

Article for the Financial Services Club Newsletter

Why WAN Acceleration Is Vital for Financial Services Transformation

With the increasing use of artificial intelligence (AI) and machine learning (ML) in financial services, FinTech is undergoing somewhat of a transformation. While they might not be in some circles as popular as they were, both play a crucial role in the innovation of the industry. One that's not to be scoffed at, either. For example, AI and ML can enable traders to reduce their risks and pick the right investments - increasing their profitability.

The market for AI and ML is still quite healthy. In 2020, the market for AI and ML was projected to be US\$158 billion in 2020 with a compound growth rate (CAGR) of 18% per annum. By 2030, the market value will have reached a staggering \$528 billion by 2030. Both technologies can improve the processes, increase the gains and reduce the risks of financial institutions, including banks as well as the efficiency and performance of cryptocurrency or FOREX traders.

Regulatory compliance

In banking, one of the key uses of AI and ML is to prevent and detect fraud. There is significant pressure on banks and financial services organisations to achieve and maintain regulatory compliance. AI and ML can be used to spot trends, or unusual activities that could be fraudulent. Conversely, these technologies can be used to ensure they create, sell and deliver the right financial products to their customers.

With predictive analysis, they can improve decision-making, better allocate resources, improve the efficiency of data processing through the automation of processes and so on. With increasing data volumes, it can handle Big Data and find trends that a human analyst might not be able to uncover. Yet, with increasing data volumes, there is a need to ensure that data flow can occur without any impact from latency and packet loss; and that this data is safe.

Obfuscating hackers

Artificial intelligence and machine learning are also being used by miscreants such as hackers. Data should therefore be stored in more than one location, and copies of the most sensitive data should be air-gapped. SD-WANs would normally be the favourite choice for doing this job, and they're a great technology. However, with a WAN Acceleration overlay, their performance can be boosted by mitigating the effects of latency and packet loss.

WAN Acceleration can also help to obfuscate hackers, helping financial institutions to keep their data safe, while achieving data protection compliance. It also uses AI and ML, as well as data parallelisation – showing that the applications of the technology can be very diverse. It can also ensure that any Big Data analysis is timely, in real-time and more accurate than if latency and packet loss were permitted to run riot, slowing down WAN performance.

Investec Private Banking

For example, Investec Private Banking has 10,000 employees and aims to deliver a shared value proposition to clients in South Africa and around the world. The bank offers specialist banking, wealth, investment and asset management services across all geographies. It is achieving its ambitions through continued investment in digital capabilities.

The bank, while based in South Africa, operates in partnership with a major European bank, which means that aspects of its operations are subject to European regulations, such as the General

Data Protection Regulation (GDPR). As a result, the bank must comply with data sovereignty requirements, which stipulate that the data supporting its SecuritEase settlement and clearing system must reside on servers based within the European Union.

WAN performance issues

The bank's WAN averaged around 180ms of latency . Under these conditions, it took 14 to 15 hours to move a dataset between Oracle databases in the two countries, which caused challenges in keeping Recovery and Resolution Planning (RRP) data synchronised. Recovery point objectives (RPOs) and recovery time objectives (RTOs) were not being met, which in turn meant that the bank risked missing critical business commitments, such as its GDPR obligations.

The root cause of the problem was not the Oracle replication itself, but the constraints of the WAN. Adding bandwidth did not help to mitigate latency and packet loss. Furthermore, deploying WAN optimisation tools did not deliver accelerated WAN performance. In fact, less than 20% of the capacity of the WAN links was being utilised during the replication of RRP data.

Accelerating results

Further to a recommendation, the bank engaged with Bridgeworks in a proof of concept (POC). With no acceleration, the total host-to-host traffic transferred between 1st February and 1st April 2018 was 9.3TB. The average rate of transfer was 3-5MB/s, and all of the databases were out of sync.

After WAN Acceleration was applied with the PORTrockIT virtual appliances added to the network, Investec was able to transfer a total of 55TB between 1st February and 1st April 2019. This amounted to a 424% increase in total traffic, compared to the same period of the previous year, with an average rate of transfer 11-15MB/s. With WAN data acceleration in place, the Oracle databases are now continuously in sync, relieving a constant source of concern for the business.

By routing the application's data transfers through PORTrockIT, Investec was able to bring the round-trip times down to 320-350ms. This has meant that application response times for users accessing applications hosted in different hemispheres have been vastly improved. In a broader sense, PORTrockIT also frees the bank to make smarter decisions on the hosting of its digital capabilities. The Investec case study shows how significant improvements in network performance can be achieved. It also shows why WAN Acceleration is vital to Financial Services.

By Graham Jarvis, Freelance Business and Technology Journalist, and David Trossell – CEO and CTO of Bridgeworks.