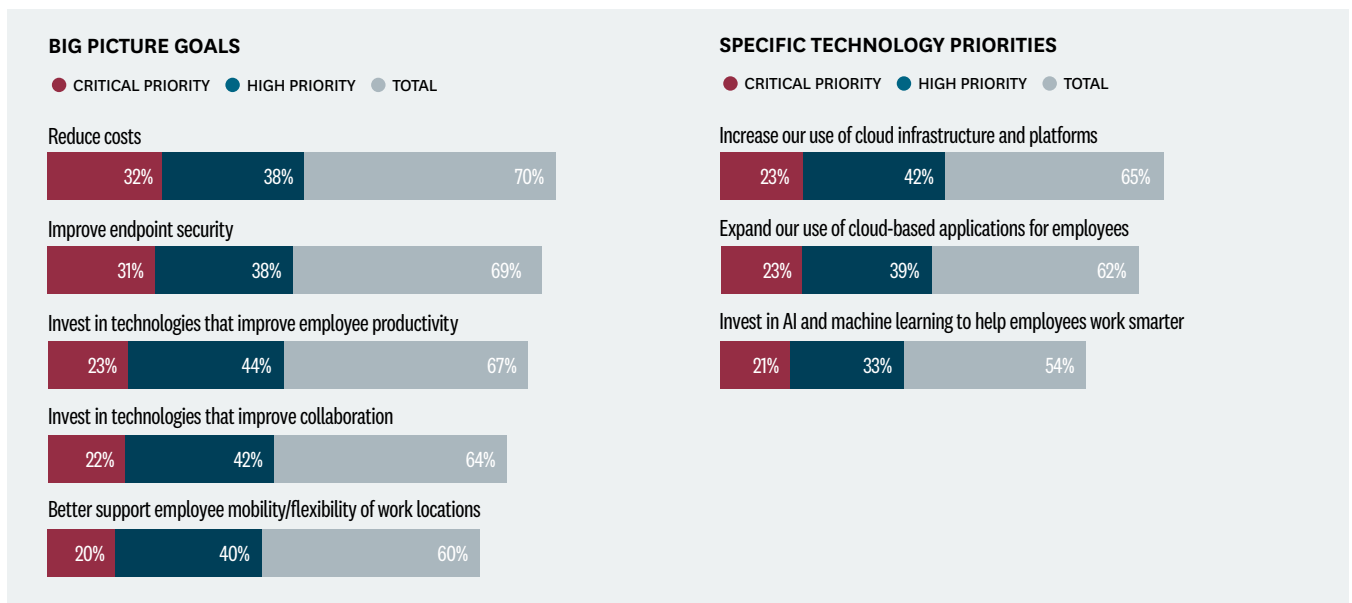
Cloud services are rapidly spreading into corporations in industry segments that historically may be slow to adopt new technologies, such as retail chains. One such company is the Japanese electronics retailer Nojima, which has found compelling reasons to move ever deeper into the cloud. “The price of cloud services is getting lower, and the reaction speed required for IT needs (such as managing high traffic for websites) is getting higher,” says Masaya Tada, Nojima’s chief information officer.

Nojima began using cloud servers for testing web development projects, and then started to switch crucial applications such as email to a public cloud server. The company now is

FIGURE 1

## IT ORGANIZATIONS ARE INVESTING IN CLOUD AND AI TO ACHIEVE THEIR SECURITY, PRODUCTIVITY, AND COST REDUCTION GOALS

To what extent is your IT organization prioritizing the following initiatives over 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

replacing many of its conventional office PCs with cloud-native laptops. These devices will be less expensive than conventional PCs, straightforward to set up, highly secure, and easy to manage remotely, Tada says.

“Cloud technology will be the most important part of our IT strategy,” says Tada. “We will take in its benefits, such as scalable CPU power and network bandwidth, business continuity planning, and various application program interfaces that cover cutting-edge technology, for our business.” Another crucial advantage of cloud computing, he emphasizes, is quick response—an explicit corporate priority for Nojima, which recently gave “speed of adaptation” top billing in its mission statement.

Every IT organization moving more applications into the cloud does need to weigh the benefits of public cloud versus private cloud. IDC projects that public cloud will make up about 32% of IT infrastructure spending in 2020, while private cloud will represent 20% of the total.

