

# The Arrival of “Cloud Thinking”

How and Why Cloud Computing Has  
Come of Age in Large Enterprises



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# executive summary

Much is being made of the “the cloud.” The money it will save. The agility it will bring to computing. What is less obvious is how IT departments are actively employing cloud services today. How they are reacting to both public and private cloud initiatives. What it will mean over the next couple of years for IT decision makers and implementers. To examine these questions, a study of IT professionals was conducted in North America and Europe to understand their perceptions and plans for cloud computing.

Initially the study expected to find a wide disparity between what decision makers think they are doing in the cloud and what implementers are actually doing; however, the data shows something different. The study finds that enterprises are active in the cloud, and their virtualization efforts are contributing to broader “cloud thinking.” As a result, the cloud is coming of age within large organizations and aligning IT decision makers and implementers around a cloud computing platform.

## **Organizations are in the cloud.**

Over 80% of large organizations (1000+ employees) have at least one cloud service and more often they have six. Collaboration services lead these deployments, with hosted email, anti-virus/spam filters and web conferencing the most common applications being deployed into the cloud by large enterprises.

## **The cloud’s economics seem attractive, but security remains a barrier.**

IT professionals believe the cloud will lead to greater efficiencies and save money. However, they are concerned about security and service. Despite the perceived economic benefits, personal and corporate risks stand to hold cloud development somewhat in check.

## **Virtual maturity is contributing to cloud thinking.**

On average, roughly one-third x86 servers are virtualized within enterprise-sized organizations today. Virtualized infrastructure will continue to absorb applications as enterprises continue to move applications onto virtual servers over the next two years. As this occurs, the learning curve acquired during this virtual voyage will have a positive influence on the organizational policies toward the cloud.

## **Adoption polarizes around public and private clouds.**

Senior management is the primary advocate for public clouds, while private cloud advocates are those with more day-to-day responsibilities over virtualization and servers. Ultimately enterprises will have both public and private clouds, and it will be the skills, processes and tools gained during the virtualization years that will help IT professionals manage a holistic and hybrid cloud platform.

The paper will present data collected from IT professionals in September 2010. The data is comprised of 434 IT Professionals working within large enterprises (1000+ employees) in North America and Europe. This paper will discuss:

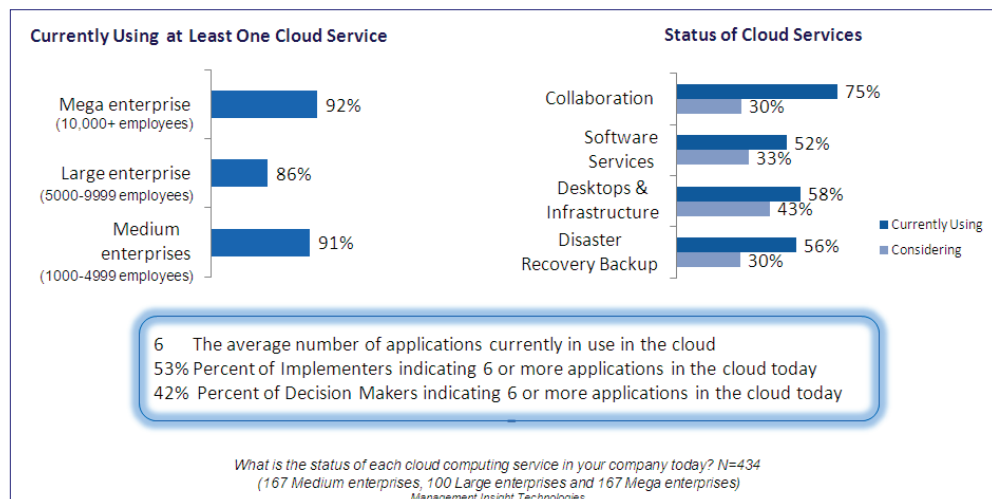
- Which applications are already in the cloud
- The direction of cloud computing among IT professionals
- The differing perceptions of public and private clouds
- Which applications are destined for the cloud
- The bridges and barriers towards cloud adoption

In the end, this paper will demonstrate that organizations are embracing both public and private clouds. Enterprises are already using the public cloud and greater virtualization is bringing about the confidence and skills to encourage large organizations to build private clouds. Ultimately, living in this duopoly of cloud environments will require enterprises to adapt their integration tools and management philosophies to provide end-user services across both public and private clouds. However, that’s getting the cart before the horse. The cloud really begins with collaboration, and so will this paper.

