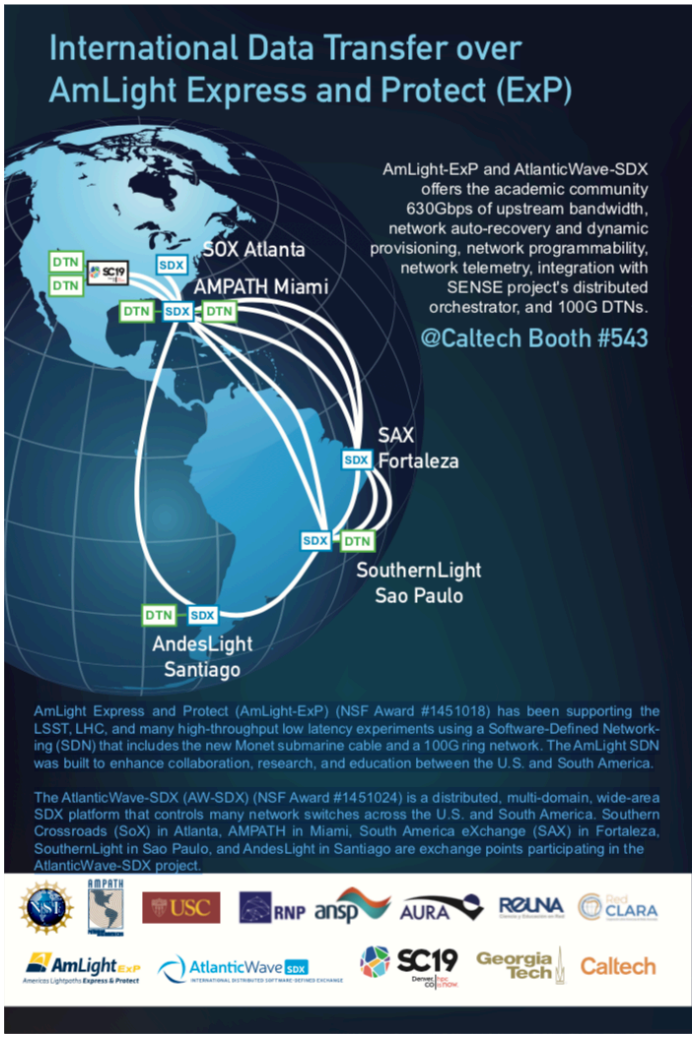
SC19 Network Research Exhibition NRE-023

International Data Transfer over AmLight Express and Protect (ExP)

Abstract

AmLight Express and Protect (AmLight-ExP) (NSF Award #1451018) operates three 200G waves, referred to as AmLight Express, and a 100G ring and multiple 10G links, referred to as AmLight Protect, supporting big data science between the U.S. and South America. AmLight-ExP total upstream capacity is presently 630G, operating on multiple submarine cable systems. Total aggregated capacity of all segments is 1.23 Tbps.

The AtlanticWave-SDX (AW-SDX) (NSF Award #1451024) is a distributed, multi-domain, wide-area SDX platform that controls many network switches across the AmLight-ExP network. Southern Crossroads (SoX) in Atlanta, AMPATH in Miami, South America eXchange (SAX) in Fortaleza, SouthernLight in Sao Paulo, and AndesLight in Santiago are exchange points participating in the AtlanticWave-SDX project.



Details

AmLight ExP provides production connectivity and peering to North American backbone networks Internet2, ESnet, and CANARIE. Through RedCLARA, there is production connectivity to eighteen national research and education networks (NRENs). These networks enhance global e-Science collaborations through distributed production peering fabrics.

AmLight Consortium is a group of not-for-profit universities, state, national and regional research and education networks including the AmLight ExP project at Florida International University, AURA, LSST, RNP, ANSP, Clara, REUNA, FLR, Telecom Italia Sparkle, Angola Cables, and Internet2. The figure represents the new AmLight-ExP map including new sites operating at 100G.

Resources

AmLight-ExP and AtlanticWave-SDX offers the academic community 630G of upstream bandwidth, network auto-recovery and dynamic provisioning, network programmability, network telemetry, integration with SENSE project's distributed orchestrator, and 100G DTNs.

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