While the virtues of public versus private clouds are actively debated, in the long run, “the economics will constitute that everybody moves to a public cloud,” suggests Ari Lightman, professor of digital media and marketing and co-director of the chief information security officer program at Carnegie Mellon University. “It’s just too simple, efficient, and easy to have data on a public cloud. Those suppliers are innovating circles around everybody else.”

## Empowering the Work Experience

Perhaps unsurprisingly, information workers who use cloud applications at least once a week applaud the ability to get work done wherever they are, according to a 2018 Forrester survey of 468 such workers. **FIGURE 2** Among this group, more than two-thirds said that they rely much more heavily on a web browser to do their jobs than they did two years ago.

About one-quarter of the information workers in this survey qualified as cloud workers—those who use cloud apps daily, use a laptop and/or tablet for work, and spend at least three hours per work day using a web browser.

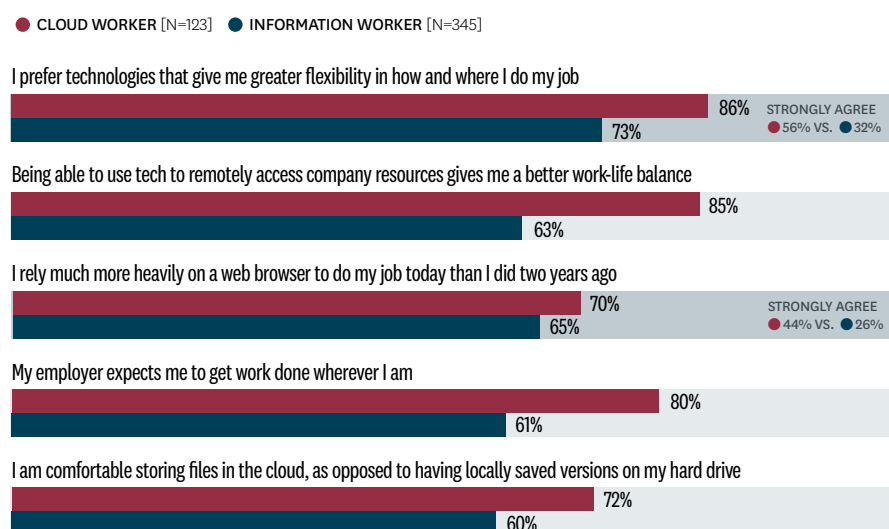
More dramatic changes are coming for these cloud workers, and their employers, in the not-too-distant future, says Kristin Dery, research scientist at MIT Sloan School’s Center for Information Systems Research.

Perhaps most strikingly, the rapid march of advanced analytics and artificial intelligence is already shifting what organizations need from their workforces—and vice versa. “The work that is more systematized and easy to do will be digitized, so that work will go away,” Dery says. “We’ll be left with the work that is more suited to humans, which is less predictable and more complex and requires us to think in different ways and perhaps think about situations that we’ve never seen before. If we want to attract the caliber

FIGURE 2

## CLOUD WORKERS SEE FLEXIBLE, ANYWHERE WORK AS ESSENTIAL AND EMBRACE TECHNOLOGIES THAT HELP THEM DO THAT

In reflecting on the technologies that support your current job role, to what extent do you agree with the following statements? [SHOWING “STRONGLY AGREE” AND “SOMEWHAT AGREE”]



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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# “Happy employees lead to happy customers, and to better retention rates for employers.”

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of people who are capable of working like that, then we have to provide them with a really great environment to work.

“One of our studies shows that companies in the top 25% on employee experience have twice the customer experience, twice the innovation based on new products and services to market in the last two years, and are 26% more profitable,” she says. “So the rewards are there if you get this right—although getting it right requires a lot of focus.”

“Happy employees lead to happy customers, and to better retention rates for employers,” says Gownder. “There’s a lot of business logic underlying this, and organizations that haven’t thought of technology in this way are starting to do so.”

## Gearing Up for Gig Workers

Concern about employee experience also extends to key contributors who are not employees per se—workers in today’s “gig economy.” A 2016 survey by McKinsey Global Institute found that up to 162 million people in Europe and the United States—or 20% to 30% of the working-age population—engage in some form of independent work, and almost half of this working population derives its primary income this way.

