

TechInsights Report: Cloud Succeeds. Now What?

Cloud success exceeds initial expectations. IT management and security tools now more important than ever.



Executive Summary

Companies experienced with cloud computing say it is proving to be even more successful than originally anticipated. That is, according to a survey conducted by Luth Research and Vanson Bourne of 542 organizations in the US and Europe using various types of cloud for at least one year or more.

Those surveyed confirm cloud computing is delivering on all of the major promises vendors have made for it—it can save money and speed time-to-market. Experienced cloud users surveyed also shed light on the evolving nature of cloud and how as use matures, the need for sophisticated IT management and security tools is becoming much greater to guarantee cloud continues to deliver in the long term.

The companies most experienced with cloud computing—four or more years and three or more types of cloud services consumed (Infrastructure as a Service—IaaS, Platform as a Service—PaaS, and Software as a Service—SaaS)—are now demanding IT management tools such as end-to-end service automation, service-level management across both cloud and non-cloud environments, and the ability to switch between cloud service providers.

Surprisingly, the biggest perceived fear of moving applications to the cloud—security—led to contradictory results in this survey. Security was often cited as one of the reasons for success in the cloud, and many companies are actually moving to the cloud to improve security. For instance, companies that might not be able to invest heavily in their own, multiple security systems ranging from authentication to identity management could turn to cloud vendors to provide a secure environment. Still security remains the number one reason why companies choose not to move a particular application to the cloud. And as cloud deployments mature, so should organizations' approach to secure identity and access management.

Introduction

Use of cloud computing is becoming more mainstream, therefore cloud dominates endless discussions about whether it is over-hyped or really useful, whether large companies are using it, whether cloud adoption is being held back by security, and more.

Cloud computing has been in use for a number of years and there are companies that can now claim significant experience. CA Technologies commissioned a study by Luth Research and Vanson Bourne to survey companies that are currently using cloud services to get specifics on how cloud computing is being used, top problems or successes, and how its use changes as IT teams gain more experience. This survey was also designed to uncover common cloud challenges, so the industry could have an informed dialog on how to address the problems.

Results were revealing—the benefits of using cloud computing are by all accounts living up to the hype, and many of the predicted and/or perceived problems are not actually being reported.

Another key finding of the study: the more companies use the cloud, the more it exceeds their expectations, and the more they recognize the need for better IT tools to manage the cloud more effectively and efficiently.

Broad Use of Cloud

Survey data shows use of cloud computing has exploded in the past three years (Figure 1), with 87% of the respondents starting their use of cloud around that time. Specifically, SaaS leads the way as the most widely implemented type of cloud service (94% of the US and 68% of the European companies in the survey had implemented SaaS). IaaS and PaaS follow closely, only 10 to 15 percentage points behind SaaS.

Figure 1.

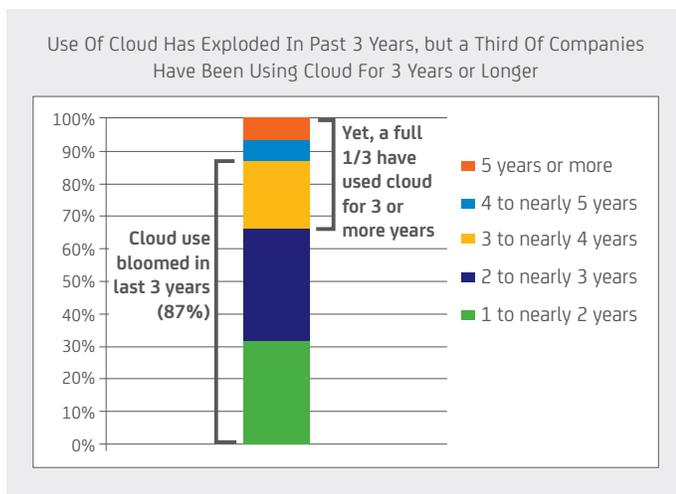
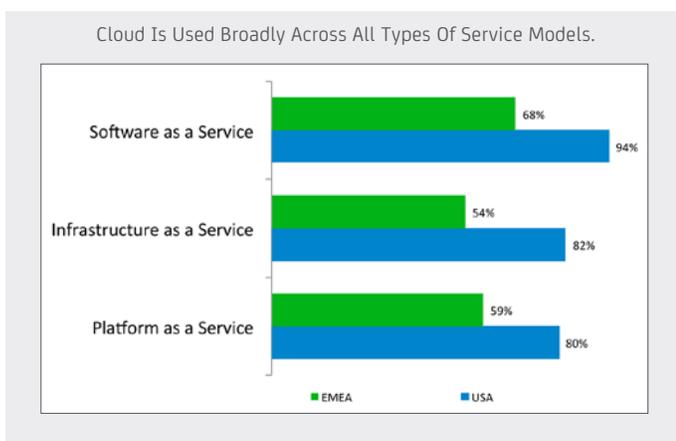


