

Putting Customer Retention First through Network Virtualization

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The telecommunications industry is going through a period of radical transformation. The 3rd Generation Partnership Project (3GPP) 3GPP/3GPP2 specifications enabled standards compliant networks that transmitted voice, data and video within very closed systems. Ten years ago, customers were served by the phone network for voice, accessed data via WAN or LAN, and it was the broadcast networks which carried video.



The era of mobile broadband, however, has created tremendous opportunity to provide a broader range of enhanced services to their customers via new and consolidated technology. Internet providers are quick to exploit this opportunity, and telecom players must now upgrade their networks and services to provide more than just connectivity.

In fact, network providers must ensure their technology (LTE, LTE-A, carrier aggregation etc.) meets the constantly increasing consumption demands of their customers, to stay one step ahead of the competition. Slow download, streaming and browsing speeds are becoming the most visible representation of poor service. Disruptions in services significantly lower customer satisfaction and can drive them to look to the other competing providers. The ability to provide the enhanced service and experience when communicating via voice, video and messaging and access content can ensure long-term customer retention.

Additionally, switching on or terminating services on demand, enabled by virtualization and based on consumer requirements, is critical. Only through Network Function Visualization (NFV) can network elasticity, service agility, and the ability to slice the network into multiple virtual networks tuned to specific use cases, where services can be scaled or fine-tuned based on demand and user requirements, be explored proactively to provide benefits to subscribers.

Evolving Consumer Expectations

The [Annual Wireless Industry Survey](#) recently reported that for the first-time in history, the rate of increase in data use officially outpaced voice and text. In 2015, talk time increased 17 percent to 2.8 trillion minutes and the number of text messages grew to 2.1 trillion. However, this growth was nowhere near the increase seen in data traffic.

In the same year, users streamed the equivalent of 59,219 videos every minute, causing providers to see an increase of 138 percent growth in data over the previous year. Those 9.6 trillion megabytes of data served as a clear message from the market that downloading large files, receiving push notifications, fast app updates and GPS directions on the go are the new priority. And these numbers are only increasing.

These changes show that service providers must face the following key issues:

- Rapidly increasing customer demand for faster data speeds
- Increasingly complex and more capable devices creating network demands
- New OTT entrants with dramatically different business models provide core services like voice/messaging and video for free, thus commoditizing these traditional operator anchor services

With advent of Internet-of-Things (IoT), communication shifts from human-to-human communication to machine-to-machine or human-to-machine communication. 5G is on the horizon, promising fast, lower latency networks. The question is: what do mobile service providers need to learn and change to stay part of the value chain and not just become a utility bit-pipe?

Be Agile...Or Get Left Behind

All telecom companies must take the important step of analyzing data usage and prioritizing specific services for customers. Based on that usage, providers must build flexible, scalable and secure networks that support a multitude of connections and create services across all vertical dimensions, as well as support growing traffic from IoT to provide the best experience and retain customers. Not only will customers continue to connect their lives through their wireless devices, increasing even more with the addition of 5G, but services specific to verticals (e.g. industrial, public, consumer) will also be created.

Providers must act now to create network opportunities, by launching new services rapidly on more agile infrastructure and supporting traffic growth with new customers. An optimized core network solution, provided through the implementation of NFV is exactly what will help service providers reduce total cost of ownership and be ready for the next evolution of wireless to drive new incremental service revenue.

To Virtualize or Not to Virtualize, That is The Question

The economics of virtualizing a network remains complex and deployment does not necessarily translate into immediate return on investment, but successfully navigating network transformation, promises to provide the industry with low-cost elastic scale, service agility and a flattening of capital expenditure and operating expense.

In theory, the benefits simply associated with operational expenditure including reduced data center costs, should form a strong enough case to make the initial investment toward virtualization. Without these technologies, it is impossible to have viable operational expenditure for introducing new services, adapting and terminating. Through NFV, providers can evolve past software and hardware environments to data centers with heterogeneous infrastructure. Beyond that, the increased flexibility of the network will help to transform the operational business side for network providers.



The elasticity associated with virtualization will also afford networks and their providers the ability to adapt to the market. Future consumer behavioral changes, whether associated with an even greater demand on data or future trends associated with 5G advancements, will also be quickly accounted for with this implementation. Consumer behaviors will always be changing and evolving so it is important for providers to employ advancements that not only adjust for current trends but

can also be quickly changed and adjusted for future expectations, which will most certainly include increased demands in mobile data.

What Now?

[Recent research](#) by SNS Research predicts the NFV market will reach nearly \$21 billion by 2020. The new capabilities available on the network for subscribers places the networks in a much more competitive advantage. Not only will subscribers benefit from advancements in the scale of the network, whether it relates to increases in data or messaging, but initial cost savings to providers can of course be passed down. Mobile network operators can no longer have one-size-fits-all network but need to have ability to have many networks, each tuned to optimize specific experiences/use cases. These networks need to be instantiated and scaled on demand. This requires software defined network and virtualization – NFV+SDN+SON. Only with this can virtualization of networks help increase customer retention.