## Collaborating Clouds for Now, Desktops and Infrastructure on the Horizon

Collaboration services (web conferencing, email, etc.) are the most commonly utilized cloud services today. In fact, 92% of mega-sized enterprises are currently using at least one cloud service. On average, enterprises have about 6 applications currently deployed to the cloud.

Figure A



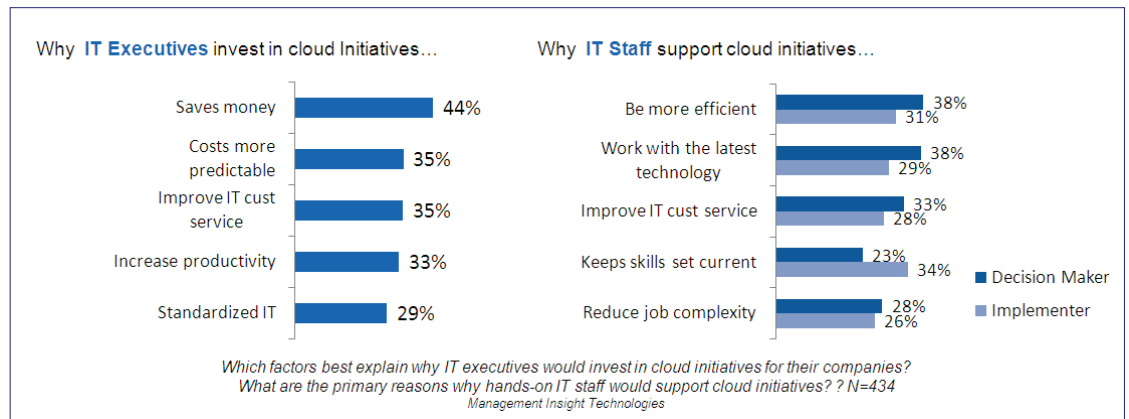
IT implementers tend to be more aware of cloud services in use. Across all categories, 53% of implementers identified 6 or more services in use, compared to just 42% of decision makers.

Infrastructure (IaaS, PaaS) in the cloud looks to be on the horizon with 58% of large organizations already using these services, and 43% considering them. Such usage and consideration sets up infrastructure clouds as the next wave of cloud adoption.

## Economics of the Cloud Attracts Executives, but Security is a Barrier

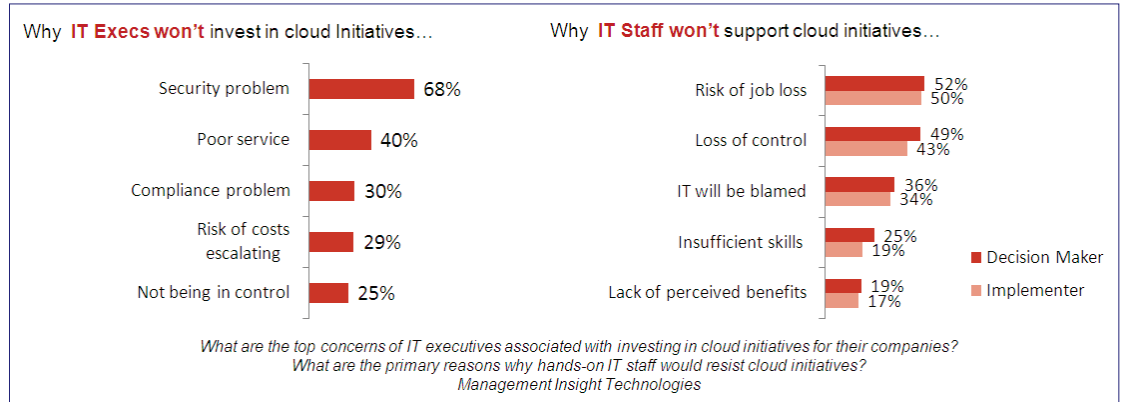
Cloud initiatives offer promise in the minds of executives and IT staff alike. Economic factors, and, to a lesser extent, better services and productivity, are leading executive interest in the cloud. IT staff want to be more efficient and work with the latest technology. While efficiency and the latest technology makes the cloud highly attractive to IT decision makers, IT implementers are more eager to keep their skill sets current. Overall, IT professionals see a technical environment where better technology will lead to greater skills, efficiency and save money.