Figure 1 also shows that one-third of the respondents have been using cloud for three or more years. These respondents with longer and more diverse experience using cloud computing provide a unique perspective into the management challenges cloud presents, which applications work better there and how much cloud investment will increase.

Figure 2.



Primary Objectives For the Cloud

Objectives for cloud have matured with longer use in some cases. While cost savings continues to be a priority, increased speed of innovation has risen to the top for more experienced organizations.

For instance, the numbers show the US leading Europe in current cloud use. Fifty-five percent of the companies in the US have been in the cloud for three or more years, compared to 20% of respondents in Europe. Europe is catching up fast, with 38% of the European respondents using cloud for two to three years.

And Europe and the US are different in what they are trying to achieve with cloud. The survey asked companies for their primary objectives for using each of the three different types of cloud services—IaaS, PaaS or SaaS. The respondents were able to choose up to three objectives out of a list of seven.

In general, the US respondents were much more interested in increased speed of innovation, while the number one objective for Europe respondents was reduced total costs (Table 1). Superior IT performance was also a top objective, both for the US and the Europe. These differences could be attributed to the length of time cloud implementations have been in place. Cost is often considered an early benefit; then as the implementation matures, companies shift focus to innovation and other benefits such as increased performance and even enhanced security.

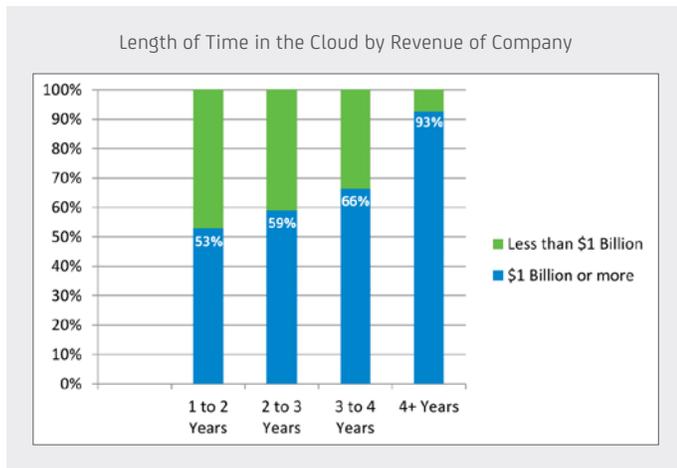
Table 1.

Top Objectives for the Cloud, US versus Europe				
US		Europe		
IaaS				
#1	Increased speed of innovation	58%	Reduced total costs	65%
#2	Superior IT performance, scalability, or resiliency	48%	Superior IT performance, scalability, or resiliency	57%
PaaS				
#1	Superior IT performance, scalability, or resiliency	52%	Superior IT performance, scalability, or resiliency	51%
#2	Increased speed of innovation	43%	Reduced total costs	49%
	Enhanced security			
SaaS				
#1	Increased speed of innovation	52%	Reduced total costs	50%
#2	Superior IT performance, scalability, or resiliency	51%	Superior IT performance, scalability, or resiliency	41%

Large Companies Lead the Way

Contrary to other reports¹, this survey demonstrates that it is larger organizations that are leading the way in using cloud. They have been in the cloud longer (93% of those who have been leveraging cloud for four or more years have revenues of \$1 billion or more) and are more likely to be using all three types of cloud services (79% of those using IaaS, PaaS and SaaS together in their organizations have revenues of \$1 billion or more). Larger companies represent 63% of the total responses in the survey (n=340), mid-sized companies 37% (n=202).

