

Beat the Revenue Squeeze with SDN and NFV

Enabling intelligent, virtualised networks that lower operational costs



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"With mobile and fixed line revenues impacting carrier profitability, new technologies are needed that increase operational efficiency and lower CAPEX and OPEX costs," says Kapsch CarrierCom's Marc Bouteyre, Head of SDN/NFV Solution Management. By leveraging SDN and NFV and building more intelligent, efficient, virtualised networks, carriers can beat the revenue squeeze and achieve sustainable growth.

Kapsch CarrierCom is an independent systems integrator for public fixed and mobile operators, providing unbiased, end-to-end support for multi-vendor network deployments.

Q: Why is now the right time for carriers to adopt Software Defined Networking (SDN) and Network Functions Virtualisation (NFV) strategies?

A: Carriers are facing some pretty severe pressures at the moment, with revenues from mobile and fixed line services falling by around 1.8% annually, and other services – such as SMS messaging – declining at an even faster rate. SDN and NFV can help by reducing carrier OPEX costs based on simpler, centralised infrastructure and service management and faster time to market for new, revenue-generating services.

Q: How do SDN and NFV work together?

A: Deployed together, SDN and NFV provide unprecedented service chaining capabilities based on virtualisation and orchestration of distributed network resources. SDN provides the network automation required to deliver services on distributed infrastructure. This makes it a key enabler for NFV to support larger deployments that maximise the cost and efficiency benefits on offer. While it's possible to deploy NFV without SDN, this only makes sense for isolated apps or proofs-of-concept.

Q: Which services work best with an NFV delivery model?

A: Often, the first application on carrier wish lists is centralised, remote management for customer premises equipment. Instead of deploying equipment at customer sites and using it to provide a set of pre-defined services, NFV and SDN make it possible to deploy hardware at customer sites and provision services dynamically using centralised management tools. This approach reduces the cost and complexity of change management, and directly benefits the carriers' bottom line. In addition, it speeds

- up service provisioning for customers, enhancing their experience, increasing loyalty and reducing churn.

Q: How will SDN and NFV change the telecommunications marketplace?

A: The biggest impact will be the high level of automation that these technologies enable and the consolidation of teams that previously looked after different elements of the infrastructure.

The move to SDN and NFV will also stimulate evolution of the vendor landscape, with new specialists emerging to offer services in fields such as orchestration. These providers will bring innovative solutions to market that reduce hardware constraints and allow ISVs to build more agile, competitive solutions – which in turn will help service providers to remain profitable as revenues continue to be squeezed.

Adoption of cloud-computing technologies will also be a major trend among service providers. With SDN and NFV, it's possible to build a new Network without building or re-arranging labs. All that's needed is a few weeks to set up and test the environment before going live. New cloud solutions can then be used as an overlay to existing infrastructure, helping ISVs address specific customer needs, such as M2M communications or MVNO services.

While cloud computing offers major opportunities, a cloud base infrastructure will be more difficult to deploy for service providers that are still domain oriented rather than service oriented – with separate departments for managing network services, telecommunications infrastructure, IT applications and so on. For such businesses, the transition to the cloud will require strong management and governance, as well as significant structural changes.

Q: Will SDN and NFV support new revenue streams for carriers?

A: The real beauty of SDN and NFV is that they help reduce cost pressures and maximise profitability as voice and data revenues continue to fall. They will also enable new services and support new revenue streams, based on faster time to market for new services. This will help service providers compete more effectively with OTT players and maximise their market share.

Q: What's involved for carriers who want to adopt SDN and NFV?

A: The good news for carriers is that deploying SDN and NFV is a question of evolution rather than revolution. First of all, carriers can integrate SDN controllers, with or without OpenFlow, on their existing network infrastructure to maximise the value of their previous technology investments. To make the transition to SDN and NFV as efficiently as possible, carriers should choose SDN controllers that integrate seamlessly with their legacy equipment. While carriers can build NFV and SDN into their existing infrastructure, however, deep integration capabilities are needed to make all the technologies work together.

Q: How can carriers move from a proof of concept to a larger deployment?

A: Proofs of concept usually start with basic network orchestration and a single VNF application. This helps carriers understand the potential benefits of this delivery model in terms of resource utilisation and simplified, centralised management.

To support live VNF applications, carriers need to create a distributed infrastructure. This is needed to support multiple applications concurrently and to provide consistent quality of service for customers, as well as the high levels of resilience required.

To support much larger deployments, SDN orchestration capabilities are a critical enabler. Carriers must be able to orchestrate their distributed infrastructures from end-to-end, and provide super-fast connectivity between locations, including data centres. There must also be tools and teams capable of supporting customers who access services on the distributed architecture, and technologies for measuring performance metrics and compliance with customer SLAs.

Q: What are the risks of adopting SDN and NFV?

A: While there are de facto standards for SDN – namely the OpenFlow protocol – no standard architecture definition exists yet for NFV. Although the standardisation bodies ETSI and ONF are busy working on this, many service providers want to deploy SDN and NFV immediately to reduce their service delivery costs and increase per-user revenues. However, there's a risk that certain elements of the NFV infrastructure won't integrate with existing infrastructure or planned applications. And if that's the case, each new service deployed on the infrastructure could take six months or more to integrate, cancelling out any potential cost savings.

Q: How can carriers mitigate the risks and ensure success for their SDN and NFV deployment?

A: Working with an experienced SDN and NFV partner such as Kapsch CarrierCom can help carriers mitigate these risks and streamline deployment. Firstly, we can help our customers choose SDN controllers that support both legacy products and OpenFlow, reducing integration costs and a VNF orchestrator ensuring that new applications can be added quickly and cost effectively in the future. We can help you to integrate those new solutions within your existing infrastructure and implement an API for your northbound integration. Finally we can support multi-vendor NFV/SDN solutions from the hardware up to the application layer and act as a single point of contact for complex solutions.

Q: Why is Kapsch the ideal SI partner to help carriers deploy SDN and NFV?

A: Kapsch CarrierCom has been integrating technologies and services for telecommunications providers for over a century, giving us a unique understanding of carrier service-delivery needs and challenges.

When it comes to SDN and NFV specifically, we have developed an ecosystem of partners who are experts in the field. We work with these companies to run lab-based trials of emerging solutions and develop new features that directly benefit our carrier customers. As SDN and NFV bring telecommunications providers into the IT business, our data centre and IT skillsets will also be key differentiators for our customers. We have also built our own cloud platform based on open-source and COTS hardware integration, and we can help carriers do the same.

Typically, our competitors deliver SDN and NFV proofs of concept for simple applications. However, Kapsch CarrierCom has the skills and experience to demonstrate complex use cases, such as VoLTE. Our experience makes the difference and helps our customers achieve greater success.

For more information visit:
www.kapschcarrier.com

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