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# Cloud Computing

Exclusive Research from  
**IDG Enterprise**  
An IDG Communications Company

## Cloud Computing Continues to Make Inroads

*Companies are expanding their use of cloud as they work through implementation and organizational challenges*

Cloud adoption is increasing as companies identify more IT operations they want to migrate. However, the pace and implementation focus vary according to company size, industry and job titles of parties involved, while security concerns persist as the top challenge to deployment, according to a survey of 1,672 IT decision-makers.

The results of IDG Enterprise's survey represent the practices and opinions of technology buyers whose organizations' have, or plan to have, at least one application or a portion of its infrastructure in the cloud. More than two-thirds (69%) of companies have already made cloud investments. The rest plan to do so within the next three years. Overall, companies appear to be moving steadily: respondents anticipate their cloud usage will expand, on average, by 38% in the next 18 months. At the end of 2015, companies expect to be operating an average 53% of their IT environments in the cloud.

The survey results also suggest that companies are committed to a mix of private, public and hybrid cloud services for the foreseeable future. On average, cloud deployments are already split about evenly between public (15%) and private (19%) implementations. Although companies intend to adopt public cloud at a somewhat faster pace than private cloud, private cloud models will continue to have the edge. Migration to hybrid clouds, which involve connecting a mix of public and private clouds together, will expand considerably—usage of this model will increase 56% by the end of 2015. But at that point, hybrid clouds will cover only 7% of the average company's IT environment.

There are significant differences, however, between large and small or mid-sized companies and industries. Large firms, with 1,000 or more employees, prefer private clouds, as do financial services companies; this won't change much as cloud adoption increases during the next 18 months.

Most respondents (57%) are very or somewhat confident that their private cloud initiatives will equal or exceed the cost savings of public cloud deployments. However, cloud proponents may be able to make a stronger case for private cloud as a source of flexibility: 65% of respondents are very or somewhat confident about how private cloud will measure up.

Regardless of the model they choose, companies plan to dedicate 24% of their IT budgets, on average, to cloud. Firms intend to spend an average \$1.6 million during the next year—6% more than in 2013. Large companies, not surprisingly, plan to spend considerably more than small and mid-sized companies: \$3.3 million compared to \$400,000.

### Sorting Out Priorities

Overall, 56% of companies are still identifying IT operations that they want to migrate to the cloud. But more companies are finished with the process now—38% compared to 33% in 2013. Small and mid-sized companies, with fewer than 1,000 employees, are significantly more likely to be done. So are companies outside of North America. Among industries, education (69%), manufacturing (64%) and financial services (58%) are most likely to still be evaluating the opportunities. Technology (49%) and services (42%) companies are most likely to already have adopted cloud where they are comfortable.

When respondents were asked to describe their policy for selecting public cloud services, 56% said IT makes the choices, and 52%—70% at large companies—said the CIO is involved in all cloud purchasing decisions. Nevertheless, business leaders outside of IT continue to drive a noticeable, and increasing, share of companies cloud investments. In fact, business managers say they fund significantly more than IT believes they do. Managers claim to fund 33% of cloud spending on average while only 22% of IT respondents agree. This perception gap appears to be widening. Within three years, business managers expect to fund 40% of cloud spending; IT anticipates only 27% coming from outside the technology budget. Among non-IT departments making cloud investments, respondents cited three most often: marketing (45%), sales (43%) and human resources (40%).

At least in some companies, this trend may be due to non-IT leaders having an easier time convincing CFOs to approve their investment. Although management-focused respondents report it's hardest to sell cloud solutions to the company's top finance executive, IT executives were more likely to say so (30%) than business managers (21%).

Another reason may be that the IT department and business managers don't completely agree on the objectives for cloud. For example, IT executives and business managers both rank lowering total cost of ownership as their top business goal. But it's more important to business managers: 45% chose it, compared to 39% of IT executives.

