ONUG Spring 2016 CIO Takeaways

ONUG Mission:
The ONUG Mission is to enable greater choice and options for IT business leaders by advocating for open interoperable hardware and software-defined infrastructure solutions that span across the entire IT stack, all in an effort to create greater business value.

Main themes:

- **Open IT Frameworks**, consumption models, collaboration with NYU on professional certification for **full stack engineer**.
- ONUG journey is currently at Open IT Frameworks and IT skill sets and moving to driving open industry initiatives and PoCs. Open frameworks give us options and choice but need different skill sets.
- ONUG Working Groups drive enterprise needs into the industry with **3 frameworks and 4 initiatives** (Open SDWAN Exchange, Open Interoperable Control Plane, Open Traffic Management Format, Open Network State Format). ONUG is not a standards organization, but is aggregating user requirements into a common voice to drive open solutions. To meet this end, ONUG plans to hold three summer workshops at NYU to fully develop the initiatives.

The ONUG Open IT Framework Initiatives are targeted at driving an industry narrative toward integrated technology solutions that are open, extensible, and customizable to meet specific end-user needs and that work at a reasonable/manageable cost. Ultimately, ONUG aims to increase options and eliminate vendor lock-in and innovation freeze by putting its $200B buying block of influence behind its working groups and initiatives output.

Key Takeaways:

- **Demand for software-defined solutions** is resonating and spreading quickly throughout the ONUG Community. This is evidenced in data from a recent ONUG survey in which over 60% of the community indicated they have already started the SD-WAN adoption process and over 50% of respondents said that they have begun virtual network overlays deployments. The requirements presented by IT business leaders also stand as evidence: the need for software-defined security services, network automation, device telemetry to improve and better traffic monitoring and visibility.
- **Open and free are not synonymous**. As the industry shifts from proprietary hardware to software-defined infrastructure solutions, finance teams should expect to see costs shift to software licensing, but expense will not disappear. Of major concern to the ONUG community is the lack of a sustainable software-defined infrastructure ecosystem thanks to changes in IT consumption models coupled with old hardware based vendor business models and customer procurement.
- **US Government** aligned with enterprise needs – require open control protocols, automation of operations, end-to-end management, provisioning, and configuration of services. Vision of a Software Defined Enterprise that uses

software to reconfigure the enterprise based on changing needs and moves from accrediting systems to accrediting processes. Support of that vision needs vendors to adhere to open standards and open control protocols.

- The question around **infrastructure as code** is not if we should do it but how. Culture and business process change is hard, especially for large enterprises that have accumulated a lot of technical debt and need strong controls around change management. Every enterprise has a different take on the problem – from building greenfield environments to targeting low hanging fruit and automating repeatable processes to focusing on big strategic initiatives to taking time to build trust and buy in. The common theme, however, is the effort to bring together infrastructure developers and operators to complement their skills.
- A new trend of increased market pressure on enterprise vendors has appeared. Public cloud is threatening the sustainability of the **open software-defined infrastructure market.** A large concentration of market share is going to few players, with vendors left making money on mid-market while everything is moving upmarket. Bifurcation with open source is successful in large enterprises and providers, but not reaching large parts of the market. Open source brings innovation but there is not a clear business model; the business model itself needs innovation. Rise of the developer is the tail wagging the dog driving revolution and change.
- Where previous **great debates** have been a close call, in this one private cloud won decisively over public cloud as a platform for supporting production enterprise applications.
- The fact that most tools don't work together today and operators have to process lots of data, aggregate it, and normalize it, drives the need for an **open software-managed infrastructure framework**. There is a well-defined need to push the industry towards common data formats and standards for middleware and data acquisition. Operators need to be able to enrich data and have a single of view network state. Introduction of new technology takes a long time because of integration into the ecosystem. Data models free users from proprietary integrations, they do not reduce vendor differentiation. Common data models can be used for normalization in front of tools so brownfield infrastructure can progress.
- **Software-Defined Security Services** require the ability to program policy into the security infrastructure. Infrastructure must possess common language to define declaratives and policies to be consumed up and down the stack and must be able to instantiate internet facing workloads and provide protection equivalent to the physically isolated networks. Policies should be bound to workloads, written in one place and deployed to many to be enforced. Operators must be able to measure ability of workloads to ensure CIA (confidentiality, integrity, availability) of the services they deliver.
- **Storage is an Issue** – Storage continued to present itself as an issue. The fact that storage is growing faster than networking bandwidth is an indicator of trouble on the horizon. Storage is becoming a network bandwidth and performance challenge and IT executives truly need to get out in front of the problem sooner rather than

