IDG

EXECUTIVE SUMMARY

2018

Cloud Computing Survey

Cloud Adoption Keeps Expanding

Nine out of ten companies will have some part of their applications or infrastructure in the cloud by 2019, and the rest expect to follow by 2021.

Cloud technology is quickly becoming the default at companies of all sizes. Nine out of ten companies have already moved at least some of their applications or computing infrastructure to the cloud or plan to do so in the next 12 months. IT spending reflects this trend, with the average investment in cloud rising nearly 36% from two years ago. What's more, cloud adoption is growing across all delivery models, with examples of every kind of application and workload on every kind of platform, according to a recent IDG survey.

73% have already adopted cloud technology, and another 17% intend to do so in the next 12 months.

The survey results represent the practices and opinions of 550 IT decision-makers whose organizations have either already adopted cloud technology or plan to do so within the next three years. In fact, 73% of respondents report having already done so, and another 17% intend to do so in the next 12 months, leaving just 10% delaying their cloud migration for one to three years.

Adoption and Spending Both On the Rise

Software as a Service (SaaS) is still the most common cloud service model across companies of all sizes; 89% of companies use it somewhere in their IT environment. However, other delivery models are becoming more popular, with 73% of companies using Infrastructure as a Service (IaaS) and 61% using Platform as a Service (PaaS).

The average IT environment is increasingly cloud-based, expanding from roughly half the environment in the cloud today to more than two-thirds in just 18 months. Today's average IT environment is 52% non-cloud, while 23% is SaaS, 16% is IaaS, and 9% is PaaS. In the next 18 months, though, non-cloud

delivery will account for less than a third (31%) of the average IT environment, while SaaS makes up 33%, IaaS 22%, and PaaS 14%. SaaS will be in use at 95% of companies, IaaS at 83%, and PaaS at 73%.

PRESSURE TO MIGRATE ALL APPLICATIONS TO THE CLOUD

Overall	**38%**
Services	**46%**
Financial Services	**46%**
High tech	**43%**
Healthcare	**38%**
Manufacturing	**37%**
Telecom	**36%**
Education	**29%**
Government/non-profit	**23%**

This growth makes sense given that more than a third (38%) of respondents report their IT department is under pressure to migrate all applications and infrastructure to the cloud. Indeed, more technology-dependent industries like high tech, services, and financial services are more likely than companies in education, government/non-profit, manufacturing, telecom, or healthcare to report that executive management and/or individual lines of business are pressuring them to move fully into the cloud.

As companies increase their cloud adoption, they're also increasing their cloud budgets. The average cloud budget, $1.6M in 2016, has spiked nearly 36% to $2.2M in 2018. Much of this increase is driven by SMBs (organizations with <1,000 employees), whose average cloud spend has more than doubled since 2016 to $889,000. By comparison, enterprise organizations (1,000+ employees) average cloud spend has risen just 15% to $3.5M. Across companies of all sizes, the average cloud budget is spent roughly 48% on SaaS, 30% on IaaS, and 21% on PaaS.

AVERAGE CLOUD BUDGET:
$2.2 million
Up from $1.62M in 2016

**$3.5M enterprise
$889K SMB**

Interestingly, even with the large increase in dollars invested in the cloud, it actually makes up only a slightly larger proportion of the overall IT budget in 2018 (30%) than it did in 2016 (28%). This suggests that companies are not necessarily prioritizing cloud over other IT expenditures, but rather may be folding cloud migration into a broader recovery from a period of IT budget austerity.

A Constantly Changing Environment

Companies are most likely to have already migrated or are currently migrating websites and web apps (57%), collaboration and communication solutions (53%), and storage/archive/backup/file servers (41%). The workloads companies are most commonly still planning to migrate are disaster recovery/high availability systems (45%), business intelligence/data warehousing/data analytics (41%), and system management/DevOps (40%).

Top priorities for cloud migration in the next 12 months are disaster recovery (24%), development and testing (23%), and system management/DevOps (23%). Top priorities for the next one to three years are business intelligence/data warehousing/data analytics (21%), disaster recovery (21%) and line of business applications like finance and HR (19%).

HOW DO IT DECISION-MAKERS EVALUATE CLOUD VENDORS?

82%	Participate in product demos and trials
78%	Read content on the vendor's website
74%	Read peer reviews and recommendations

Currently, companies use an average of four SaaS vendors, three PaaS and two IaaS vendors. In 18 months, they expect to use slightly more vendors – on average five SaaS vendors, three IaaS and three PaaS vendors. To assess these vendors, they tend to participate in product demonstrations and trials (82%), read content on the vendor's website (78%), and read peer reviews and recommendations (74%). Enterprises are also significantly more likely than SMBs (70% to 55%) to read analyst reports about a product as part of their evaluation process — which suggests that what matters most for cloud, as for almost everything, is how a product works and what peers and experts say about it.

Companies take an average of four months to evaluate a new cloud vendor of any type; however this evaluation process differs by cloud model.. Organizations generally evaluate SaaS vendors faster than others, which may reflect their relative familiarity with the SaaS model. The average evaluation period for companies considering a SaaS vendor is four months, but 63% make a decision

in one to eight months and 15% make a decision in less than a month, while only 12% take eight months or more. By comparison, companies considering a PaaS vendor average five months of evaluation, with most (60%) finishing their evaluation process in one to eight months but 16% requiring eight months or more to make a decision, while 14% take less than a month. Similarly, companies take an average of five months to evaluate an IaaS vendor, with 64% taking one to eight months and 14% needing eight months or more, while 12% take less than a month.

