



2011 Cloud Computing **SURVEY**

Exclusive Research
from *CIO* magazine

Balanced Growth		25%
Income	25%	
Growth and Income	25%	
Cash Equivalents	25%	

Conservative Growth		25%
Income	25%	
Growth and Income	25%	
Cash Equivalents	25%	

EXECUTIVE SUMMARY

Cloud computing has come a long way in the past few years, from experts disagreeing on what the term cloud computing meant to being a strategic priority in executive boardrooms everywhere.

The promise of the cloud has been generating significant interest for organizations in recent years. From offering the ability to scale instantaneously to meet changing demands, to purchasing computing resources on-demand thus avoiding costly up-front infrastructure expenditures, to moving information out of end-point silos to a central location, accessible anywhere and anytime. As the various cloud computing models and offerings have matured, benefits have become more tangible and adoption has begun to spike. This report puts some scale to those adoption levels, delves into the prioritization of benefits IT leaders perceive, and assesses the attitudes of both IT heads and their business focused counterparts regarding the strategic importance of cloud computing, as well as the concerns they harbor.

Naturally, the CIO audience plays an influential role in the purchase process for cloud based solutions within their organizations, many reporting they help determine the business need (74 percent), evaluate the solutions (74 percent) and determine requirements (69 percent). As cloud decision-makers invest in this technology, they are carefully considering certain factors when evaluating cloud solutions and their vendors, chiefly: ability to meet security requirements (77 percent rating very important), support and services (68 percent), ease of use (62 percent), and integration into existing infrastructure (62 percent).

Decision-makers are waist-deep in this technology; an average of 18 percent of respondents' 2010 IT budgets are allocated to cloud-based solutions – Over two-tenths of organizational data is already residing in the private cloud.

Respondents plan to invest an average of about \$1.2M (\$2.2M for enterprise organizations with 1,000 or more employees) in cloud-based solutions and services over the next 12 months. Additionally, six out of ten respondents (61 percent) expect the percent of their IT budget earmarked for cloud solutions will increase over the next 12 months vs. just 3 percent reporting a decrease, with an overall average expected increase of 12 percent. Such high levels of current and planned investment reflect respondents' feelings that there are very compelling business advantages offered by the cloud. Most importantly respondents feel the cloud enables business continuity, offers greater responsiveness to changing market conditions, can improve support and services for customers, and reduces resource waste. More than three-quarters of all respondents rate these benefits as either very or somewhat important as drivers of investment in the cloud.

While cloud computing is in many ways a nascent technology, there are still many executive business managers making it a high, or even critical, priority to the business technology agenda (38 percent); CIOs are feeling this push to deploy cloud technology from their organizations' business leaders more than the overall audience, at a 43 percent frequency. IT is most often responding to this pressure with investments in cloud-based applications, storage, and processing power with 62 percent, 44 percent, and 39 percent of respondents reporting that SaaS, Storage-as-a-Service, and Infrastructure-as-a-Service are high to moderate investment priorities.

In a corporate world where innovation is the key to success, seven out of ten respondents are in agreement that the cloud is very or somewhat important as an enabler of business innovation at their organizations (69 percent) and the majority feels cloud technology investments are actually shaping overall business strategy (54 percent).

Although there are most certainly business advantages to deploying cloud-based solutions, there are also challenges and barriers of implementation that are concerning CIOs. One area which cloud technologies must still prove itself in is security; 67 percent of respondents list their concerns about cloud security as among the top three organizational barriers to implementing a cloud strategy. Vendors must be able to meet security requirements, the top factor in respondent organizations' evaluation of cloud computing technology vendors. The cloud is at a tipping point in the minds of CIOs but security concerns must be answered if adoption is to continue unhindered and extend to business critical processes.

HIGHLIGHTS BY QUESTION

Respondents are Heavily Involved in the Purchase Process for Cloud Technology

- Nearly three-fourths of respondents (74 percent) take part in the evaluation or the determination of the business need stages of the purchase process for cloud computing solutions, and 47 percent are responsible for approving or authorizing the purchase of cloud computing technology.
- Sixty-nine percent determine requirements while two-thirds (66 percent) recommend and select vendors for their organization.
- Heads of IT play a particularly influential role when it comes to making the business case for investments in cloud technology. Forty-three percent indicate they are involved in that step in the purchase process compared to 33 percent of respondents that are not heads of IT.

Data Residing in the Cloud is Expected to Grow Quickly

- Respondents report that 12 percent of their organization's data is residing in, and delivered by, SaaS applications. Furthermore, participants expect that this percentage will increase to over 16 percent in the course of the next 18 months.
 - Small- to mid-sized organizations (less than 1,000 employees) seem to be leading the adoption of SaaS applications with 14 percent vs. 9 percent for enterprise organizations (1,000 or more employees).
- Respondents report that 8 percent of their organization's data is currently residing in the public cloud. Participants expect that the amount of data hosted in the public cloud will increase by over 50 percent over the next 18 months to nearly 13 percent.
 - Again small- to mid-sized organizations seem to be leading the adoption of the public cloud with 10 percent vs. 7 percent for enterprise organizations.
- On average respondents report that about 21 percent of their company's data is housed in a private cloud, with an increase to 27 percent expected 18 months from now.
 - Enterprise organizations on the other hand are leading the adoption of the private cloud with 23 percent vs. 19 percent for small- to mid-sized organizations.
- Participants report that hybrid clouds are currently storing about 9 percent of their company's data; this percentage is expected to grow to nearly 15 percent over the next 18 months.

