Carrier Cloud & Network Synergy to Boost Enterprise Business Experience

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Cloud Services Trends

Total spending on cloud services is forecast to reach $367 billion through 2020, growing at a CAGR of 15.8% for 2015 through 2020[1]. The current trend is for 91% of new software to be built for cloud delivery [2], which will result in explosive traffic growth both in the network as well as inside data centers. In order to meet the various industry stringent requirements for cloud services, carriers need to understand the type of traffic, the type of customer and the type of applications. Carriers can respond to most mainstream requirements by offering a multi-tiered cloud strategy that addresses most standards.

The True Value of Cloud Services Remains Elusive

Enterprises are looking at cloud technology for its transformative efficiency, to lower their CapEx and OpEx, for its flexibility in the consumption of bandwidth (on-demand) and for its agility to compress the time needed to provision new applications and services. However, enterprise CIOs are well aware that network bandwidth remains a key performance factor specifically in mission critical applications and time sensitive business services.

Performing backup on a snapshot (read-only copy of the data set frozen at a point in time) can still result in lost files and system failures that could paralyze a project or business. Therefore, a contingency plan is crucial: a cloud backup safeguards enterprise business by protecting important files as well as application needs and enabling a fast return to normal operations by rapidly restoring files after a system failure or file loss. The true value of carrier cloud services will become apparent when network bandwidth can be instantly increased to address such requirements.

Maximizing Cloud Services with an Intelligent WAN to Unify Performance, Security and Scalability

More and more enterprise IT loadings are shifted into cloud service providers and they require certain service guarantees. Cloud platforms already offer features like DDoS, high availability, as well as backup and cloud service providers can even design active-active datacenters to enhance the reliability and availability. However, the latency of the internet between the data center and the cloud remains an issue that can affect the performance negatively. Carriers can address this by offering differentiated and premium cloud services with their intelligent WAN network service that reduces the delivery challenge and provides intelligence such as data traffic patterns, and are then

able to shape the bandwidth in the SDN network. The benefit is to enhance enterprise capabilities to accelerate the service time to market.

The explosive growth of video consumption is driving IT workloads on video transcoding, video streaming and media storage. It generates loads of data in the cloud platform and drives increases in network bandwidth needs inside data centers as well as in between data centers. As an example, during a live video broadcast, auto scaling of cloud resources and auto on-demand network bandwidth will be guaranteed and delivered at the same time for this mission critical service.

Cloud Services Enable IT to Align More Closely with the Business

IT and network managers are always looking for better ways to scale network bandwidth to support cloud applications. For example, online shopping sprees such as Thanksgiving's Black Friday in US and Double 11 in China generate significant revenues in spike traffic for web-only merchants through multichannel eCommerce. Accurately predicting traffic remains a complex and difficult task for enterprises, web IT managers and cloud service providers.

The correct orchestration of cloud and network services is a definite advantage in handling unpredictable business transactions as well as ad-hoc business activities. This would mean eliminating the frustrating process of provisioning network connectivity circuit by circuit, as well as the added expense of overbuying bandwidth to accommodate spikes in bandwidth usage. With their existing expertise and network, carrier cloud services are the best positioned to provision flexible and agile e-commerce services: enterprises can quickly and on-demand scale up or down the capacity of cloud and network resources depending on the business requirements.

A Scalable, Agile and High Performance Carrier Network for a Cloud World

In General, e-Commerce organizations face 4 typical workload patterns: (i) On and Off, (ii) Fast Growth, (iii) Unpredictable Bursts and (iv) Predictable Bursts. Being able to meet unpredictable capacity demands is fundamental to a successful cloud implementation. These demands have two key components: elasticity and bursting. Elasticity is the ability to add or reduce capacity on an as needed basis (predicted), and bursting is the ability to add incremental capacity for unanticipated increases in demand. Both components require flexibility in handling demand and a carrier that can guarantee expanding and contracting resources upon request as well as automatic delivery will

rise above the rest. And compared to other cloud service providers, only carriers are able to use their cloud platform and network facilities to deliver elasticity and bursting management which will be a key factor in attracting new business opportunities.

SDN technology is bringing carrier network benefits on carrier-grade operations to maintain five-nines reliability as well as agility in network services. It is important for carriers to level web-scale IT players in the area of agility all the while maintaining the QoS that their customers have come to expect. According to Gartner, by 2017, web-scale IT will be an architectural approach operating in 50% of global enterprises. The influence of DevOps on IT culture, tools, processes and organizational structure is resulting in the acceleration of application delivery in cloud platform.

