An interview with Phil Kippen, Director Solutions Architects, Telecommunications NFV Group, VMware

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The emergence of NFV is seeing new types of vendors bring new approaches to the technical challenges operators face.

The decoupling of network functions from physical hardware achieved via network functions virtualisation (NFV) is causing a revolution in the telecoms market. Operators recognise virtualisation can help ensure maximised network utilisation, provide them with the flexibility to scale capacity up and down, and reduce both capex and opex. That’s not to say the NFV end game won’t be challenging to achieve, just that the effort will be matched by increased business agility and cost savings.

However, to get to the promised benefits of virtualisation, a substantial period of network evolution is necessary. This will take several years as traditional network equipment runs the course of its lifespan and fully depreciates; as operators start to introduce NFV and learn how it can work for them; and as operator teams transform their process for the virtualised world.

It’s not just operators going through a transformation. Their suppliers are equally challenged as the market moves away from selling function-specific, carrier-grade hardware to selling commodity IT hardware managed by virtualisation software. This is giving new market entrants an opportunity to bring their systems to the telecoms market.

VMware, although a significant supplier to operators in the IT sector, has not traditionally been thought of as a telecom network technology provider. Today, however, the company offers a production-proven NFV platform with systems already deployed at several operators.

“Most people don’t realise VMware has been delivering service provider solutions for NFV for some time, pushing out our platform to more than 45 operators through OEM partners,” says Phil Kippen, the director of solutions architects and field engineering at VMware. “Our platform supports production mobility services for 60-80 million subscribers today. We’ve got multiple routes to market, either directly or through partners, however this is different to the traditional, enterprise IT business of VMware.”

That difference is well understood by Kippen who has taken a measured approach to bringing telecoms offerings to market. “The strategy was to move into telecoms quietly with three or four bridgehead customers who we could work with and identify the solutions required to address their business and technology challenges,” he explains. “We know VMware can build great products, but we also know operators are highly critical of product cost and value, and of perceived ‘enterprise’ products being sold as carrier-grade. Their business is their network and therefore they look at networking products with a very business centric view.”

SUCCESSFUL DEPLOYMENT

To ensure the offering addresses those requirements, VMware first worked closely with its customers to understand their needs and to identify opportunities for innovation. The next step has been to ensure deployments are successful. “The execution part is critical and working with those first customers has really given us the ability to execute effectively,” adds Kippen.

While many of the traditional network equipment providers have focused on selling the entire architecture with offerings composed of NFV Infrastructure (NFVI), an orchestration platform, a virtual network function manager (VNFM) and other components embedded and integrated with their solution, VMware has decided to bring an NFV platform to market with clear demarcations. The VMware platform corresponds to the NFVI and Virtual Infrastructure Manager (VIM), as defined by the European Telecommunications Standards Institute (ETSI), and additional cloud Fault, Capacity, Accounting, Performance and Security (FCAPS) capabilities. Specifically, VMware have decoupled the need for a vendor-specific orchestration solution to run the platform.

“Virtualisation is a break point that means a new approach can be taken,” says Kippen. “For operators there is tremendous value in being able to integrate whatever technology they buy, but with NFV in particular there are a lot of tools and subsystems out there being deployed. Operators want to build a best in breed platform, mixing and matching products from different vendors so we chose to decouple the platform from NFV orchestration.”

“We made the platform modular so we could put any NFV orchestration provider’s system on top of it,” he adds. “This alleviates operators’ concerns about vendor lock-in and lowers the barrier to entry because you don’t need an orchestrator...
to participate in trialling in IP Multimedia Subsystem (IMS) or virtualised evolved packet core (vEPC). Coming with this type of architecture we have addressed the opportunity risk for operators by looking at the return on investment and working out how to change it so operators could consume, trial and learn without having to invest in everything before the business case exists.”