IT groups in larger firms now generally need to provide infrastructures that allow the organization to bring in gig workers on a project basis, have them quickly and successfully adopt the required technology, and then smoothly segue them out of the organization when appropriate, says Gownder. “This puts a new kind of stress on the infrastructure to be easy to learn, and to transition in and out of,” he says.

These gig workers are an increasingly essential part of the workforce for many firms. That trend will only increase as many companies perform a fundamental reevaluation of their workforce requirements, says Dery.

“Companies that are more digitally advanced want to create environments where they can engage with the very best talent that’s out there, which doesn’t necessarily want to work for them full time,” she says. “Organizations may want a relationship that mirrors the relationships they have with full-time employees. So they share knowledge with freelancers, they expect freelancers to share knowledge, they engage freelancers in training programs, and invest in them in the same ways they invest in full-time employees.

“Look at Deloitte’s open talent community, for example,” she says. “That is a platform designed to take them from the situation today where they have virtually 100% of their employees as full-time employees to what they envisage in the next five years, which is around 50/50 employee/freelancer.

“This is a massive shift, and Deloitte is not alone in that thinking, and a lot of cloud-based applications are enabling that to happen,” she says. “These applications let people engage with organizations via those platforms directly in ways they’ve never been able to do before, and they’re providing the tools that create the flexibility around the workforce to enable people to move more fluidly in and out of organizations.”

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An even more massive shift is the adoption of machine learning and other artificial intelligence technologies. Again, cloud-native platforms will be central because of their advantages in rapid development, rapid deployment, scalability, and cost.

“Helping employees succeed is the longer-term gain for AI, whether that’s using machine learning or having a virtual assistant who literally works side by side with you,” says Gownder. “In five years, many workers will have access to smart tools that work that way, taking into account our past behaviors, our peers’ best practices, and our customers’ needs. These tools will allow us to be far, far more effective and productive in our jobs.”

Slightly closer to home for most of us, cloud platforms also can offer crucial support for creative problem-solving in areas too fluid for machine intelligence to take on.

For instance, cloud ubiquitous collaboration and work-anywhere apps can aid the small, flexible, multidisciplinary “agile innovation” teams now being launched in many large organizations. These agile teams are aimed at quick, iterative attacks on tricky challenges.

“Confronted with a large, complex problem, they break it into modules, develop solutions to each component through rapid prototyping and tight feedback loops, and integrate the solutions into a coherent whole,” note Darrell Rigby, Jeff Sutherland, and Andy Noble in “Agile at Scale” in the May–June 2018 *Harvard Business Review*. “Conditions are ripe for agile teams in any situation where problems are complex, solutions are at first unclear, project requirements are likely to change, close collaboration with end users is feasible, and creative teams will outperform command-and-control groups.”

Many organizations are now creating numerous agile teams, an approach that is called “agile at scale” and typically runs on cloud apps.

## Considering Change Management

In the short term, companies bringing in cloud-native technologies must deal with familiar, easily addressed issues in technology adoption. For instance, as retailer Nojima has broadened its use of cloud-native products, the biggest challenge has been integrating with legacy applications, particularly those in use by the company’s suppliers. Some software vendors have been very reluctant to update their applications for broad web browser support, “and we’ve been forced to make a roadmap to gradually replace them,” says Tada.

“So far, our users have not seemed to feel much stress in simple operations,” he says. “However, headquarters or management employees, who mainly use various legacy desktop apps, tend to find differences and feel difficulties in adopting substitute apps on the cloud. We are taking time to find ways to educate them on how to address those differences.”

