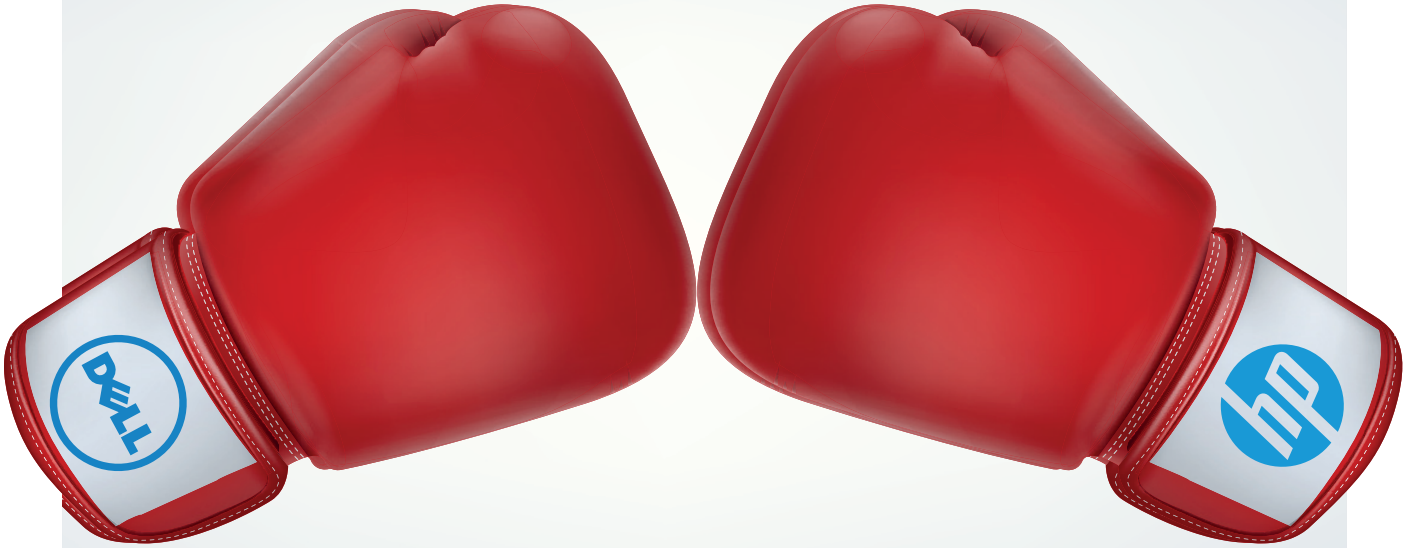

SOFTLY DEFINING THE NETWORK - DELL V HP

Who is the best at software-defined networks in the data center? **Bill Boyle** saw Dell and HP go head-to-head on stage to debate the merits of their differing SDNs, at the NetEvents conference. Was it a knock-out or a mud wrestle? Read on.

HP and Dell are both delivering new products, services and even new research divisions in the march towards bringing the concept of software-defined concretely into the data center. Software defined may be a buzzword but it is real, it is developing rapidly and no one can seriously delay putting it into their strategy bucket for too long.

Arpit Joshipura, vice president, product marketing, Dell described it this way: "The old mainframe world was made up of a combination of silicon, software, ASICs and hardware applications, all vertically integrated. Now we have a disaggregated model - there are multiple chipsets from Intel, and AMD, and operating systems including Linux and Windows. That's the one we believe the enterprise has to deal with."

So that is why Dell recently announced its open networking strategy which is following the server disaggregation model, where you can take any merchant silicon, slap in a thin layer of operating system and the right applications, including SDN and other apps (maybe even apps from HP's newly-delivered SDN App Store) on top and Bob's your SDN. Dell really believes that the way innovation can move forward on SDN is by following a disaggregated model. It has a lot of faith in its customers' IT teams. HP doesn't share that view.

Dell claims to have 'proven' disaggregation on PCs and servers in the past and outlines the three paths to SDN.

1) You can either strip yourself out of it and take a very proprietary approach using REST-API-type solutions, the way some of the web-scale companies do
2) You can follow an overlaid hypervisor network virtualisation model using VMware, Microsoft or NSX like some of the large enterprises do, or
3) You can follow OpenFlow, the network protocol for SDN communications, and leave your hardware effectively unchanged.

According to Dell, the main challenge that still remains is organization and that comes down to whether you're marketing to the server admins or network admins.

Jacob Rapp, global leader of marketing, HP, said: "We see our customers moving on from a technology debate to implementing and deploying solutions in the data center today with software-defined technologies. We went live on October 1st with a set of ecosystem partners that are really changing the game and working within the enterprise.

HP is taking a different route towards

Dell's Joshipura takes on HP's Rapp

SDN than Dell. HP's journey began in 2007, when it put its initial stake in the ground around OpenFlow and controllers. As the technology has matured, HP has continued to evolve as well. Now HP is looking at new ways to innovate using these technologies. As Rapp said: "Our customers are looking for ways of re-imagining their security infrastructures and ways of making cloud successful. Not just, 'How do I build a cloud but, how do I use a cloud? How do I make it successful with SDN?'"

