Spark Starts Roll out of New Faster, ‘Self Healing’ Network Technology

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The new Optical Transport Network will support faster restoration of service and increased capacity for Spark’s 5G roll out

HANOVER, Md. & AUCKLAND, New Zealand--(BUSINESS WIRE)-- Spark has completed the first stage of its next generation Optical Transport Network (OTN 2) that has ‘self healing’ capabilities to automatically restore services after things like natural disasters. It is believed to be the first time these ‘self healing’ capabilities have been deployed in New Zealand. In addition, it will increase data capacity on Spark’s network by up to eight times, and support Spark’s 5G services.

The first piece of the new OTN 2 fibre network was installed between Glenfield and Papakura in Auckland, and is now live and operating at 800 Gigabit per second (Gb/s) (Spark’s previous links operated at 100 or 200 Gb/s). Spark’s OTN is the fibre-based network that connects New Zealand’s cities and towns with high speed data links. The OTN provides the backbone and core connectivity between all the main cities in New Zealand, transporting all customers’ mobile, broadband, landline, and business customer traffic, as well as connecting Spark’s network with other service providers and International cable networks.

Campbell Fraser, Spark’s Technology Tribe Lead said that the roll out of OTN 2 will deliver increased resiliency enabling Spark to respond and restore service much faster after events such as the Kaikoura earthquakes.

“The ‘self-healing’ technology, which we believe is a first for New Zealand, will minimise the impact of network outages. These are caused by cuts in the fibre cable from earthquakes, floods, landslips, construction works or rodents damaging cables. Currently, restoring service is a manual process but the sharp growth in network traffic means manual restoration is becoming unmanageable. The optical restoration ‘self-healing’ technology allows the light signals that carry the data to automatically change their path after a fibre cut, so this is a big step forward. We expect to be able to restore services much more quickly so we can get customers back up and running.”

Fraser said that the other big benefit of OTN 2 is to ensure that the Spark network has enough capacity to meet the ongoing steep growth in data consumption.

“Kiwis love their video streaming, mobile services and online applications, and there is an increasing customer expectation of connectivity anytime, anywhere. Since 2016, we’ve seen a 700 percent growth in data consumption across New Zealand,” Fraser said.

“We know that the roll out of our 5G network will drive data consumption even higher as businesses and consumers across New Zealand start using 5G technology with its greater data capacity and speed. It’s already common for business customers to ask for a 100 Gb/s connection, whereas even five years ago 10 Gb/s connections were standard. The up to eight-fold capacity increase we’ll get with the OTN 2 network is key to meeting this huge demand for data capacity.”

Spark selected Ciena (NYSE: CIEN) to supply the hardware, software and services to design and build Spark’s OTN 2.

“We’ve worked collaboratively with Ciena during the design and implementation phases, and we’ve drawn on their global subject matter experts to ensure we’re designing a world class network to serve our customers into the future,” Fraser said.

“A self-healing and resilient network that can automatically fine tune capacity and dynamically adapt to evolving user demands and unexpected fibre cuts or natural disasters is critical in today’s digital-first environment,” said Rick Seeto, Vice President and General Manager of Asia-Pacific and Japan, Ciena.

“With Ciena’s WaveLogic 5, advanced network automation and intelligent restoration capabilities, Spark can quickly support 5G and IoT services and trailblaze their way into the next chapter of innovation.”

As part of this network build, Spark is deploying a number of Ciena’s solutions including Ciena’s 6500 flexible grid colorless, directionless and contentionless (CDC) photonic line system with advanced control plane capabilities, WaveLogic 5 Extreme coherent optics, and Manage, Control and Plan domain controller with Liquid Spectrum analytics. Combined, these solutions give Spark a more efficient and resilient network that can adapt to customer needs and quickly respond to potential network faults by re-routing traffic as needed based on available network resources.

The OTN 2 roll out is a two-year project, which has started in Auckland, and will expand towards Hamilton, Wellington and Christchurch. Initially the new OTN equipment will be an express overlay to the existing core network, then will eventually replace the existing OTN.

Fraser said that once completed, OTN 2 will also provide significant reductions in the power usage and space required per Gb/s.

For more information about Ciena, follow the company on Twitter @Ciena, LinkedIn, the Ciena Insights blog, or visit www.ciena.com.

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