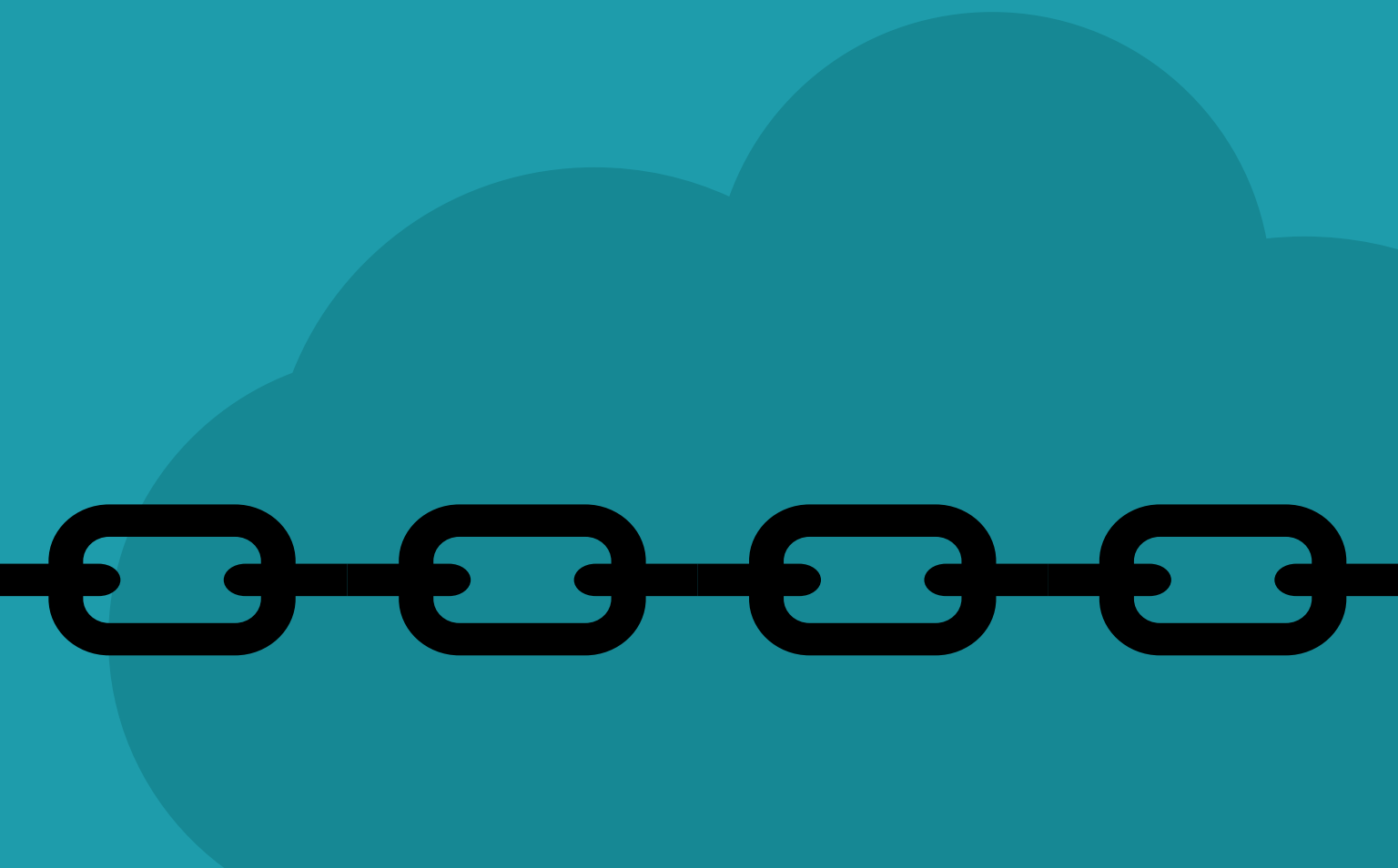
Of course, it’s always important to concentrate on ease of use, says Bhushan Sethi, who leads PwC’s Financial Services People & Organization Practice and drives the firm’s Global Workforce Strategy capability. Many of his clients use cloud-based technology solutions, and these often take more time and more attention to reach full acceptance than expected. “We all seem to overestimate the rate of adoption for any kind of technology, unless it’s as easy to use as your smartphone,” he remarks. “Even though we all talk about that as a design principle, we know that apps are often much harder to use than that.”

On a larger scale, particularly as job roles change, the changes in the cloud-empowered workplace demand thoughtful, careful, ongoing change management. “We need to take into account the incentives and motivations for people associated with utilizing these new paradigms,” Lightman says.



**CLOUD PLATFORMS ALSO CAN OFFER CRUCIAL SUPPORT FOR CREATIVE PROBLEM-SOLVING IN AREAS TOO FLUID FOR MACHINE INTELLIGENCE TO TAKE ON.**

**IN THE NEVER-ENDING DEFENSE AGAINST  
ONLINE ATTACKS IN THIS INSECURE WORLD,  
TODAY'S CLOUD SOLUTIONS CAN OFFER  
FAR BETTER SECURITY PROTECTION THAN  
LEGACY SYSTEMS.**





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Among companies rethinking how work gets done, “there is no playbook for this new way of working,” Dery says. “We’re figuring it out as we go along.