The fact that enterprise customers are saying this to HP must give a fillip to the rest of us I suppose. However, it does make one suspicious about the claims for the wider take up of SDN.

Mobility is also a big question that many of the SDN early-adopter evangelists have not yet sufficiently addressed. As Rapp said: "How will the end user experience change? How will the new wireless standard 802.11ac provide us with challenges and opportunities? SDN opens up a whole new way of deploying software within enterprise environments. I think gone are the days where there's one monolithic operating system that integration takes place within. You need an abstraction out of that so that innovation can take place seamlessly and you can get rapid return on that investment. HP's strategy for networking is about agility and value because IT budgets aren't increasing. So how can we do all this with ever decreasing budgets?"

The question is - why would anyone choose Dell's disaggregated approach above the more logical, vertical approach of HP, apart from the price? Obviously you get what you pay for, was the challenge put to Joshipura of Dell.

"Our job as technology innovation companies and leaders is to create a platform that others can build on and not do everything ourselves. There have been do-it-yourself enterprises already - it's fast - if you do everything vertically aligned and do everything all the way from top to bottom, you will get to market fast. But the speed of innovation for other people to come on board and utilise it will not be that slow - therefore disaggregation. Think back twenty years ago when the server side was disaggregated, did we even dream of an application called a load balancer that would run on a server? But companies figured it out.

"So that's the concept. There are applications which we know today can be written and developed and implemented, and then there are new applications that we don't know about yet. There are proprietary applications that a customer has in their environment that they want to migrate. We just need to create a platform that is dependable and software-defined." This sounded slightly Rumsfeldian, but then quite a lot of Dell's new approach needs a little faith.

It's not just how do I build a cloud, but how do I use a cloud? How do I make it successful?
Jacob Rapp,
Global leader of Marketing, HP

This end-to-end model sounds scarily familiar, particularly in the network space. The question was asked: "Is HP becoming the Cisco of SDN?"

Jacob Rapp is quite firm in his view: "HP is in the open camp. And if you look at the controller-based architectures, it's an abstraction layer to what's beneath. So there is a lot of opportunity for interoperability with other platforms, such as when Dell decides to switch its support to some new protocols."

Dell's approach looks as though it is going to save the enterprise a lot of money. Jacob Rapp of HP disagrees. "We've shipped over 30 million ports out to market that are SDN-enabled. The barrier for entry to the enterprise is $10K for a controller at the high end. Compare that with Cisco's barrier for Application Centric Infrastructure (ACI) at $250,000 and it's interoperable at best with their current gear, where ours is fully integrated. At one end of the experience is the hardware-defined data centre, ASICs down to application - a mainframe. But we don't expect networking to be mainframe-led in the next ten years."

Another option for the extremely smart customer is to take Cisco switches or HP servers or Dell storage and add apps from various start-ups. But is this likely?

Joshipura said: "There are customers like that and we have learnt from them, especially the web and the cloud guys who have implemented SDN but they don't call it SDN. They have an expert IT staff, budgets and networking is their business. Between those two extremes enterprises are in the middle. They don't want proprietary and they don't have the staff to do it themselves. So depending on the scale of the IT staff, we pick an approach."

The advantage that HP seems to have over Dell is that it has an app store, though Dell may disagree. Arpit Joshipura: "I can put a hundred people, a thousand people on writing apps. I can find 50 companies to partner with me and build my own ecosystem. The best way to progress is allow for the openness so that people can innovate and create, a complete disaggregated model."

Jacob Rapp: "HP's model is not just a set of APIs. It's the sales model. It's the channel, the distribution, but it's also remote labs where they can actually go in and validate on actual hardware without bearing that cost, so actually bringing that innovation to market. We see our customers taking advantage of those pre-built applications. But as the set of APIs that you mentioned are open and they're growing, we actually see our customers starting to come back to us after they've deployed their first or second app and say, okay, well I actually see a great innovation in this area and our ecosystem allows us to team them up with a set of ecosystem partners that can build software for them or HP through our services."

Rapp again: "If you look at our app store, we have eight apps coming out right now with 30 unique use cases in development that will come shortly after. So I think we are there today with actual solutions being used by real customers."■

Emir Halilovic, research director, telecoms and networking EMEA, IDC

IS THE ELEPHANT IN THE ROOM VIRTUAL OR JUST TIRED?

Telco networks face an onslaught from the cloud and virtualization. In response they are trying to transform themselves. Some of the most promising ideas got thrashed out in a debate at the recent NetEvents conference in Portugal. **Bill Boyle** was there to report.

EMIR HALILOVIC
RESEARCH DIRECTOR, TELECOMS AND NETWORKING EMEA, IDC

"The main generator of need for telco transformation is what we at IDC call 'the emergence of the third platform in the Information Technology (IT) ecosystem'. The elements of the third platform, which IDC thinks will impact everything that's happening in IT in the coming years, are a combination of the following:

- Mobility, which includes BYOD, the various trends which are transforming IT in the enterprise that sees the workforce becoming much more mobile, much more flexible and agile
- Social business, mostly dealing with the aspects of the business that relate to social interactions, rather than the traditional transactional kind of business;
- Cloud, which is transforming both the enterprise infrastructure as well as the telco infrastructure;
- Big data, using analytics in real time on unstructured customer data, to spot unknown trends.