Figure B



However, there's caution, too: the skepticism that often accompanies change and new technology also applies to cloud investments. Executives are concerned about security and service. IT staff fear losing control, being blamed or being laid off.

Figure C

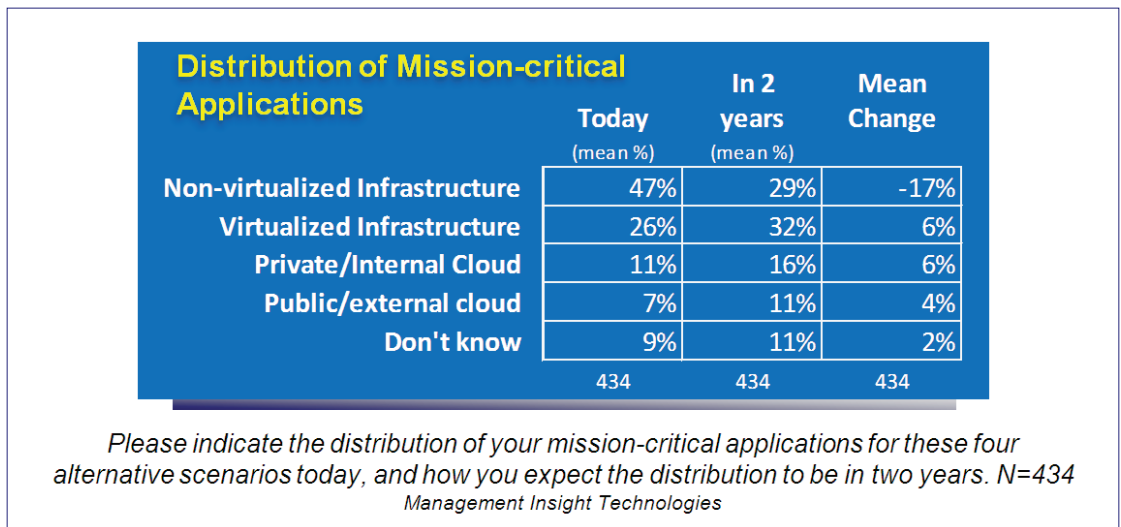


IT professionals are not blinded by unconditional love for all things cloud. They see the benefits, but personal risks will keep cloud development somewhat in check as a platform to support business needs.

## Virtual Infrastructure and the Cloud Will Continue to Absorb Applications

The existing IT infrastructure within enterprises will continue to become more virtualized. Over the next couple of years, enterprises will continue to move mission-critical applications off non-virtualized infrastructure. In general, enterprises are running about 47% of their mission-critical applications on non-virtualized infrastructure today. In two years time, this number is predicted to drop by 17%.

