The Case for Cloud Computing in Midsize Firms

Compelling benefits are driving adoption of cloud computing solutions by midsize companies, but some technology "myths" still need to be exploded

Featuring Christopher McLallen, Senior Producer, Campfire and Tim Llewellyn, CEO, nViso

INTRODUCTION:

Midsize Firms Embracing Cloud Solutions

Cloud computing is making strong inroads among midsize companies, although a few technology "myths" may be slowing even more widespread adoption.

According to a recent survey of midsize, c-level executives conducted by *Inc.* for IBM, almost six in 10 midsize businesses are already turning to the cloud for some uses: 34 percent are migrating some IT functions to a cloud solution, and 23 percent have shifted all or most of their IT functions to the cloud or are in the process of doing so.

Among the remaining respondents to the survey, virtually all are actively investigating cloud computing to see what advantages it might offer.

The business benefits driving the rapid growth of cloud computing are well documented, and the *Inc.* survey suggests that awareness of the technology's advantages is widespread among decision makers at midsize businesses. Among those surveyed, 75 percent agreed that "cloud computing provides convenient, on-demand network access to a shared pool of configurable resources," and 58 percent affirmed that "cloud-based solutions can be rapidly provisioned and released with minimal management effort or service-provider interaction."

Survey respondents also acknowledged the cloud's ability to outperform traditional networks in many situations as well as its attractive ROI and potential to return significant savings. One survey respondent, head of operations at a global thin-gauge sheet extrusion business, reports that a private cloud solution has reduced the company's reliance on servers and lowered asset overhead costs. "As our business continues to grow, we will use more cloud services for the speed, ease-of-use, and cost-reduction benefits this technology has already demonstrated in our business," he says.

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"Technology Mythology"

Still, misperceptions about cloud computing persist among some midsize organizations.

This "technology mythology" often surrounds questions about the upfront investment required to access useful functions and features, the degree of difficulty and amount of time involved in implementing solutions and/ or migrating existing applications to a cloud platform, and the degree of robustness cloud-based solutions offer vs. traditional network infrastructure.

Forty-six percent of survey respondents believed that moving their organizations' legacy apps to a cloud-based solution and integrating old and new apps in the cloud "can be done but may require the migration of secondary apps/support programs at the same time." And more than a quarter deemed a move to the cloud as "likely to be very expensive and time-consuming, if it can be done at all." Just 14 percent held that moving to the cloud "presents no particularly challenging problems."

Misperceptions about the cloud's reliability, availability, and robustness among midsize business decision makers are less pronounced but still worth noting. While half of respondents in the Inc. survey characterized cloud computing as "vastly" or "slightly" outperforming traditional networks when it comes to reliability and network availability, 36 percent rated them about equal, and 14 percent believed the cloud to be inferior to a traditional network in this area. The split was similar concerning the cloud's robustness for off-the-shelf reporting capabilities and support and maintenance resources. Just under half the respondents rated the cloud "about as robust, varied, and affordable" as a traditional network for those capabilities, 27 percent said it was "slightly more" robust, 14 percent said it was "much more" robust, and 12 percent said traditional networks maintained an edge over the cloud in this area.

What came through strongly in follow-up interviews with survey respondents was that positive perceptions about the cloud's capabilities in these areas are much more prevalent among midsize businesses that are actually utilizing cloud solutions. The observations of the CIO of a multi-office law firm serving

clients locally, regionally, nationally, and internationally were typical of this group. The firm has migrated document management, email archiving, help desk, database management, and several other applications to the cloud. "It's perfect; we love it," he says. "It got me out of the document management business. We were able to get rid of about 15 servers and all the maintenance and licensing responsibilities that went along with them, and it reduced the amount of data I need to back up on-site. I can see us moving to cloud-based solutions for a number of additional apps in the future."

Security Remains the Biggest Concern

By far, the most common area where "technology mythology" continues to taint perceptions about cloud computing is security.

Among those polled in the *Inc.* survey, 45 percent felt that cloud computing presents a "slightly higher" risk than a traditional network in terms of its ability to protect sensitive information, and 22 percent characterized the cloud's risk as "much higher" in this area vs. a traditional network.

Three in 10 put the degree of risk inherent in the two technology approaches on about an equal footing, and only 2 percent saw cloud computing as the lower-risk option.

To be sure, network security is, and should be, a top concern for all organizations, regardless of size or type of platform being used. The Cloud Security Alliance has identified the top threats to cloud computing and recommended strategies for defending against them.[1]

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1   *Top Threats to Cloud Computing V1.0,* Cloud Security Alliance white paper, March 2010.

