# Cloud Computing: The New Strategic Weapon

Every executive has heard the pitch for cloud computing, including the storied accounts of the huge savings that come with the technology. But unless project leaders focus on establishing the strategic value and long-term measures of success, these investments will fail to deliver the expected ROI.

Research giant Gartner found that cloud computing ranked as the top technical priority of CIOs in 2011[i], and rightfully so. Transitioning data and applications into vendor-supported clouds can cut costs. The U.S. federal government, for example, could save US$18.8 billion dollars by consolidating its data centers using cloud computing.[ii] Cloud computing also improves accessibility for employees around the world and enables IT teams to focus on strategic rather than administrative tasks, while remaining agile and flexible. Meanwhile, organizations with systems that experience sudden influxes of traffic are increasingly taking advantage of the operational flexibility that cloud computing affords.

Gartner predicts 43 percent of worldwide organizations will embrace cloud computing and virtualization in some form in 2011, up from just 3 percent in 2010.[iii] Analyst firm 451 Market Monitor forecasts that cloud computing revenue will jump to US$16.7 billion by 2013, a growth of 24 percent over 2010.[iv]

For all the money being thrown into the clouds, however, not everyone—including those at the highest levels—truly understands the technology or its advantages. Benefits of moving to the cloud include:

**On-demand:** Server or service is set up and ready for use.
**Scalable:** Organizations can turn the cloud on and off as demand ebbs and flows.
**Measureable:** Organizations know precisely what they are getting for what they are paying.

Yet the mass migration of data and apps to remote servers can be fraught with pitfalls. Organizations that do not carefully plan, execute and monitor the transformation using established project management best practices will not reap the full benefits cloud computing can provide.

Chief challenges for cloud projects include:
- Securing buy-in from leadership
- Assessing risks
- Implementing vendor protocols
- Establishing governance processes
- Instituting data security—both virtual and physical—and recovery plans

And, perhaps most crucially, cloud project leaders and sponsors must effectively measure and communicate the organizational ROI.

**Only through strong project management can organizations move beyond the hype to reap the financial and strategic benefits of the cloud**.

"Project management leadership is key on these projects," says Chris McLean, head of capability enhancement at the Project and Programme Academy at Fujitsu United Kingdom/Ireland in London, England. "Experience in cloud computing and a background in project management and business sector principles are vital when you are embarking on such a paradigm shift."

## Eight Key Takeaways for Implementing Cloud Computing

Every cloud project should include:

- A **strategic vision** of the organizational benefits, whether it is cost savings, improved flexibility or more advanced capabilities

- **Selection and prioritization of the right projects** to move into the cloud, with an initial focus on those that deliver measurable bottom-line benefits with low security risks

- An **implementation plan** that includes testing prior to roll-out, a transition schedule with strategies for managing the data during the crossover, and a backup plan in case the system goes down or data is lost in the transfer process

- A **change management, or communications campaign,** to educate everyone from

executives to end users about why the organization is moving into the cloud, the impact it will have on their jobs, and the benefit it will bring to them and to the business

- A sufficiently **detailed risk-management plan** identifying privacy and regulatory concerns, as well as issues relating to data storage, protection and replication

- Careful **vendor selection and vetting plan** that covers cost, security of data centers and IT processes, interface usability, backup strategies, regulatory compliance, reliability and customer satisfaction

- An adequate **governance process** to assess security, and evaluate the quality and access to cloud tools and technologies

- **Formalized metrics** of ROI to the business, be it through bottom-line savings on servers or increased sustainability

## Walk Before You Run

Before launching any cloud projects, organizations must understand what they aim to gain, says Siki Giunta, global vice president of cloud computing and cloud services at CSC, a global IT systems integration and consulting company in Falls Church, Virginia, USA. "For some companies, it's cost savings. For others, it's agility—but every project has to have a defined benefit driving the change."

Determining the business case and securing stakeholder buy-in is the first major project management hurdle, says Mr. McLean. "**The challenge with this kind of transformation project is understanding what the technology is and why the**

**organization needs to consider it**," he says.

Bringing in key stakeholders during the planning process can help hone strategic benefits and build a road map for achieving those goals. "Identify what you want to accomplish and the first thing to move into the cloud," Ms. Giunta says.

The initial project is the most important because it will be used as the model for future initiatives. Ms. Giunta advises companies to choose carefully and to start small. "A lot of people want to tackle their biggest challenges first, but that's the wrong way to go," she says. "You've got to walk before you run."

Project leaders should keep in mind, though, that the first project should also be something significant enough to demonstrate the value of the cloud for larger initiatives. If it is too small, the benefits may not be convincing enough.

Size is not the only factor. Not every application or database can be easily moved to a cloud-computing format. Some systems need to be virtualized, rewritten or reformatted. Others are multigenerational and interwoven with other databases and applications, making them difficult to disassemble. Still others may be at the beginning of their hardware investment life cycle and not a cost-effective choice for early transition.