Figure D

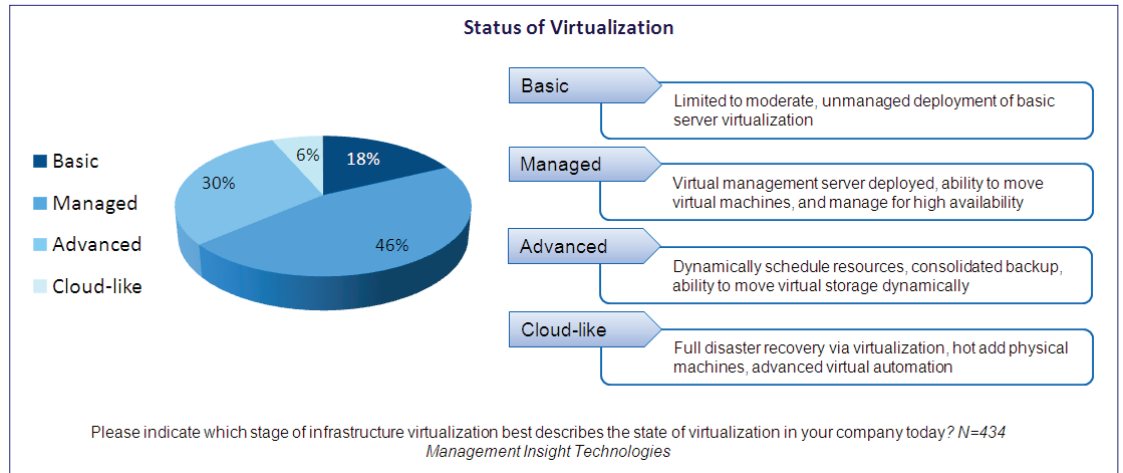


As these future plans unfold, organizations will not stop simply with virtualization. Virtualized infrastructure will absorb only about 6%, with another 10% going to private and public clouds (6% and 4% respectively.) Overall, large organizations will not embrace the cloud in any overwhelming way in the next few years; the move will be incremental. However, their interest in just simply “virtualizing” will be paralleled by a desire to do more than just virtualize and manifest in both private and public cloud initiatives.

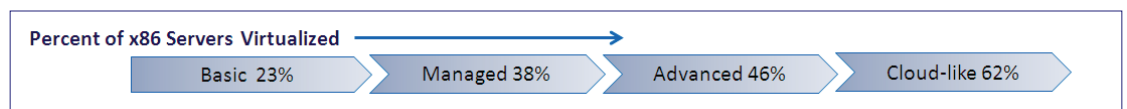
## Virtual Maturity Contributes to Cloud Thinking

Arguably, the usage of the word “cloud” is beginning to trump “virtualization” in IT marketing vernacular. However, there is a subtle link between them. On average, roughly one-third x86 servers are virtualized within enterprise-sized organizations today. The majority of these enterprises (46%) indicate a “managed” stage of virtualization -- meaning they have virtual management servers deployed and they are able to move virtual machines, and manage them for high availability.

Figure E



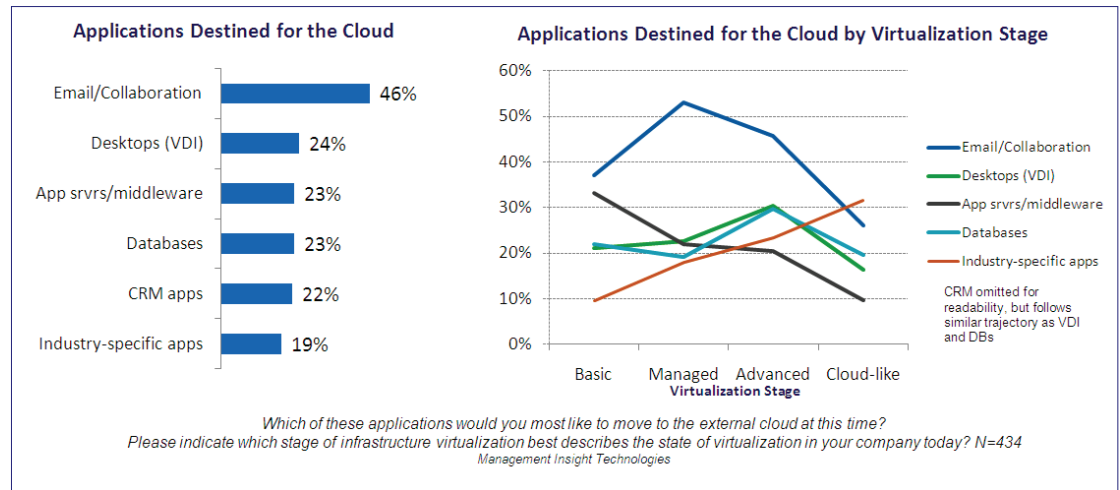
Not surprisingly, with each stage of virtualization, the percentage of virtualized servers grows. Those at the most basic stage indicate about a quarter of their x86 servers are virtualized. At the highest stage, two-thirds of an organization’s servers have virtualized.



## The Applications Destined for Cloud Changes with Virtualization Maturity

As it has been noted earlier, collaboration is the top-of-mind application heading for the cloud. Those IT professionals most interested in hosted collaboration services are also those who are still early in their virtualization adoption.

