White Paper

Clearing Up the Cloud: What it is and how it Impacts Your Learning

Introduction

The continuing "buzz" around the cloud has caused some confusion among member-based and trade associations as they consider this application delivery model. With today's economic and resource pressures, many organizations want to move as much of their technology infrastructure as possible off-premise and into the cloud, but are still unsure of the pros and cons of doing so.

To better understand the value of applications "in the cloud," this paper will explore the evolution of the cloud and discuss its pros and cons, no matter what size organization you have.

Then, it will look at how associations can best use the cloud to maximize the success of their learning initiatives.

The Evolution of Software Delivery Models

1. Upfront License, On-Premise

Traditionally, organizations either developed their own applications in-house or purchased software under a perpetual use license agreement from a vendor. With a license agreement, customers also typically paid an annual maintenance fee to cover bug fixes and minor enhancements. In this scenario, the customer was responsible for installing, implementing, maintaining and supporting the software. The software resided "on-premise" in a server room.

Another term for this type of implementation is "behind the firewall." This essentially means that the entire system is in-house, on servers owned and controlled by the organization that are not accessible via the public internet.

To successfully deploy the software, the customer typically needed to engage the services of an implementation partner with specialized experience — sometimes the vendor itself. The relationship with the implementation partner would continue through upgrades, patches and new releases. The traditional software delivery model required organizations to invest not only in the software, but also in hardware, training, consulting services, support and long-term maintenance.

This model is still employed by many enterprise application vendors, but it's made applications of this nature inaccessible to smaller organizations and associations because of the high upfront cost and the scope of the implementation.

2. Upfront License or Subscription, Hosted

In the late 1990s, as broadband and the Internet became more ubiquitous, software vendors teamed with hosting providers to offer a different approach to delivering software solutions. Customers could license software from the vendor and then purchase additional services from an Application Service Provider (ASP) to implement and deliver it.

The applications were hosted at a remote data center and served over a broadband connection, so there were no infrastructure investments. In this model, each customer had its own version of the application running in the ASP's hosting center. Because each customer was running a separate application instance, customizations (changes to the base code to accommodate business practices) and upgrade services were encouraged by the ASP as an ongoing revenue stream.

ASPs charged an annual hosting fee, and buyers still had to pay the vendor upfront for the software itself and for upgrades as they became available. The ASP model had its heyday in the late 1990s and early 2000s, when very few software vendors could afford the expense of maintaining a data center and hosting their own applications.

More recently, access to hardened and secure data centers has become very affordable, making it possible for vendors to host and deliver their own applications without the need for a third-party provider. These applications are typically single-tenant, meaning there is a separate application instance for each customer. Vendors still sell hosted applications using the perpetual license payment model or may use a subscription model.

The total cost of ownership (TCO) with this model can still be high. Service packs and patches may disrupt the business, while upgrades to new versions require a great deal of effort due to existing customizations, and can be very costly. This often causes organizations to remain on an old version of critical software long after improved capabilities and greater functionality are released.

"Gartner is projecting the SaaS market will grow at a steady CAGR of 19.5% through 2016. Global SaaS spending is projected to grow from $13.5B in 2011 to $32.8B in 2016."

3. Subscription, Software as a Service

The most recent, and some say better, way to deliver software from a data center is via the software as a service (SaaS) model.

The SaaS model uses multi-tenant architecture, which means there is one instance of the software serving multiple customers. SaaS customers share common parts of the application, while receiving complete security

and separation for their data. The SaaS model encourages the use of configurations, via settings or property sheets. This approach lowers the cost of maintenance and reduces the time required to upgrade to new versions since the underlying code has not been altered.

One of the hallmarks of the SaaS model is subscription pricing. Instead of paying large license fees upfront, the SaaS customer pays on an ongoing basis, such as annually, quarterly or monthly. The subscription includes the use of the software, support, and access to all upgrades, patches and service packs.

4. Applications "In the Cloud"

The earliest definitions of cloud computing referred to the use of shared computing resources that were grouped together to offer combined capacity on an on-demand, pay-per-use basis. First used by the government and large universities, computing clouds were used to solve complex problems, much like a virtual supercomputer.

Amazon led the way into the commercial cloud space when it made computing cycles available for purchase worldwide. Many smaller software providers depend on public cloud companies to deliver their applications to end users. These providers benefit from being able to scale rapidly and recover quickly from outages or failures, since there is massive redundancy and growth elasticity in the cloud.