If these issues are not identified early, project leaders may choose applications that either do not deliver significant value or run into problems and delays that tarnish future projects.

"**In an average company, only one-third of the application portfolio is ready for the cloud, one-third needs some virtualization, and one-third will never be moved**," Ms. Giunta estimates.

Organizations need someone on the project team who can analyze the portfolio, prioritize the appropriate applications for transformation and identify the tasks necessary to make them cloud-ready.

### The Project:

**The Organization:** m62 visualcommunications, Liverpool, England

**The Sector:** Business services support

**The ROI:** Reduced overhead, global access to data and better quality project management

When m62 visualcommunications decided to move some of its critical business applications into the cloud, the company knew very well there would be risks—including that all its data would be thrown offline.

But the company also realized it would no longer be forced to deal with its clunky in-house applications. "It was difficult to get data in and out of our systems from remote locations, because as a small business we didn't have the IT team in-house to support upgrades and system management," says Jo McGlynn, delivery manager.

M62 began by moving its sales data to the cloud. To address the risk of an implementation failure, the company initially considered transitioning the database slowly over several weeks to ensure the technology worked. Managing both systems simultaneously would be confusing, require a major time commitment and introduce the danger of data error, however.

So the company decided to transfer the entire database over the course of a single day. "It was a huge known risk, because if something went wrong we would have to input all that—and any

new—data back into the old system," Ms. McGlynn says.

As a contingency plan against system failure, she had everyone in-house ready to reenter data on the day of the transition. It turned out to be an unnecessary precaution. There were no glitches.

For six months following the transition, Ms. McGlynn tracked the system. When she was confident the data was secure and easy to access, she started rolling out more complex features, including revenue tracking, timesheets and progress reports.

"More importantly from a project management standpoint, we spend less time administering our applications and more time running projects for our clients," she says. "We have greater productivity and better-quality project management. Those benefits far outweigh the risks of implementation."

Moving to the cloud also means data is updated more frequently and the system is accessible to everyone at any project site.

Ms. McGlynn's strategy is to shift all of m62's applications to the cloud. Yet she also wants to be sure employees do not feel overwhelmed and that the options she chooses add strategic value while protecting corporate data.

"There are so many features you can take advantage of," she says. "But it's important to take it slow."

## Winning Over the Skeptics

Along with identifying the strategic benefits of the cloud project and choosing the right workload to move, the project management plan must include a well thought-out and clear change management plan for the entire organization.

That communication should acknowledge the fact that for many people, cloud computing will trigger a potentially uncomfortable culture change. "**You are enabling people to execute business in a different way**," Mr. Mclean says. "**But they have to understand that it's an opportunity, not a threat**."

It is a crucial distinction, particularly among stakeholders who may still be unclear on precisely what cloud computing is and the value it brings. "If stakeholders have fears about cloud computing you have to address them right away," says Bruce Williams, IT manager for the city of Bradenton, Florida, USA, which has several applications and databases in the cloud.

He suggests involving vendors in these conversations. "They should be well-versed in these issues and ready to respond to your questions."

The biggest concerns for many stakeholders, particularly those at the executive level, are tied to security and regulatory issues. A survey from Kaspersky Lab found that 62 percent of IT managers were worried about the security of the cloud[v]. The survey also found that 60 percent of respondents said fears about data protection prevent them from moving mission-critical data to cloud environments.

The fears are not unfounded. Housing critical corporate data outside the four walls of the organization adds another level of risk. And even big players can face technology problems that knock their systems—and the data within—offline. In April 2011, for example, technical problems interrupted Amazon's cloud services for two days, leaving companies with no system backup plan without access to their own data. Those organizations that had geographically diffuse data centers suffered less—another factor for project leaders to consider when choosing a vendor.

To mitigate risk, project leaders should go in armed with a contingency plan for when something goes wrong. "If mission-critical data gets hacked into because it's in the cloud, that's front-page news," Mr. McLean says. "**Project leaders need to understand what degree of risk they are willing to take with data** and how secure it will be where it resides."

That said, many of the data centers run by cloud vendors are more secure than in-house systems, particularly among smaller organizations that lack a robust data security plan. A reputable cloud vendor should have 24/7 staff and aggressive physical security measures, as well as formal plans for data back-up and mirror sites in case of a shutdown.

Project executives may still want to see it for themselves. A vendor should give potential customers access to the site where the data will be housed, be willing to show them the security measures used on the premises and within the system, and demonstrate that they meet all compliance requirements, such as housing data in-country.

The contract with the vendor should also explicitly state who owns the data and how it will be removed from their system should the relationship end, says Mr. McLean. "The vendor you choose today may not meet your needs tomorrow," he says. "You need to be prepared for changes in business priorities or process."

**The Project:**

**The Organization:** City of Bradenton, Florida, USA

**The Sector:** Government

**The ROI:** Deliver the same service with half the staff and greater predictability

The city of Bradenton had a simple reason for its move to the cloud:

Less than a year after it was purchased, the server hosting the city's email was almost full.

The city had few options: Every email that goes into or out of a city agency must be saved for at least three years. Not only was all that data absorbing expensive server space, the city had to employ a full-time person whose sole job was to manage the data.

"From a cost point of view, moving email to the cloud was a win-win decision," says Bruce Williams, IT manager for the city. It cost less to pay for a cloud service than to host the data in-house, and the transition allowed for a predictable fixed cost per month, per mailbox.

"This way, if we need to cut our budget, we can go through and identify whose mailbox we can reasonably cut off," he says.

After two months assessing vendors, the city chose a provider with a central Florida-based data center designed to withstand Category 5 hurricanes. Compared to Bradenton's coastal offices, it is a much safer place to store the data, Mr. Williams says.

And because the data was being saved for public record, security was not a big issue for most stakeholders.

"The only challenge came from the police department," Mr. Williams says. The provider was able to quell the police chief's security concerns by explaining the company's encryption services, and the project moved forward.

As part of the implementation plan, Mr. Williams' team had to decide how to manage the help desk to support end-users. In the past, all calls were routed through Bradenton's IT department. Rather than have users contact the vendor directly, Mr. Williams' team continued accepting calls and submitting help tickets.

Although it adds an extra step to the process, it keeps the IT team in the loop when problems arise and reduced the culture shock of the move, he says. "It allows us to act as a liaison between the people and the vendor."

Since the initial implementation, Mr. Williams has transitioned other databases to the remote servers and rolled out a cloud-based document-management system project. He is currently in the planning phase of a project to move the city's enterprise resource management system to another cloud-based service.

"That project will be more critical than the email, so we are taking our time," he says. He anticipates moving one department at a time over 18 months so his team can track progress and deal with any implementation issues that arise.

Starting with the email storage system helped his team gain confidence with the cloud transition process while easing stakeholders' concerns. "**Since the first email cloud project went so well, people have jumped on the cloud wagon**," Mr. Williams says. "Today no one objects."

It also freed the city's IT team to focus on other projects and lowered staffing requirements. "**Today we offer the same support with four people instead of eight**," he says. "At a time when every position is scrutinized, that's a great savings."

### Due Vigilance

One common mistake companies make in moving to the cloud is forgoing governance, says Mr. McLean. "The governance process is critical. You need to know in advance everyone's role in the project and their boundaries and expectations for delivery."

That process should include having a point person at both organizations to manage the

relationship, as well as a technical team on the vendor side. "If something goes down or you have a problem, you need to know who to talk to and where boundaries in service provision lie," he says.

Especially in those critical first months after rollout, project leaders must also work closely with the user community to identify potential interface or usability issues, says Ms. Giunta. "You may find you don't have enough connections to meet user needs, the interface isn't allowing users to interact with data effectively, or there is not enough RAM to support growth." By tracking stakeholder concerns, project teams can identify and fix major problems before they impact productivity.

Project leaders should also monitor system schedules to identify and plan for coming peaks in usage, she says. "If you don't know the rhythm of your workload, you can't forecast capacity." Of course, one strategic advantage of the cloud is that capacity can be added easily and quickly— organizations can often add servers in a matter of minutes.

No matter how smoothly implementation goes, a cloud project will only gain organizational buy-in if the bottom-line benefits can be measured and reported.

Using the baseline and strategic goals, project leaders should be able to chart their successes, both through cost and time savings as well as improved performance. Stakeholders must also be made to understand how the project's successes relate to the organization's strategic goals.

The stakes are especially high for an organization's first cloud project, which often serves as a litmus test for future ventures. Proving—or failing to prove—value out of the gate can have a far-reaching effect.

"This is where it is so important for the CIO to have a clear understanding of the ROI," says Ms. Giunta. "Support for cloud projects in the future will always be linked to the success of that first effort."

## Summary

To reap the benefits of cloud projects, organizations must define strategic goals, address risks, and carefully monitor progress through implementation and beyond. Only when they follow these vital project management steps can they achieve the greatest ROI in cloud computing and communicate that success across the organization.

"Cloud computing is the technology of the future. It's changing the way technology supports the business," Mr. McLean says. Yet embracing that technology requires strong project management leadership and technical expertise to ease stakeholders and end users through the transition.

"**Project management skills and competencies are an important part of the framework for this paradigm shift**," he says.

And organizations that attempt to move into the cloud without committing to those best practices risk failing perilously behind as the IT landscape inexorably changes.

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[i] *2011 CIO Agenda*, Gartner. Results based on a survey of 2,014 CIOs representing more than US$ 160 billion in spending across 50 countries and 38 industries.

[ii] *Federal Data Center Consolidation Measure to Manage*, MeriTalk. Results based on an online survey of 152 U.S. federal IT decision-makers on 20 March 2011.

[iii] *2011 CIO Agenda*

[iv] *Cloud Market Overview Report II: 'As-A-Service' Market Sizing*, The 451 Group, October 2010.

[v] Kaspersky Lab online survey of 155 U.K.-based IT managers in April 2011.