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A Lean New Year with NFV

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It's 2017 now, and it's NFV's time.

Now, I heard a fair amount of chatter over the course of 2016 about NFV failing to meet expectations in terms of cost savings and overall uptake. But I tend to subscribe to the Gartner Hype Cycle philosophy: a technology trigger is followed by a groundswell of inflated expectations. After the disillusionment sets in and the crestfallen speculators slump away, the real work begins, bringing about a sustainable "plateau of productivity".

And it's clear to me that NFV is making its way toward that plateau.

Rollouts abound

AT&T announced a few years ago that its goal was to have 75% of its network virtualized by 2020. As of last May, at least, they were on track and were targeting 30% virtualization by the end of 2016. To help bring this substantial goal about, the communications giant has put in a significant amount of work on ECOMP (Enhanced Control, Orchestration, Management, and Policy) a platform designed to ensure that virtualization proceeds in a way that is vendor neutral and scalable.

Orange became the first external CSP to give ECOMP a whirl last fall, followed quickly by Bell Canada. "We believe software-defined networks will advance the future of both wireless and wireline connectivity by adapting to customer needs quickly, and enabling a seamless user experience," said Petri Lyytikainen, Bell's Vice President of Network Strategy, Services, and Management in a statement.

And these external tests were just the start of increased openness around ECOMP. At the time that Orange's ECOMP testing was announced, Alain Maloberti, Senior Vice President Orange Labs Network at Orange said, "We jointly believe that a platform like ECOMP needs a strong and dynamic open source community to drive industry adoption, and we will work with AT&T to create a community to develop a reference software platform for automated network orchestration and management."

Sure enough, Amdocs and the Linux Foundation announced a few days ago an effort to accelerate

the adoption of open source ECOMP standards. “These software-driven networks will allow carriers to be much quicker with new service introduction and provide an improved connectivity and service experience to their customers," said Gary Miles, chief marketing officer at Amdocs, in a statement.

AT&T and its openECOMP collaborators are by no means alone in their NFV efforts. ETSI has put together guidance on NFV proofs of concept to help shepherd the conversation along. The list of other carriers who have announced NFV implementation plans includes Telefonica, Verizon, Softbank, DOCOMO, China Mobile, Telecom Italia, and Telia.

In December, Vodafone and Nokia trialed a cloud-based RAN architecture using the Nokia AirScale Cloud RAN platform running on the AirFrame NFV infrastructure and splitting baseband processing functionality between real-time and non-real-time functions.

And LG U+ just a few days ago announced the rollout of Korea’s first ever carrier-grade virtual routing deployment to support its 5G network, developed by Juniper. "I believe this will enable us to not only drastically improve our routing performance, but provide greater stability and a more diverse range of services for our customers,” said Jae-ho Choi, general manager of the Transport Platform Development team at LG U+ in a statement. “As a leader of the 5G era, LG U+ plans to expand the adoption of NFV equipment in close, continued cooperation alongside Juniper Networks."

A report by Technology Business Research released last month states that most Tier 1 telecom providers they surveyed anticipate their organizations will adopt NFV and SDN technologies within two years, with providers in the Americas showing the highest percentage of adoption within 2016 and 100% of surveyed APAC providers looking to adopt within the next two years, if they haven’t already.

Motivation? Weight Loss

As we enter a new year, I think lots of us have decided it’s a good time to shed a few pounds. I’ve certainly dusted off the old gym membership and have been eating lots of kale and sweet potatoes. And that’s at the heart of the virtualization push: the desire to run leaner with increased agility and less dependence on expensive hardware. And running lean in this context almost always means cost savings.

There’s been a fair amount of virtual ink spilled over the realities of cost reductions through virtualization, but I think it’s hard to deny that there is at least the *capacity* for lower costs through virtualization. An HPE white paper titled “The Reality of Cost Reduction” illustrates that even a small NFV deployment can reduce costs by about 18%. A larger deployment can reduce costs more like 24%. Even if software costs are higher, savings on hardware, installation, configuration, and power more than offset the additional software spend. One unnamed company mentioned in the paper estimates that it will save $66.4 million by virtualizing most of the functions of customer premise equipment and set top boxes.

But, of course, challenges remain.

Standards

One has to do with coalescing on standards and frameworks for virtualization. We already discussed ECOMP and mentioned the Linux Foundation’s activity with that project. The Linux Foundation is simultaneously running OPEN-O, which seeks to develop standards-based orchestration to help operators make the most of NFV and SDN. VMWare just signed on to OPEN-O, as have a number of others. The member list includes several heavy hitters in the Chinese market—China Mobile, China Telecom, HKT, Huawei, ZTE—which may suggest a differing geographic concentration in the virtualization standards push.

But OPEN-O and ECOMP aren’t even the only initiatives at play. ETSI and IEEE have also been working on standards for NFV/SDN, as has TM Forum. Now, this isn’t the first time that an

emerging technology had an environment of competing standards, but it is something to note as virtualization efforts continue.

MANO

And the standardization efforts underscore one of the chief concerns about virtualization, the challenge of orchestrating and managing heavily virtualized networks. Management and orchestration—better known as MANO—is the key area of ICE technology growth in the NFV space.

Companies playing in the NFV MANO space include NetCracker (noted as the sole leader in the space by a Current Analysis report), Cisco, HPE, Nokia (buoyed by the Alcatel and Nakina Systems acquisitions), Ericsson, Huawei, Oracle, Amdocs, ZTE, Gigaspaces, Juniper, and others.

MANO, as an umbrella, includes the NFV orchestrator (NFVO), virtualized network function managers (VNFM) and a virtualized infrastructure manager (VIM). The various solutions in this realm vary somewhat in how comprehensive they are, but all provide powerful tools to fold NFV into a carrier's broader network landscape.

Looking ahead

NFV is in its early days yet, and there's plenty of growth opportunity on the horizon, even after carrier virtualization is largely implemented. Jeff Reed at Cisco lists enterprise NFV as one of the top trends to watch for in 2017. So we'll see if the virtualization trend will spill from CSPs into various other industries as the year wears on.