

## Windstream Partners with Infinera to Transmit 800G over 730 Km in Live Production Network Using ICE6 Technology

**Sunnyvale, Calif., and Little Rock, Ark. – June 17, 2020, 8:00 a.m. ET –** Infinera (NASDAQ: INFN) and Windstream, a leading provider of advanced network communications, today announced the completion of a live network trial that successfully achieved 800 gigabits per second (800G) single-wavelength transmission over 730 kilometers (km) across Windstream's long-haul network between San Diego and Phoenix. In addition to the industry-leading real-world performance at 800G, Windstream and Infinera set another industry record by looping back the signal to achieve a 700G transmission over 1,460 km. The trial was performed using Infinera's fifth-generation coherent optical technology, ICE6 (Infinite Capacity Engine), equipped in a Groove (GX) Series platform over industry-standard G.652-compliant SMF-28 fiber, with both signal rates achieving a performance level that met Windstream's production network deployment standards.

The results of the trial mark a major milestone in optical networking by demonstrating that ultra-high-speed optical transmissions, such as 700G and 800G, powered by Infinera's ICE6 optical engine and Windstream's high-performance fiber network, can be deployed in real-world network applications over significant distances. This will enable emerging 400 Gigabit Ethernet (400 GbE) services to be supported over longer distances within the Windstream national network. High-performance high-speed transmission will also enable network operators like Windstream to realize increased efficiency in cost per bit and power per bit, as well as increased capacity per fiber by as much as 70 percent compared to third-generation (400G) coherent technology and by as much as 35 percent compared to fourth-generation (600G) coherent technology.

"Windstream remains committed to staying at the forefront of technological innovation and the superior performance of ICE6 brings real-world value to our network and enables us to meet the explosive growth in bandwidth demands of our customers," said Buddy Bayer, chief network officer at Windstream. "The flexibility of ICE6 coupled with the easily deployable compact modular form factor of the GX Series will enable Windstream to quickly and easily introduce this new technology across our entire network from edge to core."

The industry-leading 700G and 800G transmission performance was enabled by advances in Nyquist subcarriers, a pioneering innovation developed by Infinera's Optical Innovation Center (OIC). Unlike competing technologies, Nyquist subcarrier-based solutions enable superior performance by mapping the traffic into tightly packed, lower-baud-rate digital subcarriers within a single optical carrier. In addition to providing significant performance benefits on their own, subcarriers also amplify the benefits of other innovations from Infinera's OIC such as 64QAM long-codeword probabilistic constellation shaping and dynamic bandwidth allocation that now can be applied to each subcarrier independently.

"Infinera is delighted to set this new industry benchmark and partner with Windstream, a network operator that continually pushes the boundaries of optical networking," said Parthiban Kandappan, chief technology officer at Infinera. "As proven by the superior performance of this network trial, we believe our unique expertise with Nyquist subcarriers coupled with the groundbreaking innovations introduced by ICE6 will represent the standard for high-speed optical engines going forward."

**Contacts:**

<i>Infinera Media:</i> Anna Vue Tel. +1 (916) 595-8157 <a href="mailto:avue@infinera.com">avue@infinera.com</a>	<i>Infinera Investors:</i> Michael Bowen, ICR, Inc. Tel. +1 (203) 682-8299 <a href="mailto:Michael.Bowen@icrinc.com">Michael.Bowen@icrinc.com</a>
<i>Windstream Media:</i> Scott Morris Tel. +1 (501) 748-5342 <a href="mailto:scott.l.morris@windstream.com">scott.l.morris@windstream.com</a>	Marc P. Griffin, ICR, Inc. Tel. +1 (646)-277-1290 <a href="mailto:Marc.Griffin@icrinc.com">Marc.Griffin@icrinc.com</a>

**About Windstream**

Windstream Holdings, Inc. is a leading provider of advanced network communications and technology solutions. Windstream provides data networking, core transport, security, unified communications and managed services to mid-market, enterprise and wholesale customers across the U.S. The company also offers broadband, entertainment and security services for consumers and small and medium-sized businesses primarily in rural areas in 18 states. Services are delivered over multiple network platforms including a nationwide IP network, our proprietary cloud core architecture and on a local and long-haul fiber network spanning approximately 164,000 miles. Additional information is available at [windstream.com](http://windstream.com) or [www.windstreamwholesale.com](http://www.windstreamwholesale.com). Please visit our newsroom at [news.windstream.com](http://news.windstream.com) or follow us on Twitter at @Windstream.

**About Infinera**

Infinera is a global supplier of innovative networking solutions that enable carriers, cloud operators, governments, and enterprises to scale network bandwidth, accelerate service innovation, and automate network operations. The Infinera end-to-end packet optical portfolio delivers industry-leading economics and performance in long-haul, submarine, data center interconnect, and metro transport applications. To learn more about Infinera, visit [www.infinera.com](http://www.infinera.com), follow us on Twitter [@Infinera](https://twitter.com/Infinera), and read our latest blog posts at [www.infinera.com/blog](http://www.infinera.com/blog).

Infinera and the Infinera logo are registered trademarks of Infinera Corporation.

This press release contains forward-looking statements including, but not limited to the potential technical, operational and economic benefits provided to network operators using Infinera's ICE6 equipped in a GX Series platform. These statements are not guarantees of results and should not be considered as an indication of future activity or future performance. Actual results may vary materially from these expectations as a result of various risks and uncertainties. Information about these risks and uncertainties, and other risks and uncertainties that affect Infinera's business, is contained in the risk factors section and other sections of Infinera's Annual Report on Form 10-K for the Fiscal Year ended December 28, 2019 as filed with the SEC on March 4, 2020, as well as any subsequent reports filed with or furnished to the SEC. These reports are available on Infinera's website at [www.infinera.com](http://www.infinera.com) and the SEC's website at [www.sec.gov](http://www.sec.gov). Infinera assumes no obligation to, and does not currently intend to, update any such forward-looking statements.