Meanwhile, 37% of each group cited speed of deployment, ranking this objective second. But for IT executives, enabling business continuity ties with speed. Significantly fewer business managers (26%) consider business continuity a priority. For this group, improving customer or support services, cited by 31%, is the third most important objective. Although 31% of IT executives agree this goal is important, it ties for fifth for them, behind replacing legacy systems (36%).

It's no surprise that survey respondents want ammunition from vendors to help them sell the cloud benefits that they value most. Whether choosing public or private cloud, respondents want help proving their investments will lower TCO and speed of deployment. When choosing public cloud, they also want evidence for improving customer support or services. For private cloud, they're looking for ways to sell replacing on-premise legacy technology.

When asked which vendors they considered to be thought leaders in cloud computing, Amazon, Microsoft and Google were the only companies to be cited by more than 20% of respondents. Companies with 1,000 or more employees were significantly more likely to mention legacy enterprise vendors such as IBM, Hewlett-Packard, Cisco, Oracle, EMC, and Dell, but only IBM and HP were cited by more than 10% of these large companies.

### **Expanding Cloud Deployments**

The results show that companies are getting ready to expand their portfolio of cloud services. The largest percentage of companies are currently migrating to or using cloud email or messaging applications (49%) followed by collaboration or conferencing solutions (43%) and customer relationship management or sales force automation applications (30%). Within the next three years, however, it appears that companies plan to increase the variety of services they use. Thirty-eight percent—the largest group—report they'll move data storage and data management to the cloud, followed by business/data analytics (35%). Collaboration and conferencing solutions will fall to third, with 34% planning to deploy them. Large companies are significantly more likely than small or mid-sized

companies to adopt cloud collaboration applications: 85% of companies with 1,000 or more employees are using, or plan to use them.

Large companies also appear to have significantly greater need for cloud-based call center and human resources applications. Fifty-nine percent of respondents from large companies are using, or have plans to use these applications, while 53% are using or considering cloud-based ERP, compared to fewer than half of small or mid-sized companies.

Some companies, meanwhile, have been using cloud services long enough that they're ready to upgrade them. More than half (52%) are doing so or plan to within the next 12 months. Companies with 1,000 or more employees are more likely to be upgrading currently. Respondents are split as to whether switching cloud providers is more or less difficult than switching on-premise providers. Not sure (32%) was the most common answer.

Meanwhile, companies also are currently, or planning to be developing, testing or deploying IaaS (49%), and PaaS (41%). Companies with 1,000 or more employees are significantly more interested in both. On average, companies will devote 49% of their cloud computing budgets to SaaS, 28% to IaaS and 18% to PaaS within the next year.

### **Considering Pain Points**

None of this is easy, and technology executives and business leaders differ in how they perceive cloud implementation challenges. When asked to name the top three challenges to cloud from the viewpoint of non-IT leaders, 52% cited security, compared to 61% who named this as a challenge for IT.

Meanwhile, 46% of respondents perceive integration issues to be a top challenge for IT, ranking it second. But they think non-IT leaders rank difficulty measuring ROI as the number two barrier (37%). Integration (28%) comes fifth, behind meeting enterprise standards (32%) and information governance (32%). For IT, information governance ranks third (35%), and measuring ROI is fourth (30%).

The differences add up to some potential headaches for IT. Nearly half of respondents (45%) report encountering a cloud project launched by a business department that had been turned over to IT. The reasons they cite: security concerns and a lack of appropriate skill sets (tied at 59%), followed by the need for standardization on a single platform (50%).

### **What to Do About Security?**

Concerns about cloud security aren't going away. In previous surveys, it's also been cited as a top obstacle. Security decision-makers may be relatively comfortable with how secure the information is that their companies have put in the cloud already—74% say they are very or somewhat confident about it, similar to a year ago. But uncertainty about whether they can enforce their security policies at provider sites is their number one challenge, cited by 56%.

They're less willing to trust vendors with the job now. The percentage of security decision-makers who share responsibility for cloud security with their cloud provider has fallen from 52% in 2013 to 44% today. More companies (37%, versus 33% in 2013) manage cloud security completely in-house.