They include:

- **Abuse and nefarious use of cloud computing, especially in IaaS (infrastructure as a service) applications.** Remediation includes stricter initial registration and validation processes, enhanced credit card fraud monitoring and coordination, comprehensive introspection of customer network traffic, and monitoring public blacklists for network blocks.

- **Insecure interfaces and APIs (application programming interfaces).** Analyze the security model of cloud provider interfaces, ensure strong authentication and access controls in concert with encrypted transmission, and understand dependency chains associated with APIs.

- **Malicious insiders.** Enforce strict supply chain management and comprehensive supplier assessments, specify human resources requirements as part of legal contracts, require compliance reporting and transparency into overall information security and management practices, and determine security breach notification processes.

- **Shared technology issues.** Implement security best practices for installation/configuration, monitor environment for unauthorized changes/activity, promote strong authentication and access control for administrative access and operations, enforce service level agreements for patching and vulnerability remediation, and conduct vulnerability scanning and configuration audits.

- **Data loss or leakage.** Implement strong API access control; encrypt and protect integrity of data in transit; analyze data protection at both design and run time; implement strong key generation, storage and management, and destruction practices; contractually require providers to wipe persistent media before it is released into the pool; contractually specify provider backup and retention strategies.

- **Account or service hijacking.** Prohibit sharing of account credentials between users and services, leverage strong two-factor authentication techniques where possible, employ proactive monitoring to detect unauthorized activity, and understand cloud provider security policies and SLAs (service-level agreements).

- **Unknown risk profile.** Disclosure of applicable logs and data, partial/full disclosure of infrastructure details (e.g., patch levels, firewalls, etc.), and monitoring and alerting on necessary information.

In addition to recognizing the key threats outlined above, the Cloud Security Alliance acknowledges that organizations of all sizes are excited about the opportunities cloud computing presents regarding reductions in capital costs, divesture of infrastructure management, and the ability to focus on core competencies. "Most of all, they are excited by the agility offered by the on-demand provisioning of computing and the ability to align information technology with business strategies and needs more readily. However, customers are also very concerned about the risks of cloud computing if not properly secured, and the loss of direct control over systems for which they are nonetheless accountable," states the Cloud Security Alliance.[2]

The Importance of Choosing the Right Partner

Because of the range and diversity of the strategic opportunities and cost savings that cloud computing presents, as well as the security challenges that can accompany it, choosing the right partner is critical for midsize companies, which tend not to have access to the scope of IT resources and personnel available to larger organizations.

In fact, while concern about cloud security was initially a barrier to entry for many midsize companies, partnering with the right provider can now provide a distinct advantage in this area. A lot of midsize companies simply cannot afford as much security as larger companies can, but the cloud actually brings more security to the midsize at a more affordable price. The best service providers in this space have assembled a broad portfolio of security solutions of every type and make them available to midsize companies, often through their partner/vendor networks.

Because cloud computing is available in several different models (private, public, and hybrid cloud), each presents different levels of responsibility for security management. There is no one-size-fits-all model for security in

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2 *Ibid,* p. 6

the cloud, but trusted third parties can help midsize companies apply cloud security best practices to their specific business needs. By partnering with the right providers, midsize businesses can benefit from proven assessment methodologies and best practices that help ensure consistent, reliable results. They can also leverage comprehensive frameworks that address enterprise cloud strategy, implementation, and management in a holistic approach that maximizes the business value of cloud investments while minimizing business risk.

Among the issues that are top-of-mind for midsize companies investigating cloud solutions are CRM, collaboration, business analytics, and mobile—and how they can integrate cloud solutions in those areas with their legacy applications in a cost-effective manner. The newest generation of cloud solutions addresses all those areas. In addition, getting on the cloud is much easier today than it was in the past, and while security remains a concern, the security solutions offered by the best-in-class service providers rival or surpass those found in traditional IT environments. Midsize companies can find world-class solutions that address risk across all aspects of their business, while at the same time creating an intelligent infrastructure that drives down costs, is secure, and is just as dynamic as the business climate in which they have to compete today.

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CASE STUDY:

Campfire: Pushing Creative Boundaries Affordably

Storytelling through augmented reality

Campfire is a New York City-based marketing agency that shapes perceptions and enhances brand preference through social storytelling, digital content, and physical experiences. It works to ignite fan cultures and broader communities that shape conversations to deliver results for its clients. And as its recent campaign for "Hunted," a new Cinemax television drama series, illustrates, cloud computing is making it affordable for Campfire's creatives to explore their imaginations and push boundaries in ways never before possible.