“That’s not just true of large organizations,” she says. “It’s also true of digitally born organizations that have a clean slate and many digitally savvy employees, but are still figuring out some of the basic principles. We’ve seen a number of those companies fall foul, not because of their technologies but because of the ways in which they’ve managed issues in the workplace.”

One requirement for success, regardless of how companies assemble their teams, is to provide them with appropriate and ubiquitous collaboration tools. “Natural ways for people to communicate through video become absolutely critical,” says Dery. “You want really great videoconferencing, with every room connected, great screens, and really good ability to share documents and to work interactively across video. In every case we’ve seen, that has required a significant investment in those capabilities.”

Another key for companies rethinking their use of human talent and workforce strategies, Dery says, is becoming much better at gathering, managing, and using data across the organization. “If different people are moving in and out of your organization, capabilities such as search become even more critical—to onboard them quickly, to make sure they can share knowledge effectively, to make sure they can work more easily with your organization.”

“Everyone talks about big data analytics, but we’re starting from a point where some of the foundational plumbing is still not in place,” Sethi remarks. “If you walk into any organization with upwards of 10,000 people, you can’t possibly answer questions as simple as who does what in this organization, who has what skills, who is fungible if I want to move people between departments? The data in many human resource systems doesn’t really answer these very basic questions.”

### Securing More than the Borders

In the never-ending defense against online attacks in this insecure world, today’s cloud solutions can offer far better security protection than legacy systems. Software can be designed and continually updated for high levels of security, and hardware devices can be completely managed within this secure environment. Updates happen in the background, so there is less downtime and interruption, helping ensure employees keep their devices up to date and prevent security breaches.

On the technical side, achieving this protection requires a full suite of cloud security capabilities, embedded in everything from browser tools to a broad range of back-end services, all carefully designed, thoughtfully implemented, actively maintained, and continually reassessed.

On the organizational side, starting with the executive suite, every cloud worker throughout the virtual enterprise must be motivated and trained on proper security procedures, and kept appropriately informed and trained as new risks emerge, experts note.

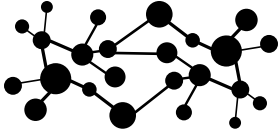
“Software vulnerabilities are becoming existential threats to businesses, and employees are not always in a position to address them directly,” Gownder points out. “Employees will say, ‘Of course I want to be secure,’ but their practices often go against that. For example, employees frequently say they couldn’t get their jobs done using the traditional path, so they brought their own technology to do it. That is effective for the employee in the short term to get their job done, but it’s certainly not being a good steward of the security.

“The solution is to embed security into systems that are employee-friendly,” he says. “If you are giving people technology that they want to use, make it convenient and secure it, and they will probably find themselves adhering more.”



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**ACHIEVING PROTECTION  
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## FULLY EMPOWERED CLOUD WORKERS WILL EXPLOIT RAPIDLY EVOLVING TECHNOLOGIES AND EXPLORE NEW BUSINESS OPPORTUNITIES AND APPROACHES.

Security issues may grow particularly tricky as companies increasingly depend on certain crucial gig workers. “Companies are experimenting and trying to work through this issue; they do realize that to embrace the new world of work they will have to figure it out,” Dery says. “We see lots of small experiments, lots of companies dipping their toe in the water, while others have become much more advanced and much more adventurous as they feel that they are coming to grips with these security issues. But I have no doubt that we will see breaches.”

### **Fully Engaging the Cloud Worker**

In the fast-changing world of work, skills such as collaboration, flexibility, and learning become ever more important. “We’re looking at very intergenerational workforces, all we hope working together in symbiotic harmony,” says Lightman. “We need to really understand what is important for each group and what gets them jazzed up to come into work every morning, and it’s different for different people.”

Fully empowered cloud workers will exploit rapidly evolving technologies and explore new business opportunities and approaches. They will live within an environment of cloud-native services that are quickly developed and flexibly delivered, with a high degree of control and built-in defense-in-depth security. Corporate IT resources will be freed up to provide applications that have roles and functionality we can only guess at now. Whether employees or gig workers, assisted by machine intelligence or not, cloud workers will accomplish their tasks—old and new—better and quicker than ever, spearheading this revolution.





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