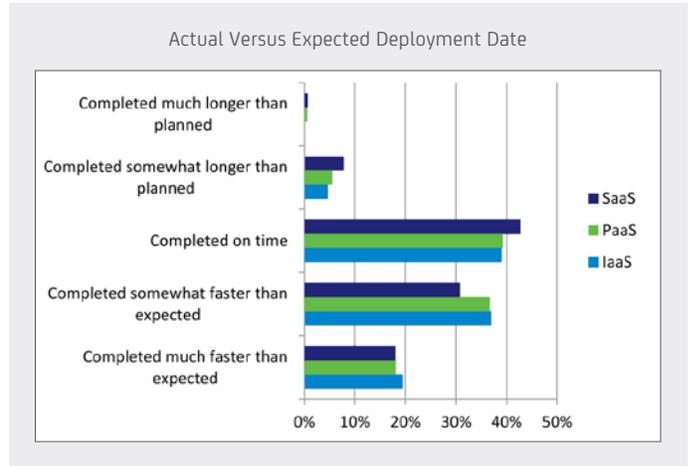
Figure 3.



The Results are Better than Promised

One of the most surprising findings is that enterprises by and large are seeing tremendous benefit from the cloud and are having few, if any, problems. Across the board, companies are reporting faster than expected deployment, better than expected results and lower than expected costs.

Figure 4.



For respondents of this survey, the cloud is helping to dispel the perception of IT as slow-moving and is exceeding expectations with nearly half (or more) of all respondents indicating their cloud deployment was completed ahead of schedule. Deployment expectations may have been lower from fear of the unknown or touted complexity of the cloud—questions not raised in this study. However the study confirms that the speed of cloud deployment was a pleasant surprise for most respondents.

In fact, around 40% of the respondents reported that cloud is exceeding their expectations. Respondents attributed their success to it being “easier to implement than anticipated.”

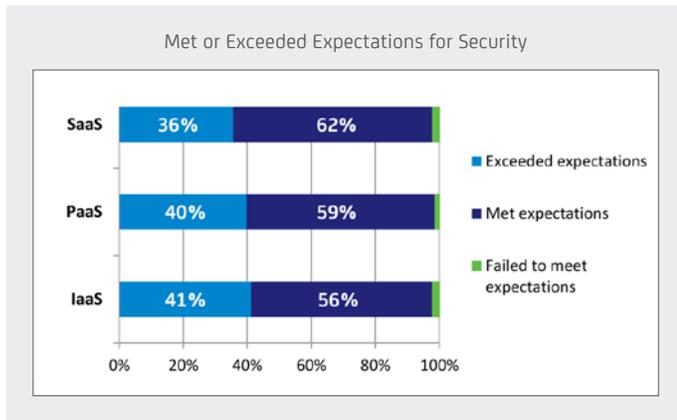
Not only is deployment faster and easier than expected, enterprises surveyed are seeing strong benefits from the cloud. Respondents overwhelmingly said that the cloud was meeting or exceeding their expectations in a number of critical areas, for both IT (reduced total costs, superior IT performance/scalability) and business results (increased speed of innovation, increased revenues).

While overall the cloud appears to be quite successful, it’s also important to share that a very small but notable number of respondents said that IaaS and SaaS failed to meet their expectations for increasing revenues (6% and 5%, respectively). The top reason for IaaS failure was “lack of internal support; company has not been receptive to approach” while for SaaS, failure respondents indicated “higher costs than anticipated,” an interesting outcome considering SaaS is often touted for its lower investment requirements.