Once companies decide to invest, there seems to be no consensus about which workloads to place on which cloud platforms, especially given that many applications can be and are being migrated to any delivery model. The survey shows almost every possible combination. For example, of the development and test environments that are now in the cloud, more than half (52%) using IaaS and the rest roughly split between SaaS (39%) and PaaS (33%). When looking at data analytics solutions that are now in the cloud, approximately half (49%) using SaaS, 38% using IaaS, and 31% using PaaS.

That said, respondents indicate that CRM, collaboration, line of business, and mobile apps are currently most likely to use the SaaS model for deployment. Disaster recovery/ high availability systems, development and test environments, databases, and storage/archive/backup/ file servers are most likely currently to use the IaaS model. Where companies use PaaS today, it's most likely to include development and test environments, system management/DevOps, and business intelligence/data warehousing/data analytics.

The Need for Speed

Despite years of discussion about the cloud as a source of cost savings, respondents report that the primary reason for their cloud investments is to enable IT to meet business demands for speed, agility, and responsiveness. Asked to rank their top business goals or objectives most responsible for driving investments

TOP BUSINESS GOALS DRIVING CLOUD INVESTMENTS

1. **Improving the speed of IT service delivery**
2. **Greater flexibility to react to changing market conditions**
3. **Enabling business continuitySpeed of development**
4. **Improving customer support or services**
5. **Lower total cost of ownership**

in cloud computing initiatives, they most often cited improving the speed of IT service delivery (71%), increasing flexibility to react to changing market conditions (63%), enabling business continuity (58%), and improving customer support and services (57%).

These goals align with their reported reasons for choosing specific cloud delivery models. Companies say they use SaaS solutions to save IT staff time and ultimately improve the customer experience. SaaS investments are driven by the hope to decrease manual maintenance (62%), increase productivity (55%), improve end user experience (53%), and provide greater access and reliability (53%). Companies say they've implemented IaaS solutions for scalability (68%), flexibility (53%), reliability (51%) and increased agility (51%). Companies that deploy PaaS cite the need to save time and costs, particularly the ability to eliminate server and storage overhead (56%), in-house maintenance and updates (51%), developers allow for faster and more agile process (48%) and support personnel costs (48%).

Respondents also point to the current and future impact of cloud investments on the structure and operations of the IT department. They predict that in the next 12 months, cloud will increase IT/business collaboration (49%), enable the company to rethink its IT organization structure (48%), allow it to retrain or reposition current IT staff more effectively (43%), and create openings for new IT talent and skills (41%).

Additionally, more than two-thirds (69%) report that cloud migration has already not just driven IT hiring, but created new roles and functions within the IT department, including cloud architect/engineer (34%), cloud systems administrator (33%), security architect/ engineer (30%), cloud systems engineer (22%), and cloud network engineer (20%).

69% OF ORGANIZATIONS HAVE ALREADY ADDED NEW ROLES AND FUNCTIONS DUE TO THE CLOUD

34%	Cloud architect/engineer
33%	Cloud systems administrator
30%	Security architect/engineer
22%	Cloud systems engineer
20%	Cloud network engineer

TOP CHALLENGES TO IMPLEMENTING CLOUD

47%	Vendor lock-in
34%	Security concerns
34%	Concerns about where data is stored
31%	Lack of the right skill sets to manage and derive the maximum value from cloud investments
29%	Concerns surrounding integration

Overall, respondents say their top three challenges or barriers to implementing cloud are concerns about vendor lock-in (47%), security concerns (34%), and concerns about where data is stored (34%). These are universal issues across all cloud computing models. Specific cloud services also create specific concerns: data portability and integration concerns are leading issues for SaaS; lack of appropriate skill sets to manage and derive maximum value from cloud investments is a leading issue for both IaaS and PaaS; and concerns around downtime and technical issues are critical for IaaS.

Many (42%) respondents are addressing their concerns by working with multiple cloud providers, with or without hybrid (cloud and on-premise) deployment. Among those using this multi cloud strategy, more than half (54%) are doing so at the suggestion of the IT department, for reasons that include improved availability and speed, increased cloud options, and the ability to increase flexibility and improve disaster recovery by spreading workloads and risk across multiple clouds. It's no surprise, then, that more than half (51%) of companies now think of their cloud providers as a portfolio that needs to be managed as a whole rather than as individual parts, even as they migrate more applications to more vendors in more clouds.

42% of organizations are using multi cloud

Organizations are no longer questioning whether they should move to the cloud. They're now focusing squarely on how best to leverage the new generation of cloud services by adopting new delivery models and enabling multi-cloud architectures. And while their initial motivation for cloud migration may have been simplicity in pursuit of cost savings, companies are finding that their desire for greater agility is increasing the complexity of their cloud environments, with lasting ramifications for the way they staff their IT departments and manage their IT infrastructure.

METHODOLOGY

IDG's 2018 Cloud Computing Survey was conducted among the audiences of six IDG brands (CIO, Computerworld, CSO, InfoWorld, ITworld and Network World) representing IT and security decision-makers across multiple industries. The survey was 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. Using this criteria, results are based on 550 respondents.