Do you want SDN for network automation or automated networks?

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#SDN There is a difference... and it significantly impacts your strategy.

When SDN made its mainstream debut at Interop in 2012, there was quite a bit of excitement tempered by the reality apparent to some folks that technical limitations would impact its applicability above layer 2-3 and, perhaps even at layers 2-3 depending on the network.

But even then with all the hubbub over OpenFlow and commoditization of "the network" there were some of us who saw benefits in what SDN was trying to do around network automation. The general theory, of course, was that networks - bound by the tight coupling between control and data planes - were impeding the ability of networks to scale efficiently. Which is absolutely true.

But while an OpenFlow-style SDN focuses on laying the foundation for an automated network - one that can, based on pre-defined and well understood rules, reroute traffic to meet application demands - the other more operationally focused style seeks to enable network automation. The former focuses on **speeds and feeds of packets**, the latter on **speeds and feeds of process**.

The impact on the operational side of the network from the complexity inherent in a device by device configuration model means service velocity is not up to snuff to meet the demand for applications that would be created by the next generation of technologies. Basically, provisioning services in a traditional network model is slow, prone to error and not at all focused on the application.

Network automation, through the use of open, standards-based APIs and other programmability features, enables automated provisioning of network services. A network automation goal for SDN addresses operational factors that cause network downtime, increase costs and generally suck up the days (and sometimes nights) of highly skilled engineers.

WHY ARE YOU CONSIDERING SDN?

66%	REDUCE OPERATING EXPENSES
44%	IMPROVE TIME TO MARKET
38%	REDUCE CAPITAL EXPENSES
11%	CxO MANDATE
4%	MY BONUS DEPENDS ON IT

SOURCE: F5 State of App Delivery 2014

Also complicating the matter is the reality that an OpenFlow-style SDN simply cannot scale to handle stateful network services. Those are stateful firewalls, application load balancing, web application firewalls, remote access, identity, web performance optimization, and more. These are the services that reside in the data path by necessity because they must have complete visibility into the data to perform their given functions.

While an architectural model can be realized that addresses both stateless and stateful services by relying on service chaining, the complexity created by doing so may be just as significant as the complexity that was being addressed in the first place.

So the question is, what do you really want out of SDN? What's the goal and how are you going to measure success?

The answer should give you a clearer idea on which SDN strategy you should be considering.