The Security Contradiction

While security often appears at the top of the list of concerns related to cloud computing, the respondents in this study—those experienced with cloud computing—somewhat surprisingly reported turning to the cloud in an effort to improve security.

Figure 5.

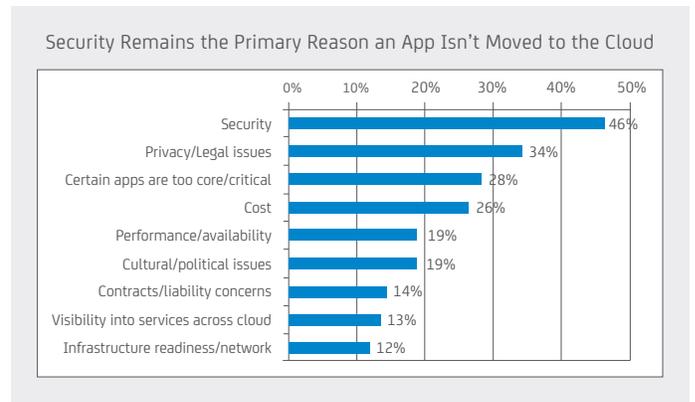


Ninety-eight percent of enterprises surveyed reported that the cloud met or exceeded their expectations for security (Figure 5). This was true across users of IaaS, PaaS or SaaS. Furthermore, almost one-third indicated “security has been less of an issue than originally thought” when asked to share their primary reasons for success with cloud computing.

“Enhanced security” was also cited by many as one of the primary objectives for implementing IaaS (38%), PaaS (38%) or SaaS (41%). This stands in direct opposition to those who see security as one of the barriers to cloud adoption². In fact, many companies are looking to the cloud to help them enhance their security, which illustrates a shift in the cloud/security debate. Enterprises are clearly gaining confidence in the ability of cloud computing environments to support above adequate security measures, including up-to-date software, sophisticated identity management capabilities and proper security practices, whether in public or private cloud environments.

Yet security continues to remain as the number one reason that an application is not moved into the cloud, with 46% of respondents citing this.

Figure 6.



The responses to this question—what is the primary reason that an app isn’t moved to the cloud—suggest that companies understand the limitations of cloud and are taking a conscious and selective path in choosing which apps are moved to the cloud. Security (46%), privacy/legal (34%) and “certain apps are too core/critical to our business” (28%) rank as the top three reasons for keeping an app out of the cloud.

The apparent contradiction over the potential or perceived security risks associated with cloud computing and the results of this survey indicating security wasn’t an impediment to cloud overall, but perhaps to specific applications being put in the cloud, can be explained a few ways. For one, those experienced with cloud computing have improved their security practices in relation to cloud.

A recent Ponemon Institute study sponsored by CA Technologies found that when compared to a similar 2010 study, more cloud computing applications are checked for security risks before use. Still the Ponemon study, which surveyed 748 IT and IT security practitioners located in the US, also noted that recommended security practices are still used by just 50% or less of those polled. Some of these include:

1. Assessing the effect of cloud computing on the ability to protect confidential information;
2. Being proactive in assessing information that is too sensitive to be stored in the cloud; and
3. Auditing or assessing cloud computing resources before deployment.

