

SC22

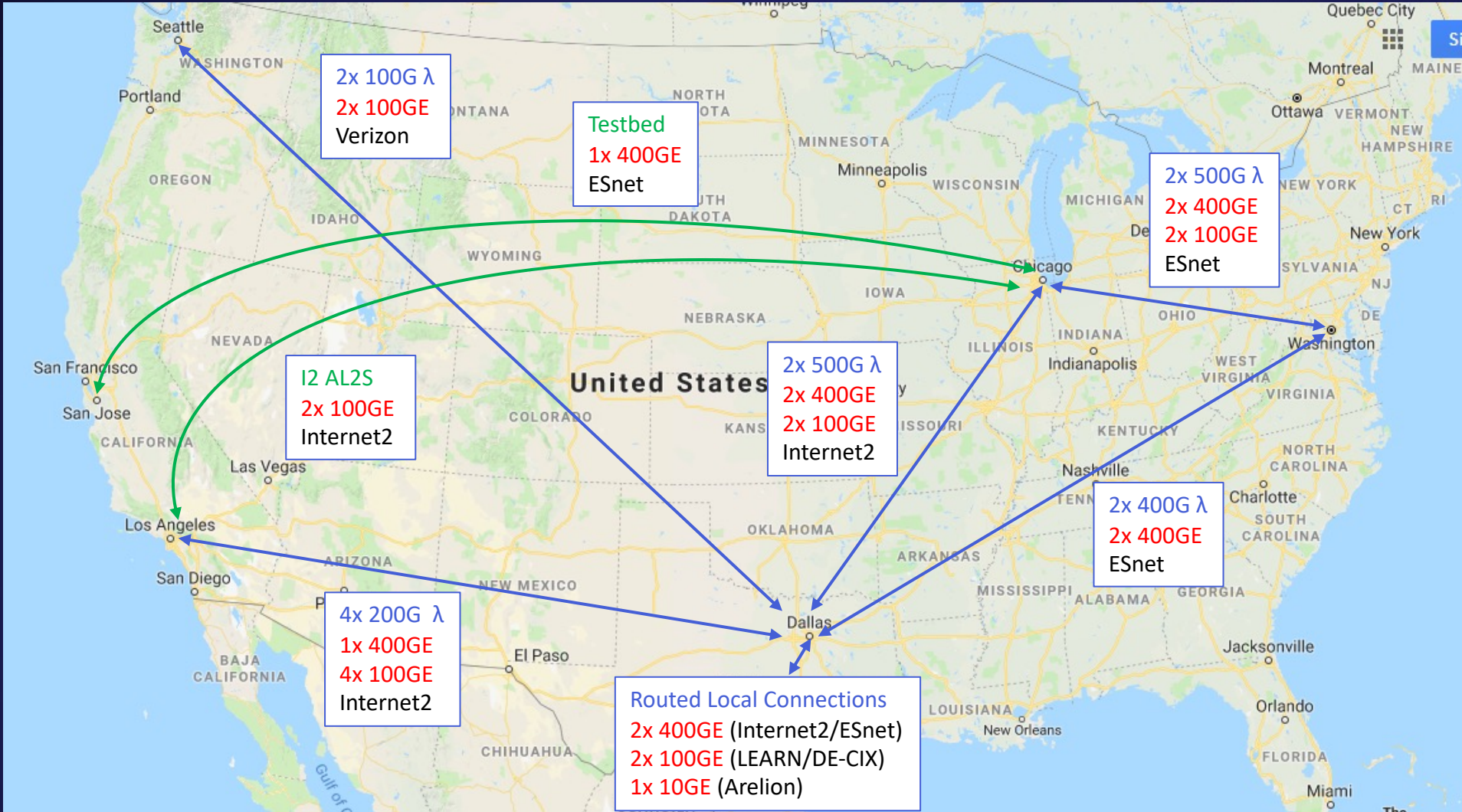
Dallas, TX | hpc accelerates.

