

# Network Operators Uniquely Positioned to Connect Clouds

By Dr. Phil Marshall, TM Forum

To say the market for cloud services is exploding certainly is not an overstatement. Enterprise cloud implementations have seen double-digit growth over the last three years, and the market clearly is benefiting from maturing cloud infrastructure, advances in management software, and competitive pricing from infrastructure and software providers. But so far, network operators have been slow to realize their real potential as cloud providers.

Today, the cloud services market is dominated by over-the-top (OTT) providers like Amazon, which has been quite successful in gaining market share through low-priced solutions with user-friendly application program interfaces (APIs). But Amazon and companies like it lack a critical piece of the cloud services puzzle: infrastructure. Network operators, on the other hand, have infrastructure and network connectivity in spades.

As it turns out, network operators are in a prime position to become managers of hybrid and multi-cloud environments. Whereas OTT cloud service providers tend to concentrate on moving workloads between public and private clouds, operators can manage both cloud environments and the inter-connecting networks. For example, a single enterprise is likely to want to use private cloud for vertical applications like financial control but public clouds for burst capacity for less sensitive R&D and marketing campaigns.

Network service providers cannot afford to focus only on general cloud solutions – they simply can't compete with what's already available from OTT providers. Instead, they need to focus on delivering solutions for those applications that need high performance and managed connectivity between public and private clouds.

One of the best approaches for operators may be to embrace Platform as a Service (PaaS) to integrate with and federate the offerings of providers like Amazon and Rackspace, differentiating their services by network and connectivity-related service level agreements (SLAs), and localized functionality where appropriate. This is a

particularly good strategy for smaller network operators, especially where they lack Infrastructure as a Service (IaaS) offerings. They can provide a channel to market for OTT players or Software as a Service (SaaS) providers and integrate the third-party services directly into their own Operational Support Systems (OSSs).

The problem, however, is that the network operators don't seem to realize they should not be focusing on competing head-to-head with companies like Amazon. TM Forum's prima facie research gathered from surveys\* and in-depth interviews with network operators around the globe has found that only about 25 percent of operators understand the importance of offering managed, multi-cloud environments. That number has got to improve if network operators have any hope of succeeding as cloud providers.

## Operator targets for IaaS

In addition to focusing on providing connectivity between cloud environments, network operators are also in a good position to deliver certain types of IaaS solutions. Several target markets beg for their expertise:

- Although cloud services can be virtualized on a global basis, regulatory requirements sometimes constrain their reach. Countries like Germany and the U.K., for example, require personal information about their citizens to be stored and managed locally, where network operators already have facilities.
- Applications with low-latency requirements such as virtual desktop, videoconferencing and financial services are a potential sweet spot for network operators because they have end-to-end control over network and cloud ecosystems, coupled with a local market presence. That means network operators can offer superior service performance compared with OTT providers.
- Network operators can excel at providing brokerage for small and medium enterprises (SMEs). By having a local presence they are better positioned than the OTT players to deliver cloud brokerage services to SMEs, which often

- ▶ lack internal IT organizations and are not well served by OTT companies.
- Unified communications services that leverage communication-centric protocols such as Session Initiation Protocol (SIP) are a good services for network operators to provide because they are heavily dependent on reliable communications infrastructure, which is at the heart of the operators' legacies.

**Overcoming obstacles**

While operators may still be a little in the dark about where their real strength lies, they are clear about the many other challenges they face in delivering cloud services including: service management; integration with legacy infrastructure, particularly OSSs; partnership strategies; keeping up with innovation; and embracing commodity hardware and open-source software solutions.

Two-thirds of respondents to TM Forum's network operator survey said they recognize that service management strategies are challenging or somewhat challenging, which is a serious issue because it is key to differentiating their services. Survey analysis also makes it clear that operators must embed the idea of providing IT services across their organizations and pay close attention to maintaining an end-to-end service strategy.

