

Transforming business acquisition of technology – putting your thoughts in the clouds

By embarking on a systematic and gradual evolution to cloud-based services, carrier organisations may realise substantial benefits such as core business growth, new cost efficiencies, improved security, greater available bandwidth and accelerated deployment of new application services to help them maintain a competitive edge

A white puffy cloud floating along in the sky is always in motion, always changing its shape, always adapting to the wind and its surroundings, and it does so automatically.

In the world of technology, the same characteristics define the latest of technology terms, cloud services. Cloud services are flexible, adaptable and automatically available anytime they are needed.

It all sounds great, but the reality is that carrier organisations will find it difficult to realise the total benefits of the cloud unless they are open to considering new ways to procure and acquire technology solutions. A shift away from home grown IT is best begun after careful consideration of four major questions:

1. Where do cloud services fit into my organisation's technology plan?
2. Should we build a private cloud, use a public cloud, or employ a hybrid combination?
3. If we choose to go with a hybrid solution, what selection criteria should we apply to our evaluation of alternatives?
4. If we choose to look externally for cloud expertise, which cloud services provider should we choose?

While these questions seem to be straightforward, the answers are likely to be as diverse as the individual carrier organisations that have to answer them. Let's take a closer look at each.

Where do cloud services fit into my organisation's technology plan?

To answer this question, a variety of issues need to be examined. First, where would your business benefit most from the flexibility to turn technology solutions on or off on demand? That will depend partly on your strategic priorities. Carriers may evaluate cloud technology as the foundation for new cloud-based services, to run in-house functions, or both. For example, a carrier may use cloud services internally to improve response times and streamline customer on-boarding for existing services. This could improve customer satisfaction, and help carriers realise revenue faster when implementing growth scenarios for their current product portfolio. Employing cloud services to improve customer satisfaction on existing services may bring about immediate financial benefit by retaining and growing revenue from existing customers. Another carrier may choose to

augment existing offers with a new cloud service to increase their share-of-wallet with present customers. Though developing and launching a new service may take some time, the potential for new revenue from a cloud-based service may be well worth the risk. Carriers that choose to do both – deploy cloud services for internal and external purposes – will need to carefully prioritise, plan and execute a technology implementation path that will balance changes in internal operations with tasks required to support new cloud-based service offers.

Another consideration that may impact where cloud services fit in a carrier's technology plan is the age and version of tools currently in-use such as servers, data storage, devices, software applications and security systems. Questions that carriers need to answer include:

- Do we need to upgrade or consolidate?
- Have we tried in-house solutions such as virtualisation software or other methods and found that we are not getting the value we expected from our efforts?
- Are we experiencing problems due to time constraints?
- Are we having trouble providing support, ie, maintaining in-house expertise or security?
- Why are we doing things the way we do them today? Is there a better way? Can we benefit from engaging a third party provider?

When comparing in-house upgrades to cloud-based alternatives, the non-technology costs associated with running an application in-house must be assessed to help determine the true cost of ownership. Non-technology operational costs for in-house data centres may include real estate, specialised flooring, ceilings, conduit, cabling, power, heating and cooling, fire protection equipment, security guards, IT staff, back up power generating systems and everything necessary to run a fully protected fully redundant data centre. Consideration of each of these variables may yield valuable input to a thorough assessment of where cloud services fit in a technology plan.

Should we build a private cloud, use a public cloud, or employ a hybrid combination?

Answering this question may require some effort to first identify the possible solutions and narrow down the plausible options.

Building out in-house cloud services, while saving space, can still be a capital intensive endeavor. It is important to determine if funding is available to re-tool a carrier's internal systems, software and other technology. Equally important is determining whether or not this is the best use of limited capital, and what other options exist for re-tooling. Does the current staff have the time and the expertise to pivot from the existing environment to a cloud-based environment? If yes, how quickly can this be accomplished? The faster a carrier can implement the required changes, the sooner it may begin to realise cost savings and/or revenue growth. Many organisations have the skill sets, but if those resources cannot be relieved of their existing responsibilities to work on the new project, or it takes a prolonged period of time to implement the change, anticipated financial benefits can quickly erode. To avoid potential pitfalls, great care must be taken to plan and budget for contingencies in case original estimates are incorrect.

Another important question to explore is, 'how does the alternative of outsourcing cloud services to a third party compare to attempting to provide these services in house?' Surrendering a level of control to a third party may be a cultural issue for some organisations, but it may also be an option that considerably reduces risk, speeds delivery of new technology, minimises capital expenditures, lowers total cost of ownership and provides a bridge between the old and the new that effectively integrates cloud and non-cloud solutions into a harmonious hybrid environment.

