DELL Technologies

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Power and scalability helps telcos deliver 5G

With 5G dramatically transforming mobile communications, providers are turning to VIAVI Solutions and its TeraVM 5G core emulator to reliably validate next-generation products and scenarios

VIAVI

Telecom

Worldwide

Business needs

Providing virtual test, measurement and assurance solutions for global telecommunications companies and network operators, VIAVI leverages powerful, scalable PowerEdge servers to ensure stability for tens of thousands of base stations and millions of end-user devices with the coming rollout of 5G networks.

Solutions at a glance

- Dell EMC PowerEdge R740XL
- Dell Technologies OEM | Embedded & Edge Solutions

Business results

- Emulates tens of thousands of base stations and millions of end-user devices
- Scales to support up to 1 terabit per second of simulated network traffic
- Exceptionally stable test results using Dell EMC PowerEdge servers

Emulates
MILLIONS
of end-user devices

Scales up to
1 Tbit/s
of simulated network traffic

Exceptional stability using
OEM Embedded & Edge solutions

5G stands for the fifth generation of wireless technology. This emerging high-performance technology will rapidly transform the way businesses and consumers use mobile communications.

"The 5G transformation isn't just about smartphones, tablets or consumer devices," says Amit Malhotra, vice president for programs at VIAVI Solutions. "5G will ultimately enable connections with anything that has a chip in it. That requires a huge scale-up by telcos and network operators to support limitless endpoints."

More compute power and data processing needs to be moved to the edge—closer to where it's used. On one side of the network, providers will deliver low-bandwidth, ultralow-latency service to thousands of endpoints such as smart meters. On the other side, high-bandwidth, high-burst streams will be needed for users attending an event such as the Super Bowl, for example.

"You've got to be able to slice a network to deliver different performance characteristics for different applications," Malhotra explains. "VIAVI TeraVM emulates 5G field conditions in the lab. Dell EMC PowerEdge servers provide the power and scalability to support our test platform."

Creating a real-world test environment

TeraVM is an application emulation and security performance solution that lets network manufacturers and operators effectively stress test their radio access network with tens of thousands of base stations and millions of end-user devices under real-world conditions. VIAVI offers a virtualized solution that can reliably run anywhere—in the lab, data center or the cloud.

"One of the major concerns for network operators is how can they test and measure 5G," explains Owen O'Donnell, marketing manager for TeraVM. "They need to know what will happen if all these end-user devices connect at the same time—will their core network failover?"

He continues, "With 5G, we're talking loads that are tens of thousands of gigabits of traffic. We need the performance and scalability of PowerEdge servers."

Carriers and network operators worldwide rely on TeraVM for a variety of needs. One U.S.-based carrier is working to roll out a fixed, wireless, high-speed 5G network as a replacement for cable services in the home. Another is developing mobile services for smartphones. And an operator in Japan is launching a 100 percent cloud native mobile network—the first in the world.

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>
> **Amit Malhotra,**
> Vice President for Programs
> VIAVI Solutions

"TeraVM is flexible enough to test all these 5G products and scenarios because PowerEdge is one of the most flexible and reliable platforms in the industry," Malhotra remarks. "We're working with a future that's still evolving, and it's essential that new and innovative services are proven before they're rolled out to consumers."

Partnering with the right OEM

To support its virtualized TeraVM test platform, VIAVI has partnered with Dell Technologies Dell Technologies OEM | Embedded & Edge Solutions. Serving more than 40 different industry verticals, OEM | Embedded & Edge Solutions has the best reputation in the industry for solution customization, providing the extraordinary capabilities that customers such as VIAVI are looking for.

VIAVI works closely with OEM | Embedded & Edge Solutions to integrate their custom-designed field programmable gate arrays (FPGA) into PowerEdge R740XL servers.

"Dell EMC PowerEdge servers ensure that once carriers and network operators test their solutions on TeraVM, they know they'll remain stable for years," comments O'Donnell.

Quality and reliability customers need

VIAVI works with all the major network operators and equipment manufacturers to test according to their precise specifications.

"We know what works and what doesn't work, and then we help our customers strive to meet 5G standards," Malhotra notes. "We're very confident that Dell EMC PowerEdge servers will deliver the quality and reliability our customers need to test their products."

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Marketing Manager for TeraVM
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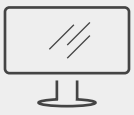

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