"The telcos are faced with the question of how to catch up with the Over The Top (OTT) players that have been the first to take advantage of the new third platform elements of the new IT ecosystem. And the requirements of these third platform trends are what's driving the telco network transformation."

Why do telcos need to transform? The traditional telecom services market in the developed economies is shrinking. In this case I mean traditional connectivity services. So in that situation what you can do is to drive the cost out of your network.

But to really take advantage of this new trend and to drive the business forward, telcos need to adapt and adopt a different host of platforms that are going to improve their services – rather than purely survive in the market. So on one side the telcos need to drive the costs out of their businesses and rationalise their infrastructure. And then they also have to develop new platforms.

Ironically the technology which could transform the telcos is within reach – Software Defined Networking (SDN) comes from mostly the OTT and the enterprise ecosystem. And Network Functions Virtualization (NFV) is a response to the need for telcos to become more like OTT providers and fight them with their own weapons.

They know they need to build on standardised hardware but also with platforms that are more flexible and enable them to take full advantage of the fast cycles

of software development and innovation that exist in the software ecosystem.

The panel was asked to respond to the following question – "What does Telco transformation mean for your business and what solutions is your company working on to help them on the transformation journey?"

(L to R) Halilovich, Oakley, Purdy and Homer

CHRIS PURDY,
CHIEF TECHNOLOGY OFFICER,
CENX

"When it comes to telco transformation only the top players offer their services at speed, on demand and in real time. If I, as CENX *[a service orchestration software firm]*, want additional compute I can do it and integrate it into my systems fast. Now by contrast, when I go to my telco and I'm looking for even simple connectivity, I have 90 days to wait - even for things that just require minor changes. Every service provider understands that they've actually got to be much more dynamic in their service activation, service times and customer service. And then they have to go up into the additional businesses in order to compete with the OTT players."

Everyone talks about SDN and NFV and how they are going to solve all of the telcos' major problems. But Purdy said: "I think there's one fundamental missing component, which is service orchestration. If you ask yourself why is it that it takes often a minimum two weeks, sometimes even a month to increase the bandwidth of an existing service when really all it does is change a policy on a network element, it's because of the operational support systems, how they're structured and how they're built in service providers."

It has to be noted that CENX provides service orchestration services in SDN.

Nicolas Fischbach, Director of Strategy, Architecture and Innovation, Colt said: "Colt started pretty early, so there are lots of lessons learnt. We burnt our fingers. We failed sometimes. Our experience is that you have to be prepared to rip and replace. Technology is moving so fast that you have actually to convince your finance people that depreciation needs to be looked at completely differently.

"Another lesson learnt is that there's only so much innovation and so much change a company, even of 5,500 people, can absorb each year. So trying to drive more from an architecture point of view and step change in technology doesn't work because the rest of the company cannot absorb it fast enough. And in the end, even though it's very early technology, technology is easy compared to changing people and operating processes.

NIGEL OAKLEY,
DIRECTOR OF THE CLOUD CENTER OF EXCELLENCE,
JUNIPER NETWORKS

"The message that I hear all the time is the challenge of service agility and service velocity, the ability to be able to deliver new services more quickly and to be more experimental with new services. And a lot of that comes from the OTTs. So a lot of the large tier ones are challenged in terms of being able to get new services out quickly.

"I work with one of the major European telcos. It takes them roughly two years from an idea through to getting the service launched into all their points of presence around their network. By that time they've almost got to the point where they give up on the service before they get it deployed. That stifles innovation and ultimately is the major threat and challenge for them.

"This is where SDN comes in. For me, SDN is automation in the end. It's about automating the complexity of the underlying network, exposing APIs which ultimately allow you to get to the vision where the marketing team can think of a new service, push a button and launch it in an experimental way or launch it in a much quicker way.

"The challenge that a lot of these operators are facing today is that they have large multi-vendor networks. Those take a very, very long time to transform. I'd like to think a lot of them are complete Juniper end to end, but that would probably not be realistic. So we have to be able to produce solutions which will scale over lots of different vendor solutions and ultimately encompass the OSS stack as well.

"So for Juniper today, we've launched a range of capabilities to be able to deliver SDN in typically an overlay networking environment. And I think what's really interesting at the moment, you can see industry splitting into trying to preserve the environment we already have and investing in changing the equipment they have in the network, or companies such as Juniper which are investing in overlay technologies, software that will scale over the whole of the core and the edge network and also make the delivery of the services in that environment. Providing a multi-vendor network and multi-vendor capability is really crucial in this transformation towards SDN."

TOM HOMER,
HEAD OF EMEA AND THE AMERICAS,
TELSTRA GLOBAL

"We like the idea of being able to launch products more quickly. We like the idea of flexibility. We like the idea of consolidation. And I think the challenge that we face is we don't see that many use cases for customers, for enterprise customers. And I guess like every other telco, the challenge is the return on investment case when we have such significant investments. However, the transformation takes a long time." ■