From a user's perspective, where the application is served from or whether it is single-tenant or multi-tenant is not important. The application simply has to work reliably on-demand.

Because of this, today, the term "cloud" is used loosely and interchangeably with "SaaS" and "hosted" to refer to any application that is delivered using a web browser over the internet, whether from a vendor's data center, a public cloud or even a private cloud. The remainder of this paper will further examine why the cloud may be an attractive option for application delivery, especially for associations.

According to Gartner, global spending on public cloud services is expected to grow 18.6% in 2012 to $110.3B, achieving a CAGR of 17.7% from 2011 through 2016. The total market is expected to grow from $76.9B in 2010 to $210B in 2016. The chart shows the public cloud services market size and annual growth rates:

Public Cloud Services Market and Annual Growth Rate, 2010-2016
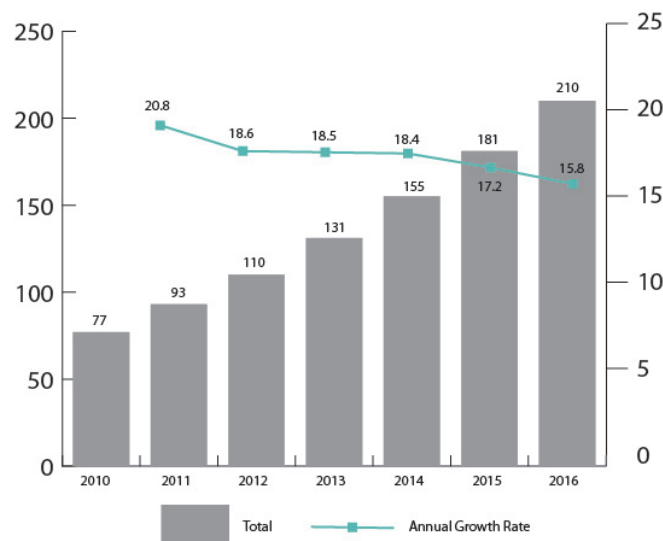
The Pros and Cons of the Cloud

The cloud brings with it the ability for associations of any size to gain access to the applications and functionality that had previously been available only to large companies with deep pockets. But there are also some downsides to the cloud that associations may want to consider before adopting cloud applications.

Financial Risk and Cost Over Time

Pro – The cloud has lower initial costs and ensures regular costs over time. Because there is no upfront investment in licenses or infrastructure, the cloud makes it possible to acquire needed applications as an operational expense rather than a capital expense. The subscription model lets associations "pay as you go" and "pay as you grow," adding more capacity as needed. Furthermore, there are no hidden costs for upgrades or maintenance – these are all included in the subscription.

Con – Cloud-based applications may actually cost more over time. Compared to a perpetual license for software or hardware you might otherwise purchase once, the cloud-based solution is paid for year after year. Over a longer period, a cloud application may be more expensive than an application purchased under a traditional license model.

Use of IT Resources

Pro – If your association is like most, your Information Technology (IT) staff is already overburdened (or possibly non-existent). Because there is no technology infrastructure or application environment to support, the cloud does not place any additional demands on your IT team. If you do need assistance, SaaS vendors offer support services either directly or through consulting partners. With the cloud, you can essentially offload the management of applications to vendors, while enabling internal resources to focus on strategic IT, critical systems and desktop support.

Con – Many IT organizations see the cloud as a threat to their control over computing resources, and potentially their jobs. Those IT teams that want to maintain control over all systems in use may have a hard time accepting cloud-based applications.

Application Deployment

Pro – An on-premise implementation can be a costly and time-consuming proposition, requiring resources to install and customize the application. Today's associations simply can't afford lengthy and complex projects. In contrast, most cloud applications can be set up quickly so users can begin working much sooner.

A cloud application also uses configurations, which allow a range of changes to appearance and functionality without altering the base code of the software. A highly configurable product offers a great deal of flexibility without the time and expense of software redesign and coding.

Upgrades, patches and service packs are included with the subscription and may be rolled out frequently and automatically.

Con – There are no customizations permitted with a multi-tenant cloud application, meaning you won't be able to make significant changes to the functionality or business processes in the application. The only sure way to customize a product is to run it on-premise, but recognize that future upgrades may become problematic and complex.