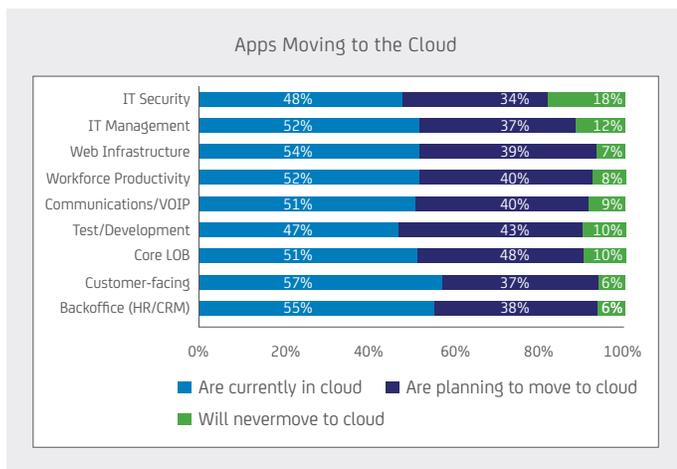
Another point highlighted in the Ponemon Study showed that respondents are more confident in the ability to perform certain functions in cloud computing environments. For instance, in 2010 51% of respondents said they felt confident or very confident about the ability to prevent or curtail data loss or theft in the cloud environment. In 2012, 60% said the same. There is more confidence in the ability to secure the cloud, thanks in part to advances in identity and access management technologies that don't care where data lives to secure it. But even with growing confidence, security continues to represent a significant consideration when moving applications or services to the cloud.

Just About Everything Can Move to the Cloud

Even though there are applications that some respondents are not comfortable moving to the cloud, there are still many others that are being moved. Respondents in this survey were very comfortable with moving many applications to the cloud.

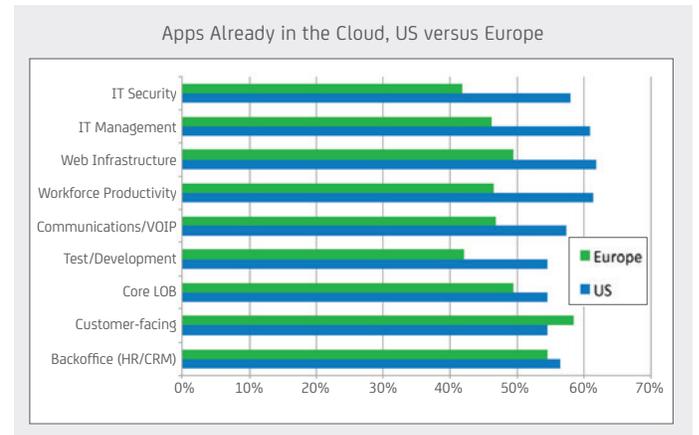
The survey asked respondents what applications they had moved to the cloud, planned to move and would never move. In almost every category of application, more than 50% of the respondents said they had already moved that sort of application to the cloud.

Figure 7.



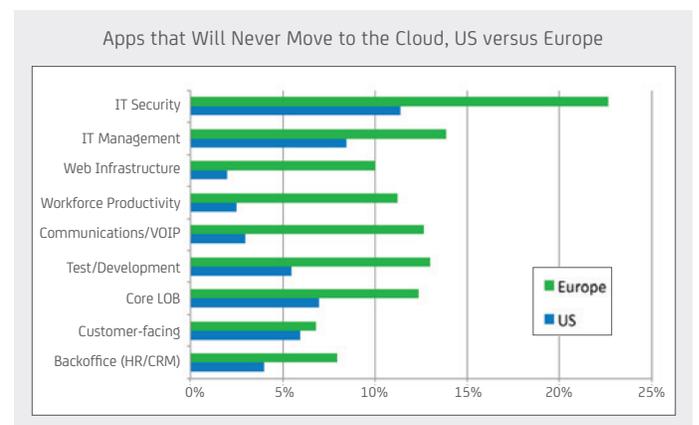
When it came to what they thought would never be moved the cloud, 18% said IT security and 12% said IT management applications. Just about every category of application had between 6% and 10% of the respondents saying they would never move that type of application to the cloud.

Figure 8.



European IT decision makers were most comfortable moving customer-facing apps and back-office apps to the cloud (59% and 54% already in the cloud, respectively). For US respondents, Web infrastructure (61%), workforce productivity apps (60%) and IT management (60%) were the most likely to already be in the cloud (Figure 8). Both Europe and US respondents were least likely to move IT security to the cloud (23% and 12% never, respectively).

Figure 9.



