Internet2 Selects CenturyLink's Advanced Optical Fiber and Professional Services to Maximize Research and Education Network Performance

Internet2 Network upgrade combines powerful technology and infrastructure to drive research and academic innovation in the United States forward

WASHINGTON, D.C., December 17, 2019 – Internet2®, a nonprofit, advanced technology community founded by the nation's leading higher education institutions, has selected CenturyLink's new low-loss fiber network to transform its research and education network. The improved network performance that results will benefit researchers within the community as they strive to further our understanding of our world and the universe.

CenturyLink's new low-loss optical fiber is an ITU-T G.652.D compliant single-mode optical fiber that is optimized for high bit rate coherent systems using advanced modulation schemes supporting 100G and above. This acquisition will upgrade Internet2's Network with new fiber optimized to support the demands of its new all-coherent open-line system. CenturyLink has also been selected to provide the professional services to migrate Internet2 to its new platform, which will be equipped with a flex-grid open-line system being provided by Ciena. The new contractual fiber-use agreements will extend through at least 2042.

"We believe the combination of the most advanced fiber from CenturyLink with the latest coherent transmission technologies from Ciena provides enormous opportunities to enable research and academic pursuits in the United States," said Rob Vietzke, vice president of network services for Internet2. "Whether it is tracking the origins of Neutrinos in the Antarctic, comparing gene sequences or studying the climate, this new optical network, with its ability to span very long distances at very high bandwidths and improved efficiency, is essential to providing the best research infrastructure for data-intensive science on the globe."

The new Internet2 Network infrastructure will utilize CenturyLink's low-loss optical fiber on the majority of the Internet2 footprint, offering the lowest loss of any terrestrial-grade optical fiber and extending optical reach at very high data rates. Using this single-mode fiber in both long-haul and metro environments eliminates certain impairment challenges and improves launch characteristics for modern coherent systems while also boosting optical signal-to-noise ratio.

"One of America's leading research and education organizations placed its trust in CenturyLink to upgrade its network to a high-speed, high-capacity, fiber-optic network that will support today's leading-edge research projects," said Sonia Ramsey, CenturyLink's vice president for the state

and local government and education market. “Internet2’s selection of CenturyLink recognizes the company’s long-standing relationship with the research and education community and our commitment to meet the community’s ever-increasing advanced technology needs.”

CenturyLink recently overpulled a large portion of its national fiber footprint and also realigned amplifier spacing to create more efficient resources for optimized optical networks. Internet2 will migrate its segments to the new fiber on all available segments and continue to work with CenturyLink to migrate the remaining segments as their build-out continues.

With the low-loss optical fiber and the upgraded optronics kit, Internet2 will have the ability to reach anywhere on its domestic footprint with an unregenerated wavelength of up to 200G. Many high-use spans on Internet2’s Network will also support 400G and 800G wavelengths with existing technologies and higher bitrates are expected in the coming years as new DSP technology comes into production. Internet2 has been able to achieve unregenerated spans without employing Raman amplification, a reduction in complexity and improved efficiency both at installation and for ongoing operations.

About Internet2

Internet2® is a non-profit, member-driven advanced technology community founded by the nation’s leading higher education institutions in 1996. Internet2 serves 321 U.S. universities, 60 government agencies, 43 regional and state education networks and through them supports more than 100,000 community anchor institutions, over 1,000 InCommon participants, 56 leading corporations working with our community, and 70 national research and education network partners that represent more than 100 countries.

Internet2 delivers a diverse portfolio of technology solutions that leverages, integrates, and amplifies the strengths of its members and helps support their educational, research and community service missions. Internet2’s core infrastructure components include the nation’s largest and fastest research and education network that was built to deliver advanced, customized services that are accessed and secured by the community-developed trust and identity framework.

Internet2 offices are located in Ann Arbor, Mich.; Denver, Colo.; Washington, D.C.; and West Hartford, Conn. For more information, visit **www.internet2.edu** or follow **@Internet2** on Twitter.

About CenturyLink

CenturyLink (NYSE: CTL) is a technology leader delivering hybrid networking, cloud connectivity, and security solutions to customers around the world. Through its extensive global fiber network, CenturyLink provides secure and reliable services to meet the growing digital demands of

businesses and consumers. CenturyLink strives to be the trusted connection to the networked world and is focused on delivering technology that enhances the customer experience. Learn more at **http://news.centurylink.com/**.

Media Contact
Sara Aly, Internet2
saly@internet2.edu

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