SC22 INDIS Workshop SCinet NRE Panel

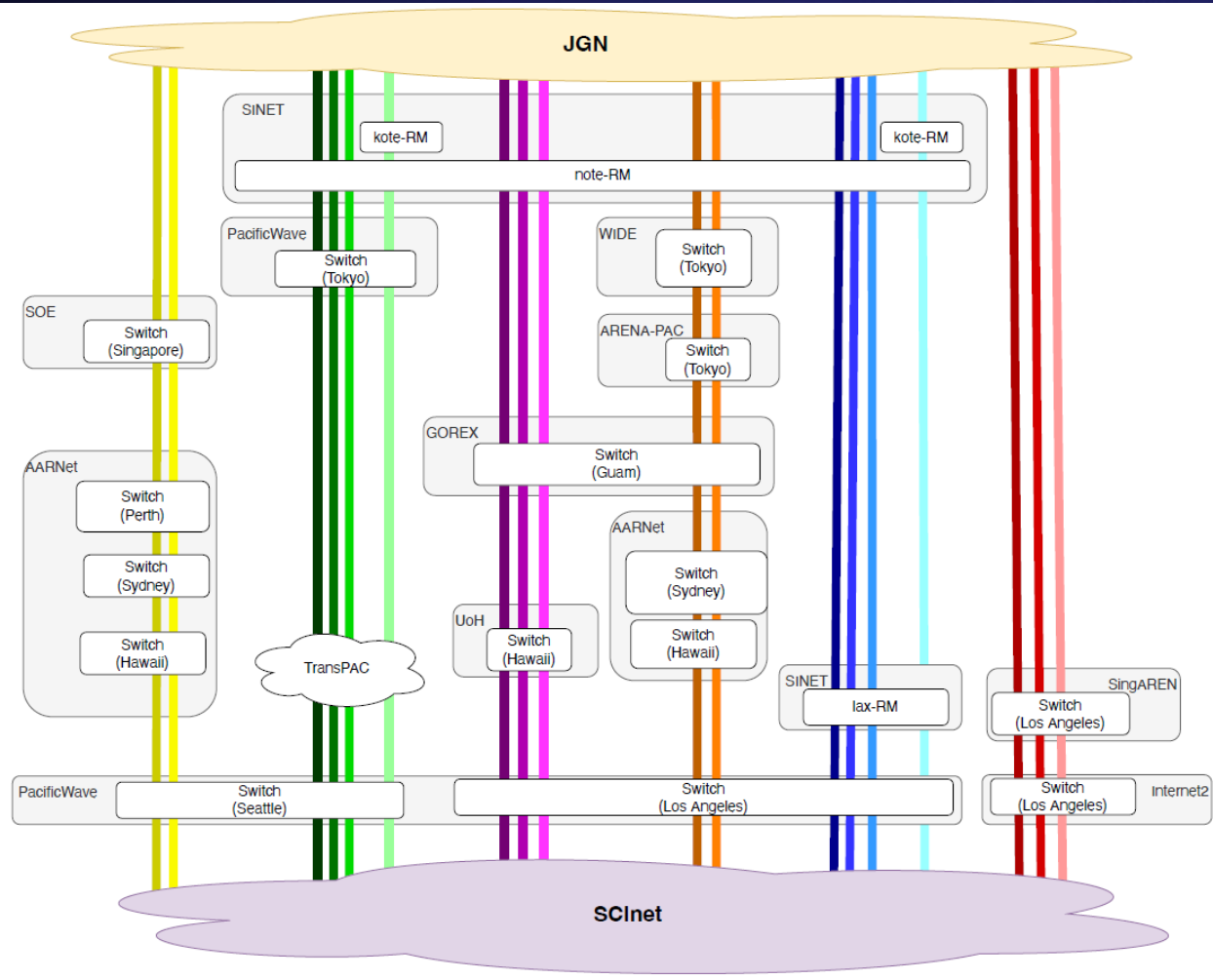
What is NRE

- Network Research Exhibition
 - Researchers from around the world are invited to submit abstracts for networking research demos and experiments to be showcased on the show floor during SC.
 - Government
 - Education
 - Research
 - Industry
 - SCinet builds a world class research network to facilitate the exhibition.
 - Delivering significant bandwidth from around the world to the host city.
 - Providing connectivity to booths on the show floor in terms of both high-speed Ethernet and dark fiber connectivity.
 - A selection of NRE participants from the previous year's conference can be selected to share the results of their experiments and demos as part of the INDIS workshop.
- SC22 SCinet NRE Team
 - Scott Kohlert (Ciena), Kate Robinson (ESnet), Cees de Laat (University of Amsterdam)