For tasks outside of the carrier's core competencies, outsourcing to a cloud services provider may be a good solution. Moving toward cloud-based back office functions may free up capital and internal resources to work on revenue generating projects that deliver better value to the business. Third party specialists may be able to complete certain work more quickly than an in-house organisations. This can introduce efficiencies



and improve productivity. Of course, every carrier must determine what work remains in-house for strategic or other business reasons.

Ultimately, each carrier will need to ask and answer the following question, "is an all private, all public, or hybrid solution the most likely outcome for my organisation?" If your goal is to accomplish an orderly and gradual transition to cloud services, a combination of in-house, private and/or public cloud services may offer the most flexibility.

If we choose to go with a hybrid solution, what selection criteria should we apply to our evaluation of alternatives?

Before implementing each cloud service, it is important to answer the following questions as they apply to your business operations:

- What amount of downtime can your business endure?
- What are the legal ramifications of placing customer data in the cloud?

It is also critical that each third party cloud services provider under consideration provides detailed answers to the following questions:

- Are the cloud infrastructure and applications secure?
- Will the external operation be accessible where and when needed?
- How much development is required to integrate services with existing operations and applications resident behind the corporate firewall?
- What is required to create a connection between cloud-based and private networks?
- What management and monitoring capabilities are available to maintain cloud-based services and applications?

While these concerns seem daunting, they bring to light the reality that the service surround, policies and performance of cloud-based services may not yet be as robust and defined as those associated with existing IT infrastructure. However, as long as potential drawbacks are properly addressed and the provider employs procedures to protect each customer's

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management solutions.

To manage a carrier's premises-based hosting solutions, AT&T provides remote management infrastructure solutions. AT&T also provides remote management of business software applications hosted and located on customer premises. Hosting and applications management services provided by AT&T can be combined with a carrier's in-house hosting, server, or software solutions to deliver a variety of hybrid solutions to serve carriers' needs and support their applications.

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business, there remain many sound reasons to proceed with cloud-based services. Finally, to cause the least disruption to your operations, it is essential to identify and prioritize the business functions that will be impacted and establish reasonable timeframes for the conversion of each.

Which cloud services provider should we choose?


Finding the right third party to provide public cloud or private cloud services, as well as other elements of the total solution, requires a thorough evaluation of the breadth and depth of expertise of each potential provider. To help narrow the field, ask the following quality questions:

1. What experience does the provider have in the particular areas where you need help? What kind of performance history does the service provider have?
2. How would you physically connect your network to the provider's network? Do they offer multiple options for the type of network interface? Who will manage the network component?
3. How much control does the provider have in assuring the quality of the network connectivity you will need to connect your internal systems to theirs, and connect your end users to the cloud service provider's environment?
4. What redundancies does the provider offer in network connectivity, hosting infrastructure, security systems, power systems, and other critical components of the solution?
5. What views do you have into the network and technology solutions being provided? Does the provider supply tools to help you monitor your solution in their environment?

Be careful not to rely too heavily on service level agreements (SLAs) to judge the quality of the cloud-based service. Exactly how the guarantee is monitored and delivered, and the performance history, is often more important in terms of predicting quality than the stated percentage uptime of the service level guarantee. Care should be exercised in understanding the actual language of the guarantee. If the service level guarantee states that it covers you for 100% of the

outage time that occurs starting 30 minutes from the time you report an outage, and your service is out over a weekend when you are not in the office to report the outage, your service could be down for days without you knowing it. Yet, in this instance, the 100% uptime guarantee is technically met because you haven't reported the trouble. One way to flag possible shortcomings is to determine whether the service level guarantee is pro-actively monitored by the provider or solely by you. SLAs that offer pro-actively monitored service levels may offer better coverage regardless of the reported percentage of the guarantee. In either case, to gauge the performance levels you should expect to see from a potential provider, ask about past performance in real terms as opposed to how often a service level guarantee has been invoked.

In anticipation of both your current and future needs, it is a good idea to select a cloud-based services provider that has more capability than you currently need. What happens if you acquire a company with a totally different business software package than is used by your company today? By choosing a cloud-based services provider with broad expertise today, you are more likely to be able to expand your relationship in the future to fill gaps that come about as your business evolves.

In summary, cloud services are likely to appear in every carrier's technology roadmap. To realise the anticipated benefits, it is essential to plan ahead for a smooth evolution. Careful evaluation, design and execution are required to achieve the best adoption and long-term management plans for new cloud services. 



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