Cloud Already Makes up an Impressive Portion of IT Budgets, and is Expected to Increase

- On average, about 18 percent of respondents' 2010 IT budget is allocated to cloud-based solutions.
- Nearly two-thirds (61 percent) of respondents expect the percent of their organization's IT budget allocated to cloud-based solutions to increase over the next 12 months.
 - This is significantly higher among enterprise organizations (67 percent) than small- to mid-sized organizations (57 percent).
- Only 3 percent expect the percentage of their organization's IT budget allocated to cloud-based solutions will decrease over the next 12 months.
- Thirty-seven percent expect no change in the percentage of their organization's IT budget allocated to cloud-based solutions over the next 12 months, resulting in an overall increase in the percentage of the IT budget allocated to cloud-based services computing of 12 percent.
 - At small- to mid-sized organizations, the percent that expect no change in the percentage of their IT budget allocated to cloud-based solutions (41 percent) is significantly higher than that of enterprise organizations (30 percent). Overall, the percentage of the IT budget expected to be allocated to cloud-based services computing over the next 12 months is slightly higher at enterprise organizations (13 percent) than small- to mid-sized organizations (11 percent).

Cloud-based Solutions are a Top Investment Priority

- On average, respondents plan to invest around \$1.2M in cloud-based solutions in the next 12 months.
 - This figure increases significantly for enterprise organizations (\$2.2M).
- Top areas of cloud computing (rated as a high or moderate investment priority) over the next 12 months:
 - Software-as-a-Service (62 percent)
 - Storage-as-a-Service (44 percent)
 - Infrastructure-as-a-Service (39 percent)

It should be noted that expected investment in Platform-as-a-Service (PaaS) (31 percent high/moderate priority overall) is significantly higher among enterprise organizations (39 percent) than small- to mid-sized organizations (23 percent). Similarly, expected investment in Data-as-a-Service (DaaS) (23 percent high/moderate priority overall) is significantly higher among enterprise organizations (29 percent) than small- to mid-sized organizations (18 percent) and expected investment in Network-as-a-Service (NaaS) (25 percent high/moderate priority overall) is significantly higher among enterprise organizations (30 percent) than small- to mid-sized organizations (19 percent).

The Cloud is Viewed as a Supplement to IT Operations as Opposed to a Replacement

- The majority of respondents (54 percent) are planning to use cloud-based services to supplement, or fill the gaps, in their internal IT services suite.
- However, roughly one-third (33 percent) of respondents report that over the next 12 months they expect their organizations to fully convert their IT operations to a private cloud.

The Cloud is Strategically Important to Executive Managers

- Nearly four out of ten respondents (38 percent) indicate that cloud computing is either a critical or high priority on the business technology agenda of their organization's executive management team.
 - This is significantly higher among heads of IT (43 percent) than respondents that are not heads of IT (30 percent).
- While slightly more than one fifth of respondents (21 percent) feel that cloud computing technology investments are playing a critical role in shaping overall business strategy, 33 percent feel that cloud investments do play a role in shaping overall business strategy but are not a central focus. However, about four out of ten respondents (40 percent) feel that cloud computing investments are being driven by business strategy rather than shaping it.
- Respondents cite the benefits driving investment in cloud computing are most likely to be the enablement of business continuity, the flexibility to react to changing market conditions, improving customer support/services, and reducing resource waste. Respectively, 79 percent, 77 percent, 76 percent, and 75 percent of respondents report these benefits are very to moderately important as drivers of investment.

Security is the Leading Concern for Moving Data to the Cloud

- Security is far and away the leading concern of IT leaders when they consider the implementation of cloud computing technologies; 67 percent of participants report that it is among their top 3 concerns. This is especially true at enterprise organizations (71 percent).
- Other leading challenges include concerns about information access (41 percent) and concerns about information governance (37 percent).

Vendors will be Judged on a Number of Factors

- Top factors (rated very important) when evaluating cloud computing technology vendors at respondents organizations are:
 - Ability to meet security requirements (77 percent)
 - Support and services (68 percent)
 - Senior and mid-level IT managers (both with a 71% incidence) are significantly more likely to feel support and services are very important when compared to other IT professionals (51%).
 - Ease of use (62 percent)
 - Senior and mid-level IT managers (both with a 63% incidence) are more likely to feel ease of use is very important when compared to other IT professionals (46%).
 - Integration into existing infrastructure (62 percent)
 - Enterprise organizations are more likely to feel integration into existing architecture is very important (66%) when compared to companies with less than 1,000 employees (59%).
 - Experience building and operating cloud environments (54 percent)
 - The ability to scale (52 percent)
 - Enterprise organizations are significantly more likely to feel the ability to scale is very important (57%) vs. companies with less than 1,000 employees (47%).
 - Easy-to-understand pricing models (52 percent)

METHODOLOGY & RESPONDENT PROFILE

CIO's 2010 Cloud Computing survey was conducted online among CIO's audience, via pop-up and email invitations, between October 26, 2010, and November 16, 2010, with the goal of gaining a better understanding of key cloud computing trends taking place today and the effect these trends are having on CIO's audience. Respondents were offered a chance to win \$500 cash as an incentive for completing the survey. Respondents must have indicated that they have purchase influence in at least one of the following steps in the cloud computing purchase process to be considered qualified respondents: evaluation, recommending vendors, determining requirements, determining the business need, approval/authorization, or selling internally. Results are based on 451 completed surveys.

A broad range of industries are represented including high tech, telecom & utilities (24 percent), services (13 percent), government and nonprofits (10 percent), manufacturing (10 percent), and healthcare (10 percent). Respondents are employed in companies with an average of \$6.16 billion in company revenues and an average of 16,416 employees. The margin of error on a sample size of 451 is +/- 4.6 percentage points. Percentages on single-select questions may not sum to 100 due to rounding. Unless noted otherwise in the text, enterprises are defined as organizations with 1,000 or more employees, small- to mid-sized organizations are defined as having <1,000 employees.