PRESS RELEASE

Contact:
SC18 Communications
Brian Ban
brianban@sc18dallas.com

Making History at SC18: Production Traffic Passes Through First 400 Gigabit Ethernet Metro Link in Texas

DALLAS, TX, November 16, 2018 – SCinet, the dedicated high-capacity network infrastructure supporting the SC Conference, today confirmed that it achieved a new milestone in successfully passing production traffic from national and international networks to Dallas using a single, 400 gigabit Ethernet link over metro distances of approximately 6 miles. DataBank, Internet2, Juniper Networks, Lonestar Education and Research Network (LEARN) and Pacific Wave contributed to the success of this project, the first such occurrence for an advanced research and education network.

The achievement is a mark of the collaboration and innovation that fuels SCinet's reputation for pushing the boundaries of high-performance networking. SCinet is planned, built, and operated by a team of 225 volunteers. The unique multi-vendor installation consists of $52 million in hardware, software, and services contributed by 40 industry-leading contributors.

"SCinet brings together not only national and international network engineers, but also a multitude of research and education networks, in support of demonstrations at SC18 that are often precursors to some of the most demanding scientific challenges ahead of us," said JP Velders, SCinet routing team co-lead. "Near-future infrastructure needs for scientific projects like the Square Kilometer Array (SKA) and the Large Synoptic Survey Telescope (LSST) have projected bandwidth needs that far surpass the 400 gigabit per second mark. Providing a testbed for some of the newest technologies within SCinet is of vital importance to the high-performance computing and research community."

Internet2, LEARN and Pacific Wave delivered the wide area network circuits connected to this engineering feat at the SC Conference in the Kay Bailey Hutchison Convention Center Dallas. To ensure this connectivity, DataBank provided the necessary fiber cross-connects, rack space and power in Dallas. The production traffic ran clean on a 400 gigabit Ethernet link through a CALIENT S320 optical cross-connect between two Juniper devices: QFX10003-80C and PTX10003-80C.

"When you observe the evolution of networking technologies, engineers are always looking to increase network capacity to support the evolving needs of data-intensive research," added Matthew Zekauskas, SCinet DevOps team co-lead. "The use of 400 gigabit Ethernet devices has been tested in labs with controlled settings, so the ability to run it in a real-world setting at SC18 allows us to understand both the limitations and opportunities that help us continue to mature the technology driving this innovation."

About SC18

SC18 is the premier international conference showcasing the many ways high performance computing, networking, storage, and analysis lead to advances in scientific discovery, research, education, and commerce. The annual event, created and sponsored by the IEEE Computer Society and ACM (Association for Computing Machinery), attracts thousands of HPC professionals and educators from around the globe to participate in its complete technical education program, workshops, tutorials, a world-class exhibit area, demonstrations, and the world's fastest temporary computer network.

About SCinet

SCinet is the SC Conference's dedicated high-capacity network infrastructure, designed and built by volunteer experts from industry, academia, and government. Planning begins more than a year in advance of each SC conference and culminates in a high-intensity installation that, for the duration of the conference, is the fastest and most powerful network in the world. To learn more, visit https://sc18.supercomputing.org/experience/scinet/