Nominee: Bridgeworks

Nomination title: Supporting Humans and Networks: AI and Machine Learning With PORTrockIT for WAN Data Acceleration

Supporting Humans and Networks: AI and Machine Learning With PORTrockIT for WAN Data Acceleration

There is an overarching fear that Artificial Intelligence (AI) and Machine Learning are going to take over people's jobs, but there is a counter argument that their main purpose is to support humans as enabling technologies. In their proponents' viewpoint, they aren't disabling anyone. However, organisations that don't train up their staff now to learn new skills may find themselves left behind. This includes IT, which is of increasingly strategic importance to most organisations today. Both technologies are becoming a fundamental part of our lives, and with the advent of semi-autonomous and autonomous vehicles they will become more so – both in consumer and enterprise applications.

SD-WANs are very good at the branch office level, but as technology moves forward data volumes are going increase and the time to intelligence will need to shrink. Whilst SD-WANs are great for low bandwidth applications, with high bandwidth applications a different approach is needed to move ever larger amounts of data.

That different approach is encompassed by PORTrockIT, which uses machine learning and artificial intelligence to move big data volumes much faster than traditional SD-WANs and WAN Optimisation can achieve. As a solution it also removes the potential for human error, mitigates the effects of data and network latency while reducing packet loss.

Human error

Humans make mistakes – that's part of our nature, and by using AI and machine learning the risks associated with human intervention can be removed, which could include unexpected network downtime due to the poor manual configuring of a wide-area network (WAN). Thankfully, the concepts of AI and machine learning in IT networking are not science fiction. Rather than making us weaker, they can make us stronger and enable us to increase our performance. They are no Armageddon; they are an enabler that can permit organisations to do more with fewer resources.

The science fiction of autonomous networking, which is spoken about by David Hughes, Founder and CEO of Silver Peak Systems, in his sponsored article for Network World, is already here today

in solutions such as PORTrockIT and WANrockIT. They can correctly mitigate the effects of latency without your organisation having to unnecessarily invest money on ever increasingly larger bandwidths, WAN Optimisation, SD-WAN and WAN optimisation solutions. With AI and machine learning much can be achieved with what you've already got, and an ever larger pipe won't defeat the laws of physics no matter how much you spend. The problems created by latency will still remain.

Data volumes

AI and machine learning techniques permit us to better manage and to cope with the ever-growing data volumes too. Clint Boulton, Senior Writer at CIO magazine, talks about freight forwarding company JAS Global in his 12th May 2017 article, 'How logistics firm leverages SD-WAN for competitive advantage', and refers to it taking a gamble on an unknown technology.

The firm is using an SD-WAN to run cloud applications, but hopes to use it as the backbone of a predictive analytics strategy to grow its business. The claim is that JAS Global managed to cut millions of dollars from its bandwidth costs. That's good.

He will, as many before him have found out once you start down the big data path, find that the volumes of data start to increase exponentially. The need to gather data from further afield at an increasing rate SD-WANs limitations start to bite. There will also be a need to invest in larger bandwidth capabilities and data acceleration techniques. What's certain is that data acceleration makes big data and predictive analytics increasingly viable. Machine learning can be used to help us humans to understand what story the data is telling us. Latency on the other hand can lead to inaccurate data analysis.

Case study

Atea, an IT infrastructure service provider, had the challenge of meeting back-up Service Level Agreement requirements needed by HNAS - a company that, according to the HNAS website, "offers administrative services in transport, accounting, interim reporting and preparation of financial statements and contact to audit and public authorities. Similarly, we can facilitate complete ERP solutions for small Danish companies based on Microsoft Dynamics C5 for a low, flat monthly rate..."

With the help of Rantek, which is based in Denmark, Atea was able to attain the performance objectives of HNAS for Back-up-as-a-Service (BaaS). The network latency within Denmark was 9 milliseconds with a WAN link of 10Gb/s with 2.5GBs used for the solution. The back-up solution in-ituteis IBM Spectrum Protect using Network Data Management Protocol (NDMP) as the methodology.

The original plan: Onsite cache was proposed to minimise risk because the back-ups and SLA demands weren't protected until they arrived at Atea's datacentre. Rantek proposed using Bridgeworks PORTrockIT, and so a proof of concept was initiated. The initial test was successful with the original network performance standing at 7MB/s accelerating to 140MB/s. So, network performance is now 20 times faster than it has been previously. Machine learning is also used to help to mitigate latency and reduce packet loss to maximise the speed of data throughput.

Many BaaS and DRaaS providers are restricted on how far their clients can be before the effects of latency forces them to build more access points closer to their customers. With WAN Data Acceleration product PORTrockIT , the "reach out" from a single datacentre can be massively enlarged. This means a single BaaS or DRaaS datacentre can cover a greater geographical area reducing the needs for subsidiary access points and therefore lowering their costs whilst retaining LAN like performance.

Go beyond hype

In contrast WAN optimisation won't necessarily increase WAN performance like it should do – so, go beyond the hype. On the other hand, data acceleration solutions can create performance increases. Your datacentres and disaster recovery sites don't need to be situated within the same circles of disruption. Boosted by machine learning they can be placed thousands of miles apart, and as the transmitted data is encrypted it is very secure. The analysis of the network's performance happens in real-time too, eliminating the risks of being reactive as opposed to being proactive.

Managing network performance, protecting your data, mitigating latency and reducing packet loss needn't be the gamble that Boulton writes about. Mark Baker, CIO of JAS Global, felt he had to embrace SD-WANs because his company was already supporting global applications and email with MPLS networks and VPNs. The costs of running an enterprise resource planning (ERP) system over them worried him though. The ERP software required a sub-150 millisecond of latency. "Setting up and provisioning an MPLS system also takes several months", says Boulton. Baker was therefore drawn to SD-WANs from Aryaka.

This is fine, but organisations should also look beyond SD-WAN to a data acceleration solution as it can do more for less. Many of Baker's goals would probably have been achieved more quickly and more simply with one of them to address the latency challenge of having a global company "go from Atlanta to L.A. to London and Paris". He adds: "But when you start talking about going across the pond or [to the northern and [southern] hemispheres there is a huge latency challenge to overcome when you're lacking a traditional MPLS network".

With AI and machine learning, such a challenge is minimised - and that's simply because machines can support humans effectively and sometimes outperform them. With machine learning behind data acceleration, you'll always be a step ahead too.

Why nominee should win

1. Average 10X Data Performance Increase – on technologies such as NetApp, Commvault, Veeam, IBM and VERITAS

2. Secure Data – PORTrockIT does not touch your data or protocols, maintaining all your security protocols

3. Automated AI Technology – patented and Gartner recognised next generation technology that boosts your data performance

Large Data Volumes, Encrypted and Media Files – in your existing environment sent at up to 200X faster

4. Simple Model – no installation costs, no on-going maintenance

5. ATEA shows that PORTrockIT is a proven solution: Rantek proposed using Bridgeworks PORTrockIT, and so a proof of concept was initiated. The initial test was successful with the original network performance standing at 7MB/s accelerating to 140MB/s. So, network performance is now 20 times faster than it has been previously. Machine learning is also used to help to mitigate latency and reduce packet loss to maximise the speed of data throughput.