

A portrait of Fran Heeran, a middle-aged man with a balding head, wearing a dark blue suit jacket over a light blue button-down shirt. He is looking directly at the camera with a neutral expression. The background is a blurred office setting with some text visible, including 'Netcracker' and 'SDN/NFV'.

VIRTUALISATION

Exclusive interview with Fran Heeran, the vice president and general manager of SDN/NFV at Netcracker, on how the virtualisation challenge is now moving beyond proofs of concepts and starting to address telco cloud initiatives



Virtualisation maturity sees focus move from cost savings to revenue generation and cloud service agility

Fran Heeran is vice president and general manager of SDN/NFV at Netcracker. Here he tells George Malim that, while virtualisation has taken longer than expected to materialise into reality, the contributing technologies of network functions virtualisation (NFV) and software-defined networks (SDN) are in deployment. The challenge now becomes moving beyond virtualisation to cloud but, Heeran says, those that prepare their organisations and their technology for that move will differentiate themselves in the market and gain commercial advantages

VanillaPlus: How would you describe NFV development for communications service providers (CSPs) at this point in time?

Fran Heeran: I think it's maturing but maturing cautiously. I've been in the virtualisation market for more than five years now and it's fair to say that it's taking a little longer than expected. But I believe we're now at the turning point when the industry goes from virtualisation in siloes to true cloud. CSPs realise they need a better operational approach to fully embrace the benefits.

Having a business case for making this transition is still a critical issue, but it is much better understood now thanks to the proofs of concepts that have been done. A business case for NFV can be about reducing costs, increasing revenue or both, but a hybrid approach will be the norm. Transformation is typically happening by capping existing systems and growing capacity with new virtualised systems. In hybrid environments, physical network functions are left in place and new virtual network functions are built. Both need to be managed in a way that provides service-wide views across both physical and virtual elements.

New revenue streams are being built around monetising network services. We see internal network functions being virtualised to reduce costs and improve operations while network services such as virtual customer premise equipment (vCPE) and software-defined wide-area networks (SD-WAN) can be monetised directly, specifically to the enterprise market.

VP: In your view, what are the main drivers as to why CSPs are looking to deploy NFV?

FH: I see four main drivers: reducing costs, optimising how existing resources are used, consolidating operations and opening up new revenue streams.

Cost reduction is a primary driver but it doesn't necessarily apply to everyone. For smaller CSPs, NFV can produce immense, obvious benefits because systems can be smaller. For larger CSPs, however, virtualisation won't necessarily reduce their footprint because they'll still need a lot of equipment. For these companies, NFV will help with demand planning and provide a far more flexible service and network design. You used to see demand planning in two-year – or even longer – intervals, but NFV lets you view demand in much shorter time spans and grow rapidly as demand increases. It also provides a far more flexible platform for quickly introducing and evolving services.

VP: Networks are becoming more fragmented and complex as more connected devices are coming online and more data is consumed. What is the impact of this on service providers deploying SDN/NFV?

FH: I think it plays more to SDN than NFV. Our CSP customers will go to a range of different vendors. The bigger the CSP, the more fragmented they will be.

On the network side, growth is being pushed by ►

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increases in traffic, so it's very much a multivendor, multidomain situation with different fibre, middleware, radio and other equipment. This creates additional complexity and very significant management and orchestration problems.

We're seeing our customers recognise the need to consolidate vendors across multiple dimensions and be able to compute paths that span multivendor, multidomain issues. Fragmentation is a growing problem in SDN, but that issue doesn't have too much of an impact in NFV, which has been dealing with different infrastructure for a number of years.

VP: Why is it that so few SDN/NFV proofs of concept are going all the way to commercialisation?

FH: We've seen that trend, but we're also starting to see a change. Proofs of concept were used, perhaps excessively, as tools for learning. Service providers needed to address the question of whether virtualisation was viable and they used proofs of concept to study the benefits and potential changes that new technologies would have on operations and the organisation overall.