Experience Counts

Respondents with extensive, real-world experience using the cloud provide a unique opportunity for others to gain practical and useful insights. While companies seem to be getting strong and unexpected benefits almost immediately, those with the most experience with the cloud can shed light on the disparity between perceived and actual results, IT management challenges and more.

“Experience” in this case is defined as those respondents who have been using cloud services for four or more years (13% of respondents), or those who have implemented all three types of cloud services (IaaS, PaaS and SaaS) in their organizations (44% of respondents).

Looking at the responses from these more experienced cloud adopters demonstrates that, compared to their less experienced counterparts:

- There are some areas where they are seeing even more benefit to using cloud computing.
- They recognize the gap between the promise of the cloud and their ability to manage it.
- They have a more mature perspective on what applications can be moved to the cloud.
- They have different objectives for using cloud computing.
- They plan to spend far more money on cloud services in the future.

The More You Use it, the Better Cloud Works

When comparing these groups—more experienced to less experienced—some very interesting results rose related to whether or not the cloud has “exceeded expectations” in a particular area.

For example, 71% of the respondents that had been using cloud computing for four or more years said that IaaS exceeded their expectations for performance and scalability, while only 48%, 37% and 22% of the respondents in years three, two or one of their use of the cloud said the same. It is clear that the longer companies have used IaaS cloud services, the more IaaS is exceeding their expectations for performance and scalability.

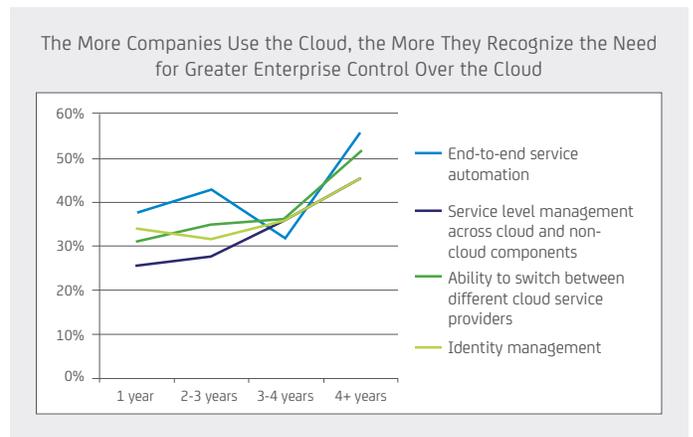
The survey asked respondents about their cloud purchase plans for 2013. Companies using cloud computing for four or more years are almost six times more likely (34% compared to 6%) to report that they are increasing cloud spending by more than 30%. Plans for cloud spending are up overall according to the survey, but this one finding indicates that, as companies gain more experience with cloud computing, they are willing to take even bolder steps in their use of it.

IT Management Needs Become Clear

Despite the increased benefit that those with more experience were gaining by using cloud computing, they were also more likely to express frustration with their inability to manage it.

One key part of the survey asked respondents to choose which capabilities they needed to ensure future cloud success. The graph in Figure 10 shows that in four specific areas, the longer a respondent used the cloud, the more likely they were to identify that capability as critical to cloud success.

Figure 10.



The results were even more distinctive when comparing those who used all three types of cloud in their organizations against those who only used one (Table 2). Across the board, experienced respondents were between 1.5 and 2 times as likely to say that a particular IT management capability was critical to their future cloud success.

The recognition that management needs mature as cloud deployments mature could be due in part to cloud implementations becoming stable, constant environments to which IT teams now need to apply the management principals of their primary environments. The pilot phase is over for many of the organizations surveyed here, and now is the time to pull more value from cloud with the use of advanced automation and other technologies designed to help IT focus on higher-level projects.

Table 2.