Network operators are encumbered by legacy IT systems and organizational structures and are daunted by transformation of their own complex IT infrastructure, which typically been deployed over many years, with overlapping functionality, proprietary in-house developments, entrenched operational models and complicated workflows.

Unless they are upgraded and virtualized, legacy platforms and service offers will have a tremendous impact on integration costs for cloud service rollout over the next three to five years. *TM Forum's Frameworkx* suite of standards-

based tools and best practices aims to help operators address this challenge in particular.

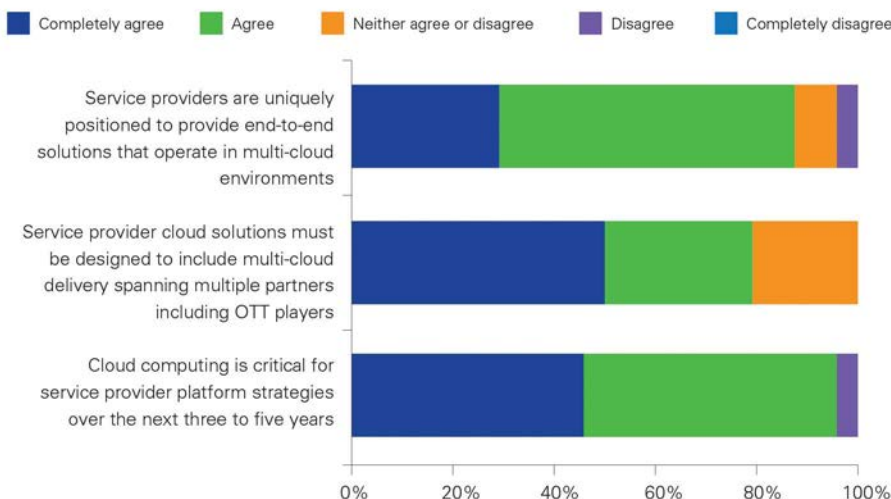
Embracing the IT services ethos is also difficult for network operators because they have little experience. They will have to evolve from their telco roots to better serve the IT industry's needs, positioning solutions to appeal to enterprises' IT organizations. To compete on price, operators must ensure their service management is highly automated and supports open-source software and commodity hardware as both are becoming commonplace in enterprises' cloud implementations.

Network operators also must position themselves to act as efficient partners in the cloud services ecosystem. Almost 80 percent of survey respondents believe that multi-cloud environments must be designed to include multiple partners including OTT providers (see figure), which is a huge challenge in itself. They also believe that managing the exposure of sufficient operational and management information for third-party application developers and end users will be difficult.

In the end, cloud services have tremendous revenue potential for network operators, but to realize it they must clearly define the markets most likely to benefit from their unique expertise. They must also make a concerted effort to modernize their support systems so that they can quickly and efficiently provision and bill for cloud services. The companies that manage to do both are the ones that will succeed in becoming more than just bit-pipes.

This is an excerpt from TM Forum's Insights Research report, "Multi-cloud migration: How operators can still seize the day," by Dr. Phil Marshall, TM Forum. The full report is available at . See TM Forum in action at Digital Disruption 2013 in San Jose, Calif., Oct. 28-31. GTB readers can receive 15% off a gold pass - simply use voucher code PRPM3L when you register at [www.tmforum.org/dd13GTB](http://www.tmforum.org/dd13GTB).

Figure 2-1: Communications service providers' ranking of service capabilities



Source: TM Forum Insights Research 2013

This article is excerpted from TM Forum's Insights Research report, "Multi-cloud migration: How operators can still seize the day," by Dr. Phil Marshall and published by TM Forum. Check out the full report at: [www.tmforum.org/ResearchPublications/7097/home.html#TRCPublications/Link51754](http://www.tmforum.org/ResearchPublications/7097/home.html#TRCPublications/Link51754) and see TM Forum in action at Digital Disruption 2013 in San Jose, Calif., Oct. 28-31.

Register today at [www.tmforum.org/dd13](http://www.tmforum.org/dd13).

For more information visit: [www.tmforum.org](http://www.tmforum.org)