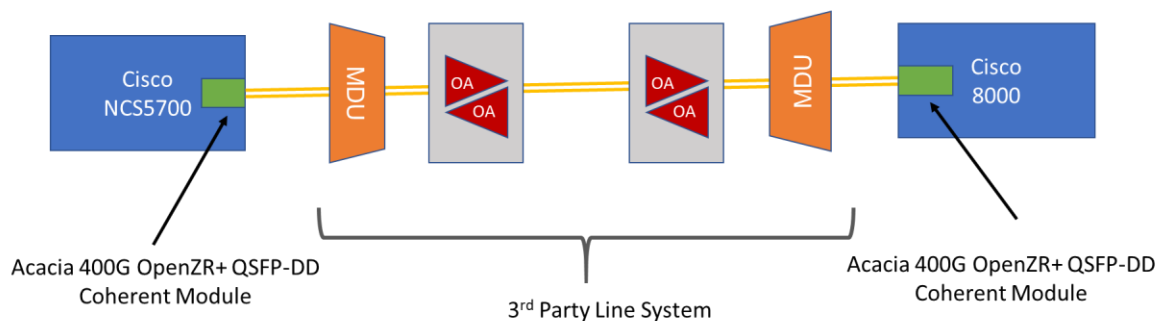**Press Release**

Telia Carrier Embraces Coherent Pluggables using Acacia's OpenZR+ Modules and Cisco Routers

Telia Carrier is the first network operator to demonstrate 400G coherent connections between Cisco's NCS 5700 and Cisco 8000 platforms over a third-party open line system

STOCKHOLM, December 16, 2020 – Telia Carrier announced today that it is preparing to converge their IP and optical networking layers to simplify their networks. Using Acacia's 400G coherent modules that are plugged directly into Cisco routers, this architecture will enable Telia Carrier to address increasing bandwidth demand while significantly reducing both capital and operational expenditures.

Historically, scaling and operating a multi-layer architecture has always been a challenge. Thanks to game-changing innovations that span across silicon, optics, and routing systems, complex layers can finally converge into a simpler and more scalable architecture – Routed Optical Networking.

In preparation for this new solution, Telia Carrier has already deployed open line systems and terminal equipment that can support new 400G pluggable technology. As an early adopter of this architecture, Telia Carrier is one of the first network operators to perform full end-to-end validation of the solution. Leveraging Acacia's 400G QSFP-DD coherent modules with OIF 400ZR and OpenZR+ operating modes, the solution can support data rates from 100G to 400G depending on the desired reach. The modules also support client n x 100GbE multiplexing functionality as well as 400GE transport.

"Conventional architectures and technologies built on decades of accumulated complexity and yesterday's truths fall short in helping us keep up with customer demands for more, consistent

bandwidth and a high-quality experience. Starting in the metro, standardized coherent pluggable modules are the next natural step in evolving cost structures, efficiency and scaling capabilities. This follows our global deployments of open optical line-systems and bandwidth-optimized switch-router silicon already powering thousands of 400GE capable ports in the network," said Staffan Göjeryd, CEO at Telia Carrier

"Pluggable 400G coherent optical transceiver modules are important to enable service providers such as Telia Carrier to migrate to a more converged network architecture capable of enabling OpEx and CapEx savings, as well as a pay as you grow business model," said Fenghai Liu, Vice President of Product Line Management at Acacia Communications. "Coherent pluggables, like Acacia's 400G coherent module, have been designed to provide a scalable and cost-effective way to meet increasing bandwidth demands."

"Adding support for pluggable 400G optics directly into mass-scale routing platforms allows operators to converge historically complex infrastructure into a simple, single layered architecture. The benefits - easier to maintain, faster to adapt, and cheaper to operate – are so compelling that we expect communication service providers to aggressively transition existing metro and long-haul networks to a Routed Optical Networking solution. This architecture can cost-effectively handle the projected traffic growth for the coming years while preparing to support the next transition to 800G or beyond," said Kevin Wollenweber, VP/GM Mass-scale Infrastructure Routing and Automation at Cisco.

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About Telia Carrier
Telia Carrier solves global connectivity challenges for multinational enterprises whose businesses rely on digital infrastructure. On top of the world's #1 ranked IP backbone and a unique ecosystem of cloud and network service providers, we provide an award-winning customer experience to customers in 120 countries worldwide. Our global Internet services connect more than 700 cloud, security and content providers with low latency. For further resilience, our private Cloud Connect service connects directly to Amazon Web Services, Microsoft Azure, Google Cloud, IBM Cloud and Oracle cloud across North America, Europe, and Asia. Discover more at teliacarrier.com, and follow us on LinkedIn and Twitter.

About Acacia Communications
Acacia Communications develops, manufactures and sells high-speed coherent optical interconnect products that are designed to transform communications networks through improvements in performance, capacity and cost. By implementing optical interconnect technology in a silicon-based platform, a process Acacia Communications refers to as the "siliconization of optical interconnect," Acacia Communications is able to offer products at higher speeds and density with lower power consumption, that meet the needs of cloud and service

providers and can be easily integrated in a cost-effective manner with existing network equipment. For more information about Acacia, visit www.acacia-inc.com or follow on Twitter at @AcaciaComms**.**

About Cisco
Cisco (NASDAQ: CSCO) is the worldwide leader in technology that powers the Internet. Cisco inspires new possibilities by reimagining your applications, securing your data, transforming your infrastructure, and empowering your teams for a global and inclusive future. Discover more on The Network and follow us on Twitter at @Cisco.

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