Capabilities They Need to Ensure Cloud Success			
	Use 3 Services	Use 1 Service	Difference
End-to-end service automation	50%	29%	1.7 times
Integrated availability and performance management	40%	22%	1.8 times
Accelerated software development	44%	28%	1.5 times
Identity management	44%	25%	1.8 times
Single sign-on to enterprise and cloud apps	39%	24%	1.6 times
Backup and recovery	48%	34%	1.4 times
Service level management across cloud and non-cloud components	42%	19%	2.2 times
Ability to switch between different cloud service providers	44%	26%	1.7 times
Cloud migration assistance	36%	23%	1.6 times

Advice and Next Steps

Perhaps the key takeaway from this survey is that if you are not in the cloud yet, get moving: there are substantial business and technology benefits to be gained. While it is possible there are still a lot of pilot projects in which companies are just testing cloud services, the number of companies that plan to spend greater than 30% more on cloud services this year shows that a substantial portion of the business world is moving beyond the pilot phase into more widespread use.

In particular, organizations should:

- **Look to expand the use of cloud**, either in terms of increasing budget or in considering new types of cloud (IaaS, PaaS or SaaS).
- **Look for additional applications that can be moved to the cloud.** Your peers are already moving key applications to the cloud and are reaping the benefits.
- **Stop using security as the catch-all reason for avoiding the cloud.** Be specific about your needs for security and whether cloud computing can support it.
- **Assess applications and services for security in the cloud prior to deployment.** Respondents overwhelmingly said that security was as good as or better in the cloud than they expected, but there were still specific applications that they felt the security available in the cloud wasn't ready to support.

- **Include IT management services as part of your overall cloud expansion plans**, because the more you use cloud, the more you need good tools to manage it. Look particularly for IT management suites that support both cloud and non-cloud components.

Conclusion

Companies are deriving real benefits from cloud computing. It's not just the small, nimble companies that are using cloud—larger companies are using cloud computing to become more agile, more innovative and more competitive. The benefits of the cloud, for both IT and for the business, are driving fast-paced adoption.

Yet, adoption is clearly out-stripping companies' ability to manage the cloud. Newcomers, who have only used cloud computing for a year or only use one type of cloud service, often don't recognize the need for a more sophisticated IT management approach. Companies that have been using cloud computing for longer, or have used multiple types of cloud, recognize that they need good IT management tools in order to take full advantage of the cloud long-term.

Survey Methodology

The overall objectives for this international study were to determine whether organizations in different areas of the world consider their cloud implementation a success or failure and how their perceptions are shaped by the following factors:

- What their objectives were for implementing a cloud.
- What applications or services they moved or planned to move to the cloud.
- What criteria they use to define success.
- Whether they addressed challenges beforehand.

For this study, it was also important to compare European results against the US data, as well as look for significant differences country by country.

Data collection and tabulations were performed by Vanson Bourne for Europe respondents and by Luth Research for the US. The survey was conducted in the US in December 2012 and in Europe in January 2013.

For the European market, a total of 340 completes were achieved. The breakdown by country was:

- 70 – UK
- 70 – France
- 70 – Germany
- 70 – Italy
- 60 – Benelux

For the US market, a total of 202 completes from Luth Research's SurveySavvy online research panel were achieved.

The survey focused on companies with annual 2011 revenues of \$500 million or more. The specific breakdown of the responses by company size is:

- \$10 billion or more – 14%
- \$2 billion to \$9.999 billion – 25%
- \$1 billion to \$1.999 billion – 24%
- Less than \$1 billion – 37%

The survey was of IT leaders with involvement in IT purchasing decisions. The specific breakdown of the responses by role is:

- C-Level (CTO, CIO, etc.) – 33%
- VP (top-level manager) – 14%
- Director (upper-level manager) – 28%
- Manager (mid-level manager) – 24%
- Supervisor (first-level manager) – 1%

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¹ NJBiz.com, March 25 2013, "Still a tough sell to get larger, established companies in the cloud", njbiz.com/article/20130325/NJBIZ01/130329879/Still-a-tough-sell-to-get-larger-established-companies-in-the-cloud&template=art

² Intel Corporation, May, 2012, "Peer Research: What's Holding Back the Cloud?", intel.com/content/www/us/en/cloud-computing/whats-holding-back-the-cloud-peer-research-report.