Ciena Unveils 5G Innovations to Fuel the Next Wave of Mobile Connectivity

February 19, 2020

Network slicing, converged xHaul transport and dynamic planning capabilities reduce network complexity and increase network adaptability

HANOVER, Md.--(BUSINESS WIRE)-- Ciena (NYSE: CIEN) added several new products and capabilities to its 5G Network Solutions aimed at reducing network complexity and fueling operators' migration from 4G to 5G – from radios to data centers and everything in between. Ciena's unique and open approach uses intelligent automation, next-generation routing platforms and advanced professional services to support the delivery of differentiated 5G services, such as eMBB (enhanced Mobile Broadband), mMTC (massive Machine-Type Communications) and ultra-reliable Low-Latency Communications (urLLC).

In alignment with customer demand, Ciena is focused on openness as a key attribute of its 5G solutions. Its new 5G-optimized routers allow Mobile Network Operators (MNOs) and wholesale network operators to meet the low-latency, high-performance demands of fronthaul, midhaul and backhaul (xHaul) transport with an open network slicing-capable architecture. Additionally, with new 5G software automation features from Ciena's Blue Planet®, including network slicing and dynamic planning, operators can offer, measure and report on different SLAs based on specific customer needs and further simplify network buildouts to support 5G small cell deployments.

Executive Comments:

- "Ciena has been at the forefront of creating some of the industry's most advanced wireline networks and our open 5G Network Solutions build on that heritage, giving operators the ability to choose the right solutions for their needs and to create a more adaptive network. Operators can now move to 5G with minimal risk and the ability to rapidly generate a greater return on their investments."
  -Steve Alexander, Chief Technology Officer, Ciena
- "As 5G deployments kick into high gear, operators are pushing the boundaries of their networks to compete for new customers and stake their claim in the 5G era. Ciena's success in delivering optical networks speaks for itself, but its evolution as a provider of 5G-optimized routing platforms opens up new opportunities for operators that are looking to avoid vendor lock-in. These new programmable systems, in combination with Blue Planet's intelligent software, show promise in delivering the type of lean, automated network 5G requires."
  - Rajesh Ghai, Research Director, Carrier Network Infrastructure, IDC

Key Facts:

- Ciena's 5G Network Solutions are built upon proven professional services and an open, automated and flexible architecture, enabling Ciena to partner with operators anywhere along their 4G to 5G migration journey.
  - Every operator has different starting points in their 4G to 5G evolution. Ciena's team of services experts understands this challenge and applies proven best practices and processes – along with the most effective tools for handling network complexities. Ciena's services team works with operators from initial strategy consultation through to implementation and ongoing maintenance to ensure success along all stages of the 4G to 5G journey.
  - Ciena's new open and programmable 5168, 5166 and 5164 Routers enable soft and hard slicing with Segment Routing and FlexE switching for converged 4G and 5G xHaul over a common wireline infrastructure.
    - **5168 Router**: an xHaul network slicing router enabling Cloud RAN architectures with support for CPRI/eCPRI/RoE/ORAN, Adaptive IP™ and high-density 10/25GbE to 100/200GbE aggregation
    - **5166 Router**: cost-effective network slicing router implementing Ciena's Adaptive IP and optimized for 10/25GbE to 100/200/400GbE aggregation
    - **5164 Router**: cost-effective network slicing router implementing Ciena's Adaptive IP and optimized for 10/25GbE to 100/200GbE aggregation
  - The Blue Planet Intelligent Automation software portfolio has been enhanced for 5G automation, including these new solutions and capabilities:
    - Vendor-agnostic network slicing features, which allow operators to automate end-to-end creation of dynamic, SLA-based virtual networks that are optimized to meet specific needs of users to derive new revenue from 5G networks
    - Dynamic Planning capabilities, powered by federation and advanced software automation, to deliver an accurate, real-time view of an operators' network and service inventory, which simplifies network planning to support small cell deployments, speeding the delivery of 5G

About Ciena

Ciena (NYSE: CIEN) is a networking systems, services and software company. We provide solutions that help our clients create the Adaptive

Network™ in response to the constantly changing demands of their users. By delivering best-in-class networking technology through high-touch consultative relationships, we build the world's most agile networks with automation, openness and scale. For updates on Ciena, follow us on Twitter @Ciena, LinkedIn, the Ciena Insights blog, or visit www.ciena.com.

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