SC22 – WAN Bandwidth Map



SC22 – Significant Trans-Pacific Circuit Involvement



SC22 Network Research Exhibition

Demo #	Demo Title	Demo Prime
NRE-001	N-DISE: NDN for Data Intensive Science Experiments	Edmund Yeh (NEU)
NRE-002	High Performance Data Transfer Nodes for Petascale Science with NVMe-over-Fabrics as Microservice	Se-Young Yu (ICAIR)
NRE-003	StarLight DTN-as-a-Service and Kubernetes Integration for High-Performance Data Transport with Research Platforms	Se-Young Yu (ICAIR)
NRE-004	Toward 1.2 Tbps Services WAN Services: Architecture, Technology and Control Systems	Joe Mambretti (ICAIR)
NRE-005	400 Gbps E2E WAN Services: Architecture, Technology and Control Systems	Joe Mambretti (ICAIR)
NRE-006	FABRIC-Chameleon Testbed Integration	Paul Ruth (RENCI)
NRE-007	LHC Networking And NOTED	Edoardo Martelli (CERN)
NRE-008	IRNC Software Defined Exchange (SDX) Multi-Services for Petascale Science	Joe Mambretti (ICAIR)
NRE-009	High Speed Network with International P4 Experimental Networks for The Global Research Platform and Other Research Platforms	Jim Chen (ICAIR)
NRE-010	Demonstrating PolKA Routing Approach to Support Traffic Engineering for Data-intensive Science	Magnos Martinello (UFES)
NRE-011	Coral: Fast Data Plane Verification for Large-Scale Science Networks via Distributed, On-Device Verification	Qiao Xiang (XMU)
NRE-012	Resilient Distributed Processing and Reconfigurable Networks	Linden Mercer (NRL)
NRE-013	AutoGOLE/SENSE: End-to-End Network Services and Workflow Integration	Tom Lehman (ESnet)
NRE-014	Transfers above 100gbit/s using EScp	Charles Shiflett (ESnet)

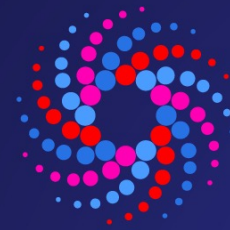
But Wait...There's More

Demo #	Demo Title	Demo Prime
NRE-015	SENSE and Rucio/FTS/XRootD Interoperation	Tom Lehman (ESnet)
NRE-016	Programmable Networking with P4, GEANT RARE/freeRtr and SONIC/PINS	Marcos Schwarz (RNP)
NRE-017	Optimizing Big Data Transfers using AI Strategies	Gauravdeep Shami (Ciena)
NRE-018	Federated Machine Learning Controller Framework for optimizing Service Function Chains	Gauravdeep Shami (Ciena)
NRE-019	Global Petascale to Exascale Workflows for Data Intensive Science Accelerated by Next Generation Program	Harvey Newman (Caltech)
NRE-020	Packet Marking for Networked Scientific Workflows	Joe Mambretti (ICAIR)
NRE-021	Open Optical Network Advanced Field Trial	Joey White-Swyft (UTD)
NRE-022	Uncompressed 8K Video Processing on Edge-Computing	Katsuhiko Sebayashi (KIT)
NRE-023	Full 400G bps E2E DATA/VIDEO transfer across the Trans Pacific	Satoshi Matsumoto (IPA)
NRE-024	SciStream: Mem-to-Mem Scientific Data Streaming over a Wide Area Network	Chengyi Qu (MU)
NRE-025	Demonstrations of 400 Gbps Disk-to-Disk WAN File Transfers using NVMe-oF/TCP	Bill Fink (NASA)
NRE-026	Conceptual Demonstration of the Reconfigurable In-Network