We have probably gone through four phases in the journey of adopting virtualisation. First, there was the siloed introduction of virtual services. You can't reap all the benefits of virtualisation in siloes. Once this is recognised, you can move on. Second, I think confidence was and still is an issue. CSPs need to know they can trust the technology and it will actually work. ▶



Fran Heeran: CSPs need to know they can trust the technology, it will actually work and it will deliver on the business promises.

Cost reduction is a primary driver but it doesn't necessarily apply to everyone. For smaller CSPs, NFV can produce immense, obvious benefits because systems can be smaller



One thing to keep in mind is that virtualisation is a misnomer because, on its own, there's little benefit. What we're really talking about is the cloud and the ability to deploy and orchestrate functions flexibly and with a level of automation not seen before

The third phase is the 'cap and grow' situation in which service providers implement new infrastructure but only in support of a specific service, creating a fragmented and hybrid architecture.

The fourth phase deals with organisational challenges. Traditionally there was a single view of the entire stack but now it is split into at least two: Infrastructure is often managed by one organisation while services and apps are managed by another. This means that organisational changes must also happen in order to successfully adopt virtualisation.

VP: Are you seeing signs that the SDN/NFV market is starting to mature?

FH: Yes, there's no question about that. When the concepts first emerged, I thought the pickup would be relatively quick, but I think economic pressures and sensitivity to disruption resulted in a relatively cautious approach by many.

One thing to keep in mind is that virtualisation is a misnomer because, on its own, there's little benefit. What we're really talking about is the cloud and the ability to deploy and orchestrate functions flexibly and with a level of automation not seen before. I believe we are now entering the era of general-purpose cloud architecture as a new phase, built on the growing confidence in both the technology and its benefits.

VP: Are service providers ready to run hybrid operations to support SDN/NFV?

FH: I think they realise they need to. The cap and grow model can work for a lot of functions, and some, like vCPE, can be virtualised from scratch. But service providers also recognise that they have to apply it elsewhere.

This recognition is being driven from the top down and from what was the traditional OSS perspective, which takes a very different form in the cloud-enabled world. Vendors like Netcracker that are used to running and managing disparate environments are coming at this from the right direction and showing that the best way to manage these environments is from the top down vs. the bottom-up approach adopted by others.

VP: How is Netcracker addressing that need? Can

you give us a few things service providers must do to take full advantage of SDN/NFV?

FH: First of all, I'd advise that you need to be able to operate your hybrid networks at scale. Then, you must have an end-to-end view of your environments in order to break down siloes. The testing phase is over; SDN/NFV is entering the mainstream.

I would also say that you must provide a consistent environment in which your vendors can deliver their functions and services. We increasingly hear the requirement for DevOps as CSPs want to plug into the software factory of their vendors. Our customers are changing their environments to let the end-to-end software development process flow into their service launch processes.

When it comes to network planning and design, you can use NFV to take a nearer term view because, with it, you have the agility to plan ahead. In order to enable this agility, however, the base infrastructure needs to be right. The traditional planning and deployment process absolutely needs to change.

Next we come to commercialisation. While the market is weighing the cost-saving opportunities, there hasn't been much talk around building new revenue streams with value-added services, e.g. taking core network functions and creating additional, monetised offerings for customers. A whole new way to do rapid service iteration exists and includes offerings such as security, enhanced firewalls and cloud-based network services. That commercialisation is gathering pace. I believe there is a window of opportunity here and virtualisation provides a key foundation for differentiation.

I cannot emphasize enough the need to reconsider organisational processes. You need to look at your culture and strategy as you move to SDN and NFV and consider how managing and operating processes and services will be different from what you're used to. The recognition that you're going to operate in a world that is more horizontal than vertical requires a different way of thinking. Service providers that have adopted new processes are the ones that have experienced the greatest success. To those considering adopting SDN and NFV: Do not overlook the organisation change requirements. 