ONUG Spring 2015: Preparing for Open Networking

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ONUG Spring 2015 was held in NY with near 500 attendees, up over 20% over 2014 and having grown with each event from ~200 attendees at ONUG Spring 2013. Attendees are 80% users, with a large representation from financial institutions such as Citigroup, Bank of America, JPMorgan Chase, Fidelity Investments, and Cowen Group. Other attendees were mainly vendors, including HP, NEC, Riverbed, F5, Big Switch, Brocade, Silver Peak, VeloCloud, CloudGenix, Talari, Viptela, Cisco, and Glue Networks.

CREATING A SUSTAINABLE ECOSYSTEM

ONUG's mission according to Nick Lippis, Co-Founder and Vice Chairman of ONUG, is to create a sustainable ecosystem for open networking comprising key constituents: users (service providers and enterprise), university researchers, and vendors, with the direction set by the user community. Contributing members are asked to provide engineering and research resources in support of ONUG working groups, and today there are a total of 135 working group participants. The focus for the working groups is the development of user-selected use cases and test cases for vendor solution certification.

A key ONUG message for 2015 is that it is time to operationalize leveraging open source methods to drive innovation and community driven de facto standards rather than waiting for committee-driven standards bodies. A shift is also needed to change from the original white box driver of capex and opex reduction to one focused on business value creation, but this requires new community-supported infrastructure and bringing "IT" thinking to networking. According to ONUG's research, 80% of a network engineer's time is spent on manual configuration of equipment, and 1 engineer can manage ~200 devices, compared with 1 IT person managing 1,000 servers in a typical data center and 1 IT person managing 20,000 servers in a hyper-scale data center.

DRIVING PROGRESS WITH USE CASES

At ONUG Spring 2014, 9 open networking use cases were identified, and IT business leaders at ONUG selected the top 3 most likely to be included in an RFI/RFQ in the next 12 months:

1. Software-defined wide area network (SD WAN): provides a virtual WAN consisting of multiple link types (MPLS, Internet, cellular, etc.) with automated load balancing of application traffic across the links

2. Virtual networks/overlays: provides a virtual network overlay for data center networks, enabling automated network provisioning on application deployment, multi-tenancy, and automated network reconfiguration on virtual machine movement

3. Network service virtualization: provides automated deployment of virtualized layer 4-7 apps (firewall, ADC, etc.) with service chaining

The remaining 6 use cases include network state collection, correlation, and analytics; centralized application rules management; automated dynamic network segmentation/authentication; traffic monitoring/visibility; common tools for network storage and compute; and shared policy management framework.

ALL VENDORS PASSED USE CASE VERIFICATION TESTS!

There has been progress since ONUG Spring 2014, with working groups for the top 3 use cases having written white papers identifying requirements, developed test case scenarios and success criteria, and conducted verification testing of vendor solutions under the watchful eye of Ixia. No surprise, all vendors that participated passed the verification tests with flying colors. Of course, the merits of each solution will need to be evaluated by individual IT teams based upon their specific needs.

In my opinion, the real achievement is that market participants (users, vendors, and researchers), could come together forming an eco-system that will continue to drive innovation for these important use cases. Also, early products are available that can be used for lab trials, with outcomes used to mature these products that will push forward the market for open networking.

SD WAN AN ONUG USE CASE TO WATCH

The business driver behind the need to rethink the enterprise WAN is the shift to off-premises cloud services. The advantages of SD WAN include the ability to make greater use of broadband links, reduce complexity through automation, and lower costs. Enterprise use of off-premises cloud services has become increasingly sophisticated, evolving to be able to move applications in minutes rather than days between on-premises DCs and the cloud service provider's DC. With this shift, the demands on the WAN have become more dynamic, leading to a desire to supplement static MPLS connectivity for the WAN with lower cost and agile broadband connections such as Internet while maintaining service levels.

SD WAN provides a virtual WAN between corporate branch offices and the head office or direct to the Internet, consisting of multiple link types (MPLS, Internet, cellular, etc.) with automated load balancing of application traffic across the links, and includes a centralized management and control plane that can be on-premises at the enterprise or delivered as an off-premises SaaS cloud service. SD WAN with its centralized control plane software provides the analytics-driven automation needed to make a hybrid WAN consisting of different link types carrying a changing application traffic mix practical.

ONUG Fall 2014 identified SD WAN at as a top use case, starting a transformation in the WAN optimization market from providing optimization of application packet streams on single links to a new WAN architecture with SD WAN. Citrix recently jumped into the SD WAN market, following Viptela, CloudGenix, VeloCloud, Silver Peak, FatPipe, Talari, Aryaka, Exinda, and Cisco in collaboration with Glue Networks.

There is new opportunity for vendors and CSPs as the market transitions, and I would not be surprised to see more players, such as Riverbed, jump in. These companies and their VCs are looking to leverage the move to hybrid cloud architectures by enterprises and CSPs, requiring buyers to reevaluate their WAN optimization purchasing decisions.

BOTTOM LINE

Open networking that leverages open source software and open hardware designs and allows anyone to innovate is set to change networking, just as open source changed the server and OS marketplace. In Infonetics' May 2015 *Data Center and Enterprise SDN Hardware and Software Biannual Worldwide and Regional Market Share, Size and Forecasts* report, SDN in-use bare metal (white box bare metal + branded bare metal) switch ports represent the majority of SDN in-use physical Ethernet switch ports shipped out to CY19, and in CY19 SDN in-use bare metal switch ports reach 10% of all Ethernet switch ports shipped, moving from the hands of early adopters to main stream buyers.

Organizations such as ONUG that foster the communities that will contribute innovation to open networking have a significant role to play in shaping the transformation underway in networking. I believe that ONUG following a use case driven approach has an opportunity to have a long-term role with impact, just as the ETSI is doing with network function virtualization (NFV) in service provider networks.

As always, I welcome your feedback.

Cliff Grossner, Ph.D.
Research Director, Data Center, Cloud, and SDN
+1 408.583.3385
cliff@infonetics.com
Twitter: cliffgrossner