However, with an on-premise deployment, you can choose when or whether to receive those upgrades and you are not at the mercy of the vendor's schedule.

Security and Privacy

Pro - When you move important data offsite to a service provider, you need assurance that the system is secure. Cloud vendors house their applications in world-class data centers, with state-of-the-art power, ventilation and security features. They also employ encryption and the latest in security protocols to ensure the safety and integrity of your data. Vendors commit to service level agreements for system availability.

Con – Security and privacy concerns are different for every organization. If you are handling or storing sensitive data, then you may not have the same level of confidence that a cloud provider is treating your data as you would.

Access From Anywhere

Pro - A cloud application makes it possible to gain access to data, documents and courses from anywhere that has an Internet connection. Remote and mobile workers can collaborate effectively with colleagues and share information using any suitable mobile device.

Con – Organizations may not want their content accessible from non-controlled locations or devices. There may be confidentiality, regulatory or intellectual property concerns that would prevent data from going mobile.

The Cloud and Learning

What are the potential implications of cloud adoption for an association's education business? They can be categorized into four broad areas: analysis, design and development, delivery, and evaluation – all stages in the training creation cycle.

Analysis

Before building any learning product, you need to understand the market and analyze what's needed. Market assessment isn't new, but the cloud has enabled tools that let associations listen to their market in new ways. Before the cloud, organizations did in-person focus groups and formal surveys to gauge the market. Now, associations can mine information about the market and learners from social networks like Twitter, LinkedIn and Facebook, blogs, search engine results, and online surveys.

Social media account management applications can aggregate multiple feeds to shed new light on market conversations — top tweets and much-commented blog posts may spark the next educational product. Training developers can see what's resonating with learners and where they're asking for additional information or help.

Online survey tools let you reach thousands of potential respondents and help you identify emerging trends or persistent problems. What are the hot issues your market is dealing with? What education products can you offer that will help?

The cloud offers the opportunity to gain insight and better understand the market you serve on an ongoing and informal basis. That insight can translate directly into new and improved learning products that address current needs.

Design and Development

The second area where the cloud can impact an association's education business is in the design and development of products. There are a range of cloud-powered tools that offer a variety of approaches to authoring and delivering content, as well as promoting collaboration with staff and colleagues.

Making use of cloud tools may or may not mean cost savings, but it very often means significant time saving, since developers can quickly share and co-author content. Enhanced collaboration sparks creativity and innovation, without the burden of technical constraints or being tied to an office.

Design and development is inherently an experimental process. By eliminating long ramp-up times or big investments, the cloud helps minimize the disadvantages of experimentation. If you don't like a particular tool, there's no penalty for simply trying another.

Delivery

Content delivery is another area where the cloud has provided new avenues for reaching learners. For example, even though YouTube started as a way to share personal videos, it has evolved into an accepted, and expected, place for businesses and organizations to post and promote training videos.

Similarly, the cloud has made acquisition of a learning management system (LMS) much more affordable. Where the LMS used to only be available to large enterprises with big IT staffs, it's now well within reach of smaller organizations, thanks largely to the subscription model made possible by the cloud.

Evaluation

Evaluation is the last area where the cloud has implications for an association's education business. Once a learning product is released, you'll want to evaluate its impact and effectiveness.

Cloud-based platforms typically offer a great deal of data about user activities, and typically integrate easily with other applications containing different data sets. Using various analytical tools, you may be able to get much deeper and more accurate insight into how your programs are being used, and their ultimate impact on learners, than ever before.

Online tools, such as those that analyze website performance, can add another dimension to the explicit evaluations you might collect after a course or learning experience (using cloud-based tools like Survey Monkey). You can also look to the cloud for tacit evaluation and validation of concepts through the various social media avenues.

Conclusion

The cloud has dramatically simplified the entire process of creating and delivering online courses — essentially becoming an equalizer for associations. What used to take big staffs and big budgets to produce is now within reach of smaller, leaner organizations.

This means that the cloud can open the door to new revenue streams by impacting each of the stages in the cycle of education and training — from analysis, to design and development and delivery, to evaluation. While there are also important pros and cons to consider when evaluating cloud applications, overall there is a substantial strategic opportunity for associations to bring their learning into the cloud.

About Meridian Knowledge Solutions

Meridian Knowledge Solutions provides technology platforms that empower enterprises, governments and member-based organizations to develop their people by delivering learning, assessing performance and fostering collaboration.

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