NEWS RELEASE

Cisco Redesigns Internet Infrastructure to Support a More Inclusive Future

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SAN JOSE, Calif., March 30, 2021 /PRNewswire/ -- **Cisco Live --**

News Summary

- Cisco continues to lead on creating the 'Internet for the Future' for the 5G era across silicon, routing and optical, network automation and more.
- Cisco working with top service providers and web scale companies to redesign their networks, making the internet and all it has to offer accessible to more people than ever before.
- Cisco is changing the economics of the internet with a new Routed Optical Networking solution featuring Acacia pluggable optics and Cisco's full mass-scale routing portfolio, with estimated savings of up to 46% of total cost.

Cisco today announced its strategy to help communication service providers and web scale companies around the world connect, secure and automate their networks to deliver a stronger, more accessible internet to everyone, everywhere, regardless of geographic limitations.

Living in the pandemic, people, businesses, governments and communities have come to rely on the power of connections to keep the world running. The internet went from being a must-have, to a critical lifeline for most everyone to connect to information, and each other. Video conferencing skyrocketed as people were forced to work from home and into online learning. Together with remote healthcare services, streaming video, gaming and more, internet traffic spiked by 25-45 percent in many regions across the globe[1].

The networks powered through, but Cisco predicts this is only a glimpse of the traffic volume we will see in the 5G era, with 29.3B connected devices expected in 2023[2]. Internet architecture needs continuous care and attention to support the world's ambitions. With over three billion people still without access to the internet, a digital divide continues to develop where many are without access to vital information, learning and opportunities. The need to transform how we build networks is critical.

"Cisco has spent the last five years researching and investing in this portfolio of innovation, focusing on how to help our customers deliver the best internet, while being able to grow revenue, reduce their costs and mitigate risk," said Jonathan Davidson, Senior Vice President and General Manager, Mass-Scale Infrastructure Group, Cisco. "By helping our customers make the right decisions for their networks today, we are setting the world up for success, to connect more people, places and things than ever before. We can all look back on this point in time in the next ten years and celebrate how we rose to the challenge and did the right thing to take care of the internet."

Changing the Economics of the Internet
Building networks to grow and extend the internet to more areas has been a challenging process for network operators. Answering the call, Cisco designed its Converged SDN Transport, an innovative blueprint designed to help service providers converge multiple networks into a common, cost efficient and secure infrastructure with enormous scale.

Today, Cisco is helping to further simplify the constructs of the internet with its Routed Optical Networking solution aimed at collapsing IP and Optical networks. With Acacia's pluggable coherent optics, advancements in Segment Routing and Ethernet VPN, and new Cisco Crosswork Cloud capabilities, operators can build lean, efficient, easy-to-operate networks capable of supporting the levels of traffic expected with 5G.

New Innovation Powering the Internet for the Future
Cisco has been working with leading communication service providers and web scale companies including Airtel, Altibox, Eolo, Facebook, Google Cloud, Rakuten Mobile, SFR, Swisscom, Telenor, Telia Carrier, Telstra, Websprix and more to design the building blocks for the 'Internet for the Future', delivering greater efficiency, agility and savings gains than ever before.

- **Cisco Silicon One**
  With the introduction of its networking silicon architecture, Silicon One™ in 2019, Cisco offers its customers a unified, programmable silicon architecture designed to improve operational efficiencies and deliver the speed and capacity for the 5G era. In just 15 months Cisco has expanded the Cisco Silicon One platform from a routing focused solution to one which also addresses the web scale switching market, offering ten networking chips (devices) ranging from 3.2 Tbps to 25.6 Tbps, making it the highest performance programmable routing and switching silicon on the market.

- **Subscriber Management**
  Cisco is introducing its new Cisco Cloud Native Broadband Network Gateway for telco customers (wireline), joining the Cisco family of existing cloud native broadband routers for cable and mobile. It paves the way for convergence to a unified subscriber management solution, bringing further simplification and efficiency while enabling service providers to offer truly access-agnostic services independent from where people use these services.

- **Advancing the Access, Aggregation, Edge, and Core Networks for Greater Performance**
  - Cisco's latest 8000 family of routers now features Cisco Silicon One Q200 series chips offering up to 14.4 Tbps total capacity, enabling 32 and 64 x 100G web scale switches
  - Introducing powerful new line cards and chassis for the Cisco Aggregated Service Router (ASR) 9000 series and Network Convergence System (NCS) 500 and 5500 series routers providing increased capacity with capital and operational cost savings
  - New Crosswork Network Controller (CNC) features help customers operate the Cisco Routed Optical Networking solution

- **Cisco Crosswork Cloud**
  Crosswork Cloud delivers a new application called Traffic Analysis, offering a comprehensive view across network peering points. With this insight, Traffic Analysis provides actionable recommendations to optimize traffic at the network edge to help prevent impact on the customer experience.

- **Cisco Business Critical Services**
  Cisco Business Critical Services helps customers looking to transform to Cisco's Routed Optical Networking and Cloud Native Broadband solutions ensure a smooth transition. With consulting on network architecture design and implementation planning, Business Critical Services helps accelerate migration and mitigate risk. New options within Specialized Expertise Scrum Services and Expert-as-a-Service give customers access to powerful analytics and even greater flexibility to choose skill sets to fuel their transitions.

Industry Response:
"Routed Optical Networking (RON) is an architectural shift that drives massive, unprecedented simplification of networks with substantial economic impact. In our modeling, we found an average savings of 46% in total cost of ownership, with 57% savings in recurring operational costs. RON allows service providers to eliminate layers to simplify the network and have a more substantial impact of delivering the more cost-effective packets and makes the network more reliable." **— Ray Mota, CEO and Principal Analyst at ACG Research.**

"Today traffic growth is non-stop, which makes the Cisco cloud-native BNG solution a real game-changer. With BNGs distributed closer to end-users, we can achieve exponential scale in our network without added operational complexity. It also supports more distributed CDN locations which means we can deliver a greater end-user experience and reduce core network traffic demand, resulting in better economics. And finally, the move to a cloud-native model, with separate user and control planes, will eventually support the delivery of access-agnostic services using a converged wireline and 5G subscriber management solution." **— Per-Øyvind Ødegård, Chief Architect Infrastructure, Altibox**

"Historically, building and operating a multi-layer architecture has always been a challenge. Thanks to game-changing innovations that span across silicon, routing systems and standardized 400G coherent pluggable optics, complex layers can finally converge into a simpler and more scalable architecture with evolving cost structures and efficiencies. Telia Carrier has spearheaded this transition leveraging building blocks such as the Cisco 8000 and NCS 5700, resulting in a network that is easier to maintain, faster to adapt and cheaper to operate. We expect communication service providers to aggressively transition existing metro and long-haul networks in the coming year." **— Mattias Fridström, Chief Evangelist, Telia Carrier.**

Supporting Resources:

- Jonathan Davidson blog: Reimagining the Internet for the Future
- Video: Websprix Shrinks Digital Divide in Ethiopia with Cisco Routed Optical Networking
- Cisco 5G Network Architecture
- The Cisco Converged SDN Transport architecture
- Cisco Routed Optical Networking
- Cisco Cloud Native Broadband Network Gateway
- Cisco Crosswork Network Automation
- Blog: Latest Update on Cisco and Google Cloud: Cisco SD-WAN Cloud Hub with Google Cloud Delivers Enterprise Connectivity Over Global Cloud Network

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 enterprise, 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.

[1] Data pulled from peering traffic points around the globe.

[2] Cisco Annual Internet Report 2020

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