

DEBUNKING THE MYTHS OF SOFTWARE DEFINED NETWORKING

In our whitepaper entitled, *Software Defined Networking – The Next IT Paradigm of Promise*, we discussed SDN and its potential impactful benefits to enterprises at large. Technically, SDN decouples the control plane and data planes and centralizes network intelligence so that applications are abstracted from the network infrastructure. The control plane is made up of a single application or orchestrator, directing control of the multiple devices within the data plane such as switches, routers, firewalls, etc. This transformation of the network architecture brings about a number of quintessential benefits such as automation, scalability, centralized control and flexibility.

While some large enterprise organizations such as Google and Ebay have embraced SDN and are currently reaping the benefits of it, the technological concept is still very new to most IT managers today. This unfamiliarity allows for misconceptions of the technology to take hold, possibly dissuading organizations from pursuing this promising technology. Given our experience implementing the market's top SDN solutions for our clients, we set out to constructively address some of the more prevalent myths and misconceptions of SDN.

MYTH: SDN IS REALLY JUST ABOUT REDUCING CAPITAL EXPENDITURES

Reality: This same myth was associated with server virtualization a decade ago. While virtualization certainly reduced capitalization expenditures for servers by increasing the utilization of hardware resources, the greater benefits of automation, redundancy and granular manageability were obtained after implementation. The same is true of SDN. While there is a significant potential

cost savings for organizations in capitalizing their network infrastructures, the real cost savings lies in the transition to an automated data plane device management system as so much networking functionality is managed manually today. Although all organizations would realize a resulting reduction in operating expenses, the reduction in operating services for large organizations could outpace any reduction in capital expenditures. While the compounding cost savings is what initially attracts managers to the concept of SDN, the degree of automation, agility and centralized control that will be enjoyed by both users and IT administrators alike may be justification enough for its implementation.



Benefits of SDN include automation, scalability, centralized control and flexibility.

MYTH: SDN IS ONLY MEANINGFUL FOR LARGE DATA DRIVEN DATACENTERS

Reality: While it's true that it is primarily large enterprise organizations such as Facebook, Yahoo and Ebay that have been the primary benefactors of SDN, large datacenters are usually the early adopters of new technologies as was the case with virtualization. SDN simplifies the entire



administrative process from configuration to management and monitoring for networks of all sizes. This reduces the burden levied upon IT departments which can be especially beneficial to smaller organizations whose IT staffs are overburdened due to staffing limitations.

MYTH: SDN REQUIRES MY IT STAFF TO HAVE PROGRAMMING SKILLS

Reality: According to Dominic Wilde, vice president of global product line management at HP Networking, “The idea that all of the sudden you have to become programmers overnight is false.”¹ Large enterprise based organizations such as Google have the luxury of in-house programmers that can customize code for SDN (this is primarily on the northbound interface which connects the control plane with the higher level administrative application or orchestrator). This luxury isn’t restricted to SDN, but is allocated for IT tasks across the board out of necessity as these organizations usually face unique challenges due to their size and intense traffic demands. The fact is that there are a number of turnkey, vendor-supported solutions available today that can be implemented without having to write a single line of code. These platforms commonly provide an intuitive web interface for users to utilize SDN capabilities.

MYTH: SDN WILL BE AN IT JOB KILLER

Reality: Automation has been a perceived threat to all industries ever since the Industrial Revolution. The IT industry has automated so many configuration tasks that were performed manually fifteen years ago. Today we can image fleets of computing devices simultaneously and enterprise level antivirus applications run without almost no human intervention at all. It is true that SDN-enabled environments will require less hands-on effort to keep their myriad of network devices up and running, however, the need for network administrators will not diminish. If history is an indicator, it is most probable that new job opportunities will be created as IT managers will actually have time to

focus on strategic value added projects rather than constant day-to-day hands-on maintenance tasks.

MYTH: AN SDN IMPLEMENTATION WILL REQUIRE REPLACING MY NETWORK ALL AT ONCE

Reality: Yes, in order to experience the complete benefit of SDN for your entire network, including branch offices, all of your network hardware must be SDN compliant. But when has anyone done a complete upgrade at one time? No organization virtualized their entire server fleet at one time. Instead, they chose a transition strategy of either virtualizing vital servers that would garner the biggest impact or they chose lesser important servers to ease their way into the virtual process. Organizations will transition to SDN in the same manner. This can be accomplished by simply choosing SDN devices for your networking components as part of your existing hardware refresh plan or deploying SDN whenever new equipment is added for new projects or infrastructure growth. SDN devices can co-exist with traditional devices during the transition process, giving your staff the needed time to grow accustomed to this new technology and how to maximize its value.

MYTH: SDN IS ONLY A THEORETICAL CONCEPT AND ISN'T REALITY

Reality: SDN is reality and is in production within some of the biggest enterprise organizations in the world. Some of the largest network hardware and software manufacturers in the world are releasing and shipping SDN ready devices, controllers and application software every day and collectively have tens of millions of SDN ports in production. Three of the leading SDN solutions are VMware NSX, Aruba/HPE OpenFlow and Cisco ACI, and we are implementing them with clients today. SDN is already redefining the network as we know it and all organizations that aren’t a part of this revolution should begin planning their SDN strategy sooner than later because their competitors most certainly are.



SUMMARY

There are many myths and misconceptions about SDN as is the case with any new technology. SDN is more than just software, virtualization or network trafficking. SDN is delivering dynamic networks to organizations across the globe today, networks that can adjust rapidly to change in real time. It is this dynamic nature and ability that also delivers a competitive advantage to any organization today.



TALK TO WEI TODAY

Our technical experts want to answer your toughest questions. We can assess your current IT environment and help you develop a software defined networking strategy to meet the demands of your business.

Sources

1. SDN: Programming Skills Needed - Or Not?, NetworkComputing.com, Marcia Savage, 4/02/2014.

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