

Does NFV have a place in the enterprise?

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Many people associate NFV exclusively with service providers. That's understandable because the organizations that are most closely associated with the definition and development of NFV, such as the European Telecommunications Standards Institute (ETSI) and the TM Forum, focus almost exclusively on service providers. The service provider orientation of these organizations shows up in all of their documents. For example, according to ETSI¹, NFV is applicable to all data plane packet processing and control plane functions in both fixed and mobile networks. This broad definition includes routers, broadband network gateways, radio network controllers, IPSec/SSL virtual private network gateways, session border controllers, content delivery networks, load balancers, firewalls and intrusion detection systems.

I don't know of any enterprise that currently has, or that ever will, virtualize all of the functionality that ETSI is focused on because a lot of that functionality just isn't applicable to an enterprise network. However, the majority of enterprises have virtualized at least some functionality. This includes switches, routers, WAN Optimization Controllers, Application Delivery Controllers, firewalls and intrusion detection/protection systems.

In addition to stating that NFV is applicable to a very broad range of functionality, some of the key characteristics of the ETSI vision for NFV include²:

- Achieving high performance virtualized network appliances which are portable between different hardware vendors and across different hypervisors.
- Achieving co-existence with hardware based network platforms.
- Managing and orchestrating many virtual network appliances while ensuring security from attack and misconfiguration.
- Implementing automation to enable the scalability of the solutions.
- Ensuring the appropriate level of resilience to hardware and software failures.

I have to admit that I don't know any enterprise IT organization who can honestly say that their virtualized infrastructure exhibits all of the characteristics listed above. However, I also don't know of any service provider who can make that claim.

One conclusion I draw about the applicability of NFV is that similar to service providers, enterprise IT organizations have been, and will continue to implement virtualized network functionality where it makes sense. Another conclusion I draw is that while most of the work on the characteristics of the ETSI vision of NFV is being done today with a service provider focus that focus will soon broaden to include the enterprise. I draw that conclusion because while in

¹ https://portal.etsi.org/NFV/NFV_White_Paper.pdf

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most cases they won't need the same scale as is needed by service providers, as enterprise IT organizations continue to increase their use of virtualization, they will need all of the characteristics listed above.

More important than what I think is what do enterprise IT organizations think about this topic. *The 2015 Guide to SDN and NFV*³ contains the results of a survey in which over 200 survey respondents, most of whom work in enterprise IT organizations, were asked what they thought about the applicability of NFV. Only 5% of the respondents indicated that NFV is applicable only in a service provider environment. Eighty-two percent of the respondents indicated that NFV is either applicably equally in a service provider and enterprise environment or that it is applicable primarily in a service provider environment but that it does provide value in an enterprise environment.

The discussion of whether or not NFV is applicable in the enterprise reminds me of the discussion several years ago about private cloud computing. Early in the development of cloud computing many industry pundits insisted that the phrase *cloud computing* only applied to service obtained from a third party such as Salesforce and that the phrase *private cloud computing* was at best an oxymoron. In today's environment virtually everyone recognizes the validity of private cloud computing and I believe that in the not too distant future, NFV will be widely recognized as being equally applicable to both service providers and enterprises.

³ <http://www.ashtonmetzler.com/>