Campfire's "Hunted" promotion is of the alternate reality game (ARG) genre, an interactive narrative that uses the real world as a platform and leverages multimedia to transmit a story that may be altered by participant interaction. Advertising for the "Hunted" campaign directs users to ByzantiumTests.com, where they complete a "job application" that combines Facebook integration, emotion recognition technology, logic and spatial puzzles, personality tests, and subliminal commands. Campfire worked with a cognitive psychologist to develop the tests and with Jam3, a collaborative interactive production studio, to create interactive aspects of the website for Byzantium, the name of the super-secret security service at the center of "Hunted." One of the most novel features of the promotion is Campfire's use of nViso software that interprets human facial micro-expressions and eye movements captured through video.

nViso, a leading provider of emotion recognition software, recently developed a real-time application programming interface (API) for online interactive applications that brands can use to create unique consumer experiences. The capability, implemented through a plug-and-play API and hosted through IBM SmartCloud Enterprise—IBM's enterprise-class public cloud infrastructure-as-a-service (IaaS) offering—provides the industry's first scalable and highly accurate real-time solution to measuring emotion over the Internet from a variety of input sources, including live webcam streams, prerecorded videos, or still images, such as Facebook photos. The API is optimized for low bandwidth connections, enabling real-time, low-latency operation, even over mobile networks.

Driving engagement and extending site visits

Campfire uses the nViso cloud-based API to simulate "interviews" with potential applicants to the security firm. It interprets and analyzes their emotional responses to various stimuli and produces an instant evaluation of their qualifications for a position with the firm. The marketing agency's goal was to drive engagement and keep visitors interested and on the site for an extended period of time. While it declines to discuss numbers as a matter of company policy, Campfire is "very happy with the results," says Christopher McLallen, Campfire's senior producer on the project. "The engagement and interactivity we've achieved with the nViso technology has been incredibly high. We've never seen anything like this. It's been a phenomenal viral success."

The scalability of a cloud-based solution was critical in this application, McLallen says. "It's a brand-new show, so the brand itself is not very well known, although its creator (Frank Spotnitz, who was executive producer and head writer of *The X Files*) and star (Australian Melissa George) both are. We get huge spikes in traffic to the site, such as when a new episode premiers or when people discover it organically and pass it through their social networks on the Web. It can blow up to thousands of people accessing the site in a few minutes then back down to just a few in the middle of the night."

Greater security, latency, response time

In fact, that need for scalability to make sure response-rate resources are available to meet demand is common in the social media environment, and it's one of the reasons nViso chose IBM SmartCloud Enterprise as the platform for its API. "Having IBM as a partner brings greater security to the provisioning of services," says Tim Llewellyn, CEO of nViso. "Other important areas of consideration were the real-time nature of the application, latency, and response time to the server. This promotion is running in both North America and Europe. Since the interactive nature of the app is critical, being able to leverage the data centers IBM has in both parts of the world is a benefit."

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In the digital marketing environment, interactivity is a key to increased engagement, and cloud computing is playing a transformative role in that regard, McLallen says. "It provides an opportunity to leverage these capabilities in a cost-effective way. It gives smaller companies access to them because they don't have to purchase the software themselves. This affordability is pushing the boundaries of creativity in our business and giving our creative people new ways to explore their imagination."

Making IT Scalable, Flexible, Affordable

Cloud computing gives midsize businesses affordable access to the kind of IT muscle once available only to Fortune 500 firms

Companies of all sizes are using cloud computing to transform their operations and technology by establishing a flexible, adaptable IT environment to quickly meet changing market requirements. IBM's cloud computing capabilities provide you with a trusted partner working to:

- Assess your business's cloud readiness
- Develop adoption strategies
- Identify business entry points

The need to accomplish more with less is at the financial core of every midsize business. The cloud's on-demand nature makes it the perfect IT resource for organizations that need to expand capacity due to business growth while staying within budget constraints. IBM's midsize business solutions are helping midsize companies across multiple industries find ways to realize their full potential every day.

To learn more about how IBM cloud computing solutions can give your midsize business the IT power of a Fortune 500 firm, visit **http://www.ibm.com/midmarket/us/en/cloudcomputing.html***, or call 1-877-426-2223.*