Figure F



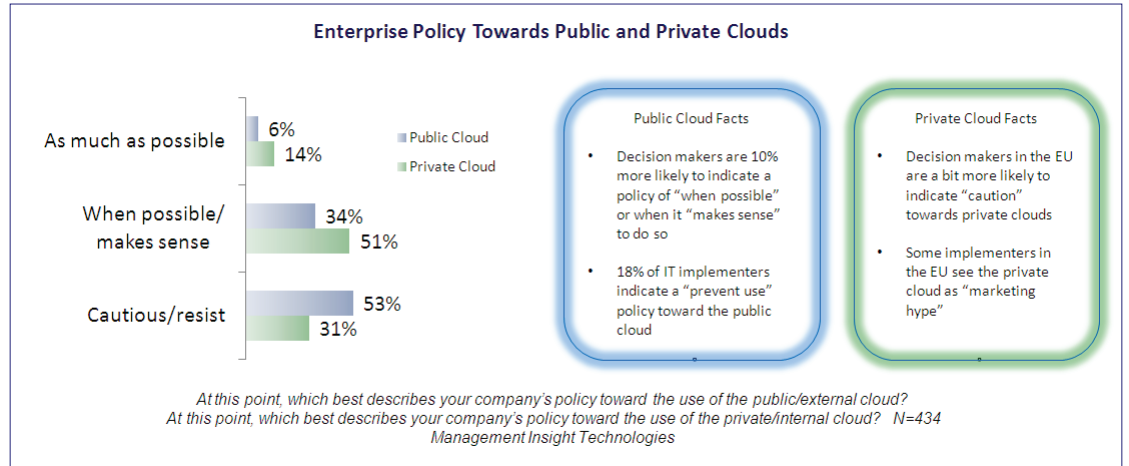
As enterprises move along the virtualization learning curve, the applications they earmark for the cloud also begin to shift. There is an aggressive movement towards email in the Managed stage. Desktop virtualization and databases peak during the Advanced stage. Industry-specific applications top all others in the Cloud-like stage.

## There is a Little More Comfort in the Private Cloud

IT professionals tend to indicate a more cautious approach towards public clouds than private clouds. 53% of enterprise IT professionals characterize their organization’s policy of moving workloads into the public cloud as “cautious.” Much of this caution comes from IT implementers, who are more skeptical and resistant to the cloud than IT decision makers.



Figure G

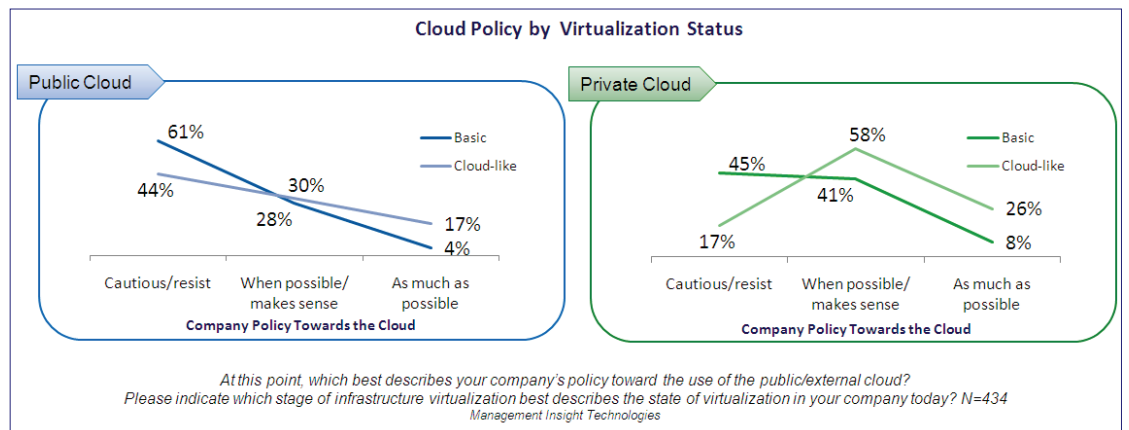


In contrast, company policies towards private clouds are more optimistic, with 51% indicating they would move workloads to a private cloud when possible or when it makes sense to do so. With company policy tending to favor private clouds and collaboration tools already residing in the public cloud, companies will face agendas that pressure integrated public and private cloud solutions.