Giving Carrier Cloud a New-Found Agility

Carrier cloud services can open up new opportunities for today's carriers. With the industry still in flux about "Network Virtualization", traditional cloud service providers still provide the "best effort" model of network service.

Software-defined networking (SDN) is an architecture aiming to be dynamic, manageable, cost-effective, and adaptable, as well as seeking to be suitable for the high-bandwidth and dynamic nature of today's mission critical enterprise applications. Carrier clouds perform much better on SLA, high QoS and minimum latency which then gives opportunities to developers to create applications based on open APIs as well providing guarantees on security of data.

In an SDN-based carrier cloud network, logically centralized control gives carriers full visibility on both the cloud and the network resources. It is critical that a cloud service provider gains control on cloud service management so that cloud traffic can be monitored within enterprise premises, internet, DC-Centric Network and DC Interconnect.
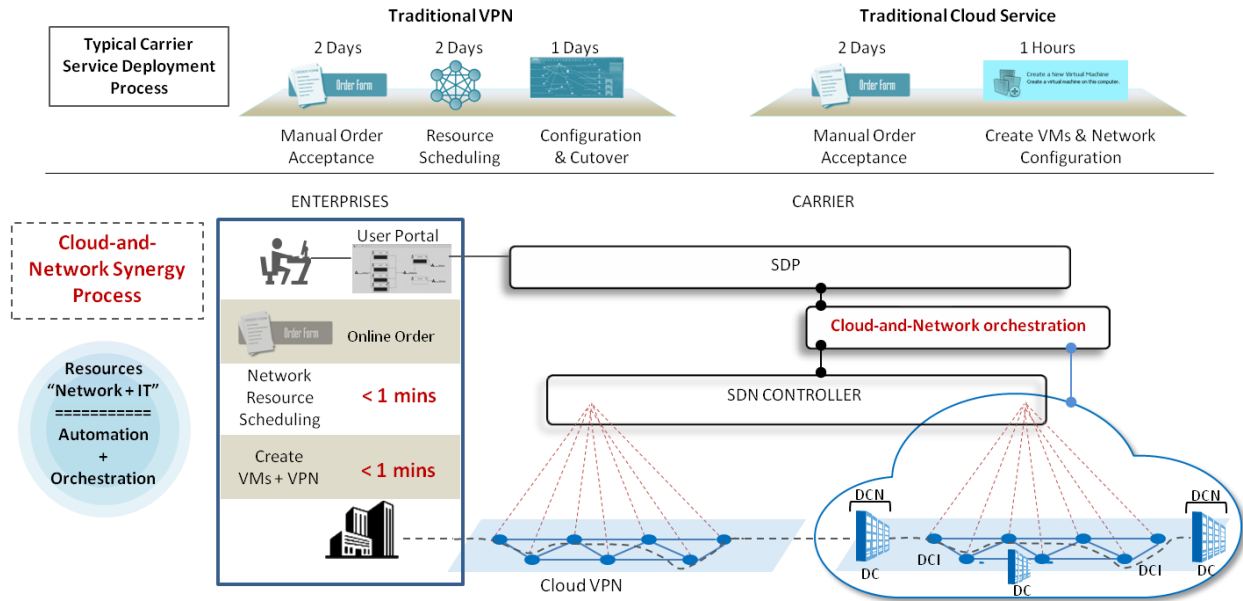
Agile Service Orchestration – Carrier Cloud-and-Network Synergy to Speed up Service TTM

Huawei advocates "All Cloud" and provides cloud-based products and solutions to help customers achieve digital transformation and operations. The core of 'network cloudification' is to construct the telecommunications network using SDN and NFV, enabling carriers to upgrade the ROADS experience of their services onto the network and providing new services in the B2B Cloud Hosting and Cloud VPN.

Takeaways

Synergy of Cloud and Network, Bring Cloud Service Differentiations to Enterprises

The big difference between what carriers are able to offer and the big cloud service providers is that carrier can be through excellent service operation and managed network over public internet to deliver carrier cloud services. Synergizing Cloud and network, it is on the way to make change of carrier B2B market to deliver carrier cloud service through DC network, DC internetworking, global network and last mile network. Carrier and enterprise can manage cloud and network resources on demand basis and in any time. The setup and delivery of cloud computing, storage and network resources are fully intelligent and automation. It aims to improve the efficiency and effectiveness on scheduling enterprise cloud and network services. This is the assurance of best customer experience.

Carriers are able to provide professional services and to offer differentiated cloud service experience. It is also to cultivate enterprise customer to transform to "paying it for best experience" as well as strengthening enterprise customer loyalty.

Reference

(1) *Source: Carrier Cloud Study 2016, Gartner*
(2) *Source: IDC CloudView Survey 2015*