And VMware’s customers vary significantly in their scale and approach to NFV deployment. Kippen cites the work done with one of the world’s largest operators across several field trials and live services. “We’re supporting over 14 different virtual network functions (VNFs) on the platform across more than nine regions so far,” says Kippen. “Our customer is trying to change the way it’s doing things and the platforms used by its regional operating companies, and we’re constantly working with them to innovate further.”

**UNIFIED ARCHITECTURE**

Another customer’s goal has been to bring together a unified architecture of IT and operational services. “These are fundamentally different things,” adds Kippen. “IT is a platform-as-a-service proposition while operations is an infrastructure-as-a-service offerings. On the operator side you need functions you don’t need in an enterprise IT situation.”

Kippen gives three specific examples of the operators that VMware is working with to illustrate the ways in which VMware customers are advancing the development of NFV and VMware’s technologies.

“We announced Vodafone as our first big customer,” he says. “Vodafone is creating a telco-grade architecture and involving many VNFs. Working with Vodafone has helped us understand how NFV can be applied to large scale deployments from both an architectural and organizational perspective.”

Commenting on the relationship in a VMware press release, representatives from Vodafone said, “Vodafone chose VMware’s virtualization infrastructure for our initial Telco Cloud services, and we have successfully been in production with several services. VMware was the solution for NFV that is ready for production across the different workloads we care about. As a result, we have been able to accelerate our time to market for new capabilities.”

Another foundation customer for VMware is Ooredoo. Kippen said “We consider Ooredoo an innovation partner with whom we work closely and who is helping us drive new innovative enhancements to our products and technology.” He sees Ooredoo as having an appetite for virtualisation-related innovation, such as new ways of leveraging dev/ops concepts to speed up the development and delivery of new services to the market. “Ooredoo is a very interesting customer because it went from 0-150mph in downtown traffic right away,” says Kippen. “Ooredoo is a leading operator in terms of how it looks at innovation, especially around VoLTE, and it is always coming up with new ideas for things we can add.”

For Kippen, VMware has got a great deal from the Ooredoo collaboration. “Operators don’t really understand building scalable clouds to deliver operator services,” he says. “To a large extent the whole industry is learning as we go because nobody has the master blueprint for doing that.”

“Reliability and availability were key factors in our decision to work with VMware,” commented representatives from Ooredoo in an announcement with VMware. “The production-proven VMware technology and our previous experience with the high levels of technical support offered by VMware professional services gave us the confidence to move to a unified cloud platform. The speed at which we have been able to trial our unified cloud and on board the VoLTE service functions into our IT network has exceeded our expectations. We did a joint R&D project that took only two months to complete, and we finalised the development of our vIMS product that can be deployed in a production, commodity infrastructure, automatically in only 3.5 hours.”

The third operator, that Kippen says he cannot name for confidentiality reasons, has another perspective on how NFV can be leveraged. “I see this operator coming from the angle of operation’s processes and requirements. Focusing from the perspective of developing a unified operations approach to the deployment and management of NFV” he says.

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Phil Kippen, director of solutions architects and field engineering, VMware

“Through all these scenarios our world class operations management platform delivers a strong value proposition and market differentiator,” he adds. “We’ve leveraged one of our core competencies: developing cloud-scale operations and management platforms. We’re continually adding operator-centric capabilities to closely align with the business outcomes operators are looking to achieve. To deliver a single unified converged cloud operations platform for Telco Service Providers.”

Looking ahead, VMware plans to create further telecom-related products and solutions to meet the transformational needs of their customers. “We plan to leverage the mature and capability rich foundation we have with vCloud NFV to build a best in class service delivery platform that’s future-proof and application centric,” he says.

“This will be a significant thing for operators. There isn’t a service delivery platform in the industry today that’s built to transcend future service and architecture evolution cycles and increasing scale and performance requirements. That’s our goal and we’re working hard to get there.”


2 Ooredoo Kuwait Teams With VMware on Unified Cloud Supporting Both Network Functions Virtualization and Traditional IT Applications. July 7, 2015