## Cloud Policies Grow More Positive with Dynamic Computing

As IT reorganizes itself for more dynamic virtualized environments, the tendency to embrace the cloud rises. Enterprises that demonstrate the highest levels of virtualization, also demonstrate the company policies more receptive of both public and private cloud initiatives.

Figure H

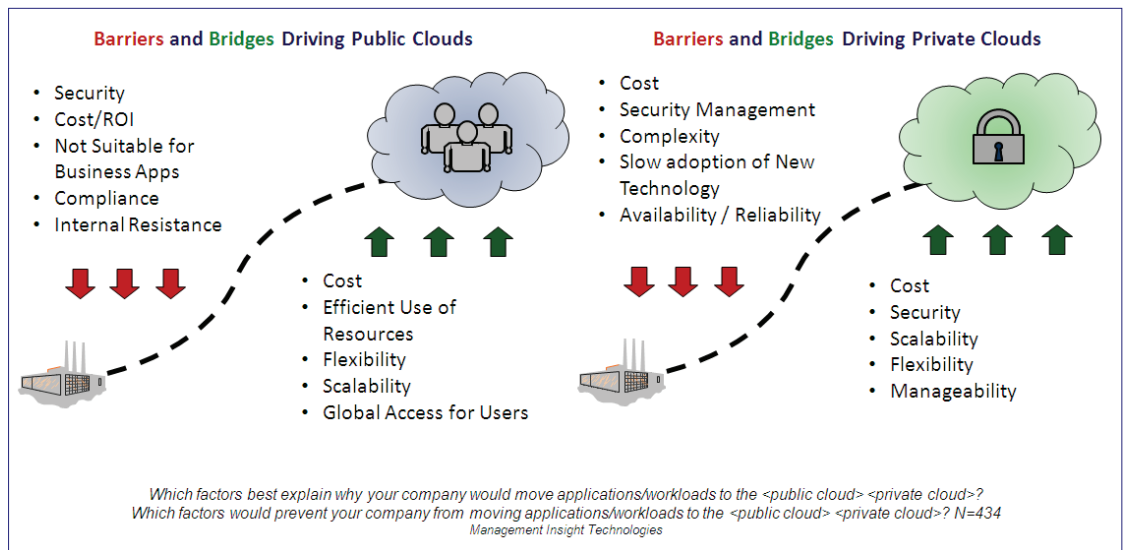


Virtualization-intensive organizations are four times more likely to move as many services as possible into both public and private clouds. Overall, the perceptions of cloud computing take on a more optimistic tone as organizations advance their technical infrastructure to support more dynamic environments.

## Cost Confounds Cloud Adoption

Cost is seen as both a primary driver and primary barrier for cloud adoption. Removing “cost” from the equation, presents a public cloud driven mainly by resource efficiencies, flexibility and servicing global users. Deterrents to the public cloud include security, compliance, internal resistance and a platform that is just not suitable for some business applications.