But they still want vendors to step up. Given a list of ten ways cloud vendors could become trusted partners, a majority of respondents chose eight of them. Topping the list: provide security reports (66%), implement monitoring and access control policies (61%), and incorporate security into their system

Source: IDG Enterprise 2014 Cloud Computing Survey

development lifecycle (58%). Companies with 1,000 or more employees rank their requirements slightly differently, however. Though they, too, say security reports from their vendors are most important, they list maintaining interoperability with their existing security architecture and willing to allow onsite, independent audits of their cloud providers in the second and third spots.

From the viewpoint of infrastructure-focused respondents, good security could seal the deal for cloud. More than half (56%) said ensuring that the security of cloud service providers can meet their company's compliance requirements is the number one issue they have address before they can embrace cloud more fully. One-third (33%) report that cloud makes it more difficult to keep up with compliance requirements.

It follows that companies are attuned to security when making purchasing decisions. Although consistent performance and availability is most important when choosing a SaaS, IaaS, or PaaS provider, security certifications and practices rank second when choosing SaaS and PaaS vendors. It isn't just public clouds that give survey respondents pause. Nearly half (45%) say they need information and help with maintaining security and compliance in a private cloud. The most common way companies manage data security in the cloud is by implementing identity and access management controls.

### **The Evolving IT Organization**

Along with the work of creating business cases, choosing cloud providers and deploying new technology, IT departments continue to undergo internal changes.

Just over half (51%) of management-focused respondents said that during the next year, IT will be collaborating more with other business units, as well as retraining or repositioning current IT staff. Meanwhile, 45% say they'll seek new talent or skills. Large companies are significantly more likely to take these steps, along with others, such as developing new pricing models, cutting budgets and reducing headcount.

North American companies are significantly more likely than companies elsewhere to view staffing changes as a response to cloud.

Infrastructure-focused respondents agree that cloud is changing what IT professionals need to know: 56% said their organization's need for specialized IT skills is increasing. For the most part, they see cloud's impact as positive. Cloud computing appears to be having the greatest impact on IT agility: 63% say it's increasing. So is IT innovation (cited by 61%), followed by access to critical business data and applications (chosen by 58%).

Increasing IT agility is a big enough focus for this group that 61% are evaluating emerging technologies such as software-defined networking and network virtualization in order to get the most agility from their cloud investments. Slightly more (62%) say it's critical that cloud service providers show they have embraced these technologies.

## **Methodology**

IDG Enterprise's 2014 Cloud Computing Survey was conducted among the audiences of six IDG Enterprise brands (CIO, Computerworld, CSO, InfoWorld, ITworld and Network World), three IDG UK brands (CIO, Computerworld, Techworld), and six IDG Sweden brands (CIO, Cloud Magazine, Computer, IDG, InternetWorld, TechWorld). The survey fielded online with the objective of understanding organizational adoption, use-cases, and solution needs with respect to cloud computing. This was a targeted research effort, to be considered qualified respondents must have reported cloud utilization was planned or currently leveraged at their organization. Furthermore, respondents must have reported personal involvement in the purchase process for cloud solutions at their organization.

Respondents were offered a chance to win \$500 cash as an incentive for completing the survey. Results are based on 1,672 qualified responses. The margin of error on a sample size of 1,672 is +/- 2.39 percentage points. For the purposes of this report, large companies refer to those respondents at companies with 1,000 or more employees. Small and mid-sized companies refer to those respondents at organizations with less than 1,000 employees. Percentages on single-select questions may not sum to 100% due to rounding.

Seventy-four percent of respondents are from North America, 18% from the European Union, 4% Asia Pacific and 3% other regions. A broad range of industries are represented including high-tech & telecommunications (18%), government & non-profit (11%), manufacturing (10%), education (10%), business services (10%) and financial services (9%). Fifty-seven percent of respondents are employed by organizations with fewer than 1,000 employees while 42% are employed in 1,000+ employees (1% did not provide an answer).