later if they want to head off the impending problems that are amplifying each month.

- Networks becoming the **bottleneck** for compute and storage inside the DC, between DCs, and from flexibility and orchestration viewpoint. Speed of change is exceeding refresh cycles. One option to alleviate the problem is to take compute to the storage. Operators need to be better at automation and aggregation, place workloads better, and learn to optimize. Inter-DC is where data gravity becomes really important. Orchestration needs to take into consideration the topology as one cannot shove a big pipe into a small pipe. Instead of being free for all, it needs open standardized interfaces and loosely coupled frameworks.
- **SD-WAN** deployments are on the rise thanks to significant savings, in some cases providing as much as 90% savings meaning they are now only paying 10% of their prior MPLS cost due to switching to broadband internet service. Dual connections are a best practice offering reboots and planned maintenance without interruption or sites going offline. Reported traffic analysis showed that 60% of branch office traffic is internet, therefor, shifting this much traffic off MPLS took internet traffic off the most expensive circuits. There were reports of significant bandwidth quality differences between business and consumer broadband services.

Fireside chats:

- **PaaS:** PaaS is an inevitability; allow developers a chance to explore business alternatives sooner rather than later.
- **SD-WAN:** Learn from the lessons of others and explore the information, best practices, and requirements already provided by the ONUG IT Community and working group white papers. Still, things will evolve and change, never stop learning and gathering information from other customers, even during and after the deployment process. They will be at ONUG.
- **Containers & OpenStack**: There were a few OpenStack advocates while others are bypassing OpenStack for containers. Others are not sold on the maturity or stability of OpenStack and containers and are increasing their investment in VMware as single throat to choke. These same IT executives are more comfortable with this approach, calling their virtualized infrastructure "cloudified" and maintaining data control/protection. A DevOps model is fundamental to moving to either OpenStack or containers.

Call to Action:

1) Contribute to ONUG Working Groups: As an organization it is important and in our best interest to participate in the various ONUG Working Groups and Open IT Framework Initiative Workshops taking place this summer to contribute and drive the "open" industry narrative. Identify one to two executives to participate and contribute to these industry conversations. Sign up for to participate at http://opennetworkingusergroup.com/participate-in-an-onug-use-case-working-group/

2) Attend ONUG Fall 2016 in NYC: ONUG Fall in NYC, October 24-25 will be the place where the ONUG Open IT Framework Initiatives will start to take root. Identify which IT teams should attend so your organization is sure to be involved and ensure that they are part of the community at ONUG Fall.

3) Demand That Cloud Providers and Security Vendors Engage at ONUG: ONUG's Open Hybrid Cloud and Software-Defined Security Services working groups were developed exclusively by IT business leaders. Community members should encourage your cloud providers and security vendors to engage at ONUG to drive this framework agenda forward. Reach out to your cloud providers and request they participate at ONUG Fall.

4) Add Hybrid Cloud & Software-Defined Security Requirements to RFP/RFQs: Download the Open Hybrid Cloud and Software-Defined Security frameworks white papers on the ONUG site at https://opennetworkingusergroup.com/spring-2016/white-papers/ and consider adding their requirements to your RFP/RFQs.