Figure 1

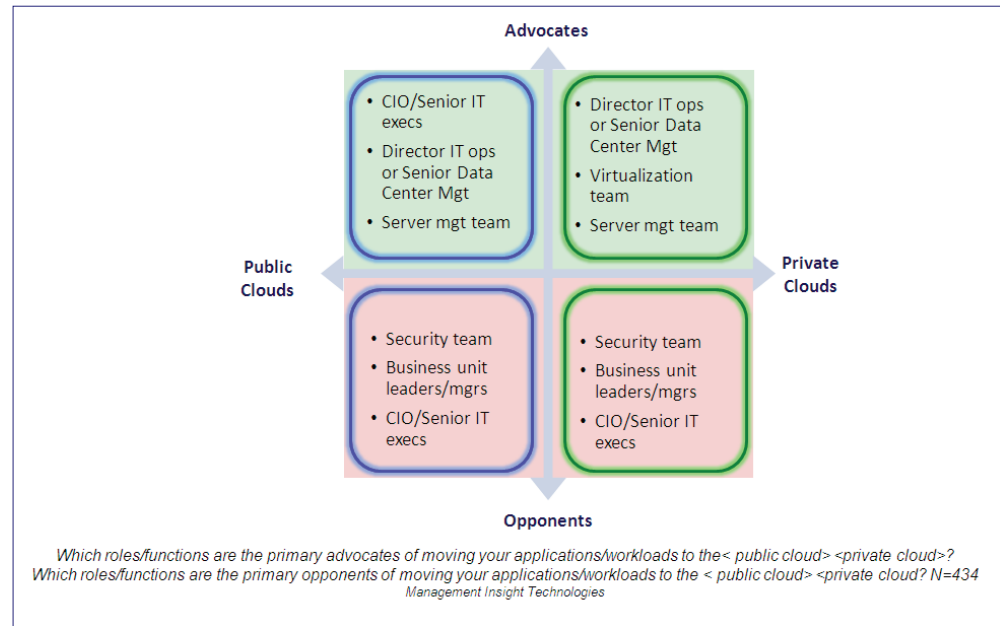


Cost and security also confound private cloud adoptions. Scalability has value, but the threat of ROI complexity is a deterrent. Overall, the cloud is still a moving target as the economics and security evolve. The fact that cost alone is both driver and deterrent, suggests the true impact and relevance of “cost savings” is still unresolved.

## Execs Advocate for Public Clouds, Operational Teams for Private

Senior management is the primary advocate for public clouds. The primary advocates for the private cloud are the director of IT operations or data center management and those areas with more day-to-day responsibility over virtualization and servers.

Figure J



Hands-down, the primary opponent is the security team. When the data is external, it is not going to be within boundaries or control of the enterprise. The physical security afforded to private clouds can alleviate some of this risk, but the potential of a business unit’s data sitting virtually alongside someone else’s data on the same box, is a tough pill for some business unit leaders to swallow.

## Summary: The Cloud is Coming of Age in Large Enterprises

This study finds large enterprises active in the cloud. Already, IT professionals have placed web conferencing, email and other collaboration tools in the cloud. They are embracing the cloud with a promise of efficiency, flexibility and scalability, but continue to wrestle with the realities of cost and security.

The enigma of cost savings, combined with the risks of security, control and compliance can be real show-stoppers to entering the cloud. In a sense, these items are likely early indications of the adjustments enterprises are making to embrace pay-per-use accounting and the dynamic movement of corporate applications and data. However, these cost and security concerns ultimately form more of a hurdle than a barrier. IT professionals are already advancing their skills and knowledge in this arena and the market is actively creating solutions.

Virtualization efforts are also moving many companies along the cloud computing voyage. For IT professionals, translating virtualization into the cloud seems very tangible, if not simple. Organizations embarking on this voyage will face a learning curve of managing virtual sprawl, automating virtual environments and integrating public clouds. As a result they will also acquire on this voyage the technologies, tools, skills and processes to operationally integrate and manage these dynamic environments. It is these experiences that are contributing to cloud-style thinking.

In the end, as IT professionals continue to search for efficiencies and mature in their approach to virtualization, their experiences are making them ready for -- and more confident in -- the cloud.

## Methodology

This study was executed as a web-based study. The sample was collected in September 2010 and is comprised of 434 IT professionals across two regions – North American (273) and Europe (161). Respondents working for companies that produce cloud computing software were excluded from this study. Qualified respondents had to be sufficiently knowledgeable about their company's IT environments. The screener and sample frame were developed to target a fairly even representation of IT decision makers and IT implementers and of the three company sizes within each region. The sample was then weighted to achieve a ratio of 60% IT decision makers and 40% IT implementers, and 36% Medium, 29% Large and 35% Mega Enterprises within each region. To assure market-based representation of each region, the sample was also weighted based on total IT spend by country per data from the IDC Black Book.

## About Management Insight Technologies

Established in 1993, Management Insight is a full-service market research consulting firm dedicated to helping technologies companies find answers and insights that lead to superior business performance.

Using advanced and reliable models for research, Management Insight designs and executes domestic and international qualitative (interviews, focus groups) as well as quantitative (in-person, phone, web) studies to meet client objectives. Management Insight helps clients validate products concepts, uncover customer preferences and motivations, develop requirements, identify and profile segments, galvanize strategies, assess competitors, forecast market trends, measure marketing effectiveness, improve channel programs, track customer loyalty, drive organizational effectiveness and improve employee satisfaction.

Unlike many research firms, the Management Insight team is composed of seasoned technology executives collaborating with research methodologists. This combination of professionals allows us to offer deeper analysis, perspective and insight so that research is both understandable and actionable.

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