

Creating a Roadmap to the Cloud

While everyone, it seems, is talking about the cloud, there are many organizations that are still struggling with its adoption. The key to a successful migration is to first create a cloud strategy that defines what makes sense to move, what doesn't, and what type of cloud structure is most suitable and aligns to key success criteria to help an organization meet its mission goals.

The cloud has gone mainstream. According to research and consulting firm Deltek, Inc., the total addressable cloud computing market will top \$734 million in 2012, growing to \$969 million in 2013 and more than \$3.1 billion by 2016.

This may be because the adoption of cloud computing isn't just important for technology innovation, it's crucial if organizations want to remain economically competitive and support greater mission agility. Widespread adoption of cloud computing offers significant opportunities for new innovation and productivity gains in both the public and private sector.

Indeed, the cloud can help government, and state and local agencies achieve cost savings, and improve security and agility. But too often organizations rush into a cloud implementation without doing enough planning or having a clear understanding of the organizational goals they wish to achieve by leveraging the cloud computing business model. An organization may have a high level of understanding about the cloud, but very few people have a roadmap before they get started. This can lead to disappointment and confusion, and organizations may take longer to see the benefits and return-on-investment of migration.

However, there is a solution to this problem. By undertaking a three-step process that includes an analysis of what in a portfolio is suitable to move to the cloud, which type of delivery offering to choose, and whether to go the public or private route, an organization can see what makes the most sense, what doesn't, and what alternatives are available so they can get as much of their portfolio into the cloud as possible.

1) Undergo an Enterprise Application Assessment

The goal in an Enterprise Application Assessment is to identify and validate the applications that define an agency's enterprise, as well as to identify basic attributes for each one of those applications. It is vitally important that an IT organization have a full, updated take on their portfolios. Organizations must catalog every application running in their

enterprise and assign each an owner and sponsor and detail the technology infrastructure that supports it. Is it client/server? Is it web-based? Legacy mainframe? What is the architecture and construction and where is the application in its life-cycle? Is it a new application that was recently built that may still have three- to five-years on the amortization schedule to recoup the investment? Or is it a legacy application that should be sun-set. This validation of the portfolio is crucial for cloud success. An IT organization may discover that they don't need the level of software support that they actually have. People often buy 100 percent of an application's functionality and only use 7 to 15 percent of it.

An Enterprise Application Assessment will help an IT organization decide which applications to move as well as which applications should be retired or kept in the data center. While some organizations may have the ability and staffing to handle this in-house, there's always the option of outsourcing this assessment to a trusted partner.

The end result: A complete list of applications along with specific data such as the number of users that have access to each application and the last time users logged in. This identifies which applications are best suited for the cloud, and those that are underutilized or unnecessary. This step also provides a view into the organization's IT governance and risk management policies. An organization may find that users have already brought data into the cloud or they may be posting sensitive data within the enterprise in an unsecured application. This is where an organization has the opportunity to identify data leakage and take proactive steps for securing data in the future.

2) Complete a Portfolio Evaluation

Once an IT organization has completed the initial Enterprise Application Assessment, the next step is to create a four-box quadrant that displays the results. These quadrants determine which applications are optimally suited to move to the cloud – and which are not – and what type of cloud they would move them to including private, public, or hybrid.

The grid itself assesses two characteristics of an application: complexity and exposure to mission. Complexity is represented on the horizontal axis. Applications that are more complex – a custom-build application, for example – would be placed closest to the right side of the axis. Lower complexity applications such as a back office, prepackaged program would sit to the left of the axis. An application's mission

critical status is represented by the vertical axis. Less mission critical applications are placed at the bottom of the grid, while essential applications that support CS14R, for instance, would be placed at the top of the grid. Applications that are placed at the bottom left can be moved into the cloud easily, while those on the top right should only be moved with extreme caution – or not at all. This assessment also provides a method for determining the suitability of sharing applications across multiple agencies or departments.

While some of the evaluation process may be simple, other applications may be more difficult to assess. Since the process requires an IT organization to set priorities for each application based on mission or business function – and they may not know exactly how mission-critical an application actually is to every department – conversations with key stakeholders may have to occur. Email, for example, might be a commodity for some users but mission-critical for others.

3) Create a Roadmap for Migration

The final step, the Roadmap for Migration, grows out of a combination of the assessment and evaluation. At this point, an IT organization can begin to determine which delivery model – Infrastructure as a Service (IaaS), Platform as a Service (PaaS), or Software as a Service (SaaS) – best suits each application. This is a function of drilling down another layer of fidelity.

One of the biggest mistakes that an organization can make at this juncture in the roadmap process has nothing to do with creating a roadmap. It has more to do with rushing the first two steps. In addition, IT organizations often fail to prioritize their reasoning behind the move to the cloud. Is it agility, or is it cost savings? Those drivers, along with the assessment and evaluation, will help an IT organization decide which model to move to.

By completing a roadmap strategy correctly and without rushing prior to implementation, organizations can see cost savings as well as greater reliability, speed-to-mission enablement and agility. They can also provision and deploy new systems and applications within days instead of weeks or months.

General Dynamics Information Technology

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Setting a Foundation: IaaS, PaaS, SaaS – Which Do You Need?

There's a reason that the hype around cloud computing is being called "deafening." There are so many people talking about the cloud it can be confusing, especially since everyone seems to have their own definition of the most basic cloud terms: Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS). Here's a look at each, its risk, and what it takes to migrate successfully.

IaaS: The cloud provider handles the servers, storage and networking, while the internal IT organization handles the applications, data, operating system and middleware. There is a lower risk associated with IaaS because an IT organization is essentially imaging a machine, moving the images and rehosting them in a provider. There is less opportunity for things to go wrong.

PaaS: In this case, the cloud provider is handling a lot more. In addition to the server, storage and networking, the vendor also handles any middleware and the operating system. Risk increases since the internal IT organization is in effect rehosting an architecture that requires more understanding of the moving parts.

SaaS: Software-as-a-service providers handle everything – applications, data, middleware, storage, servers, networking. SaaS is a migration of legacy data into a system that an IT organization no longer owns – they simply make the service available to users. Here, the greatest risk is being able to retrieve data in a format that could be usable if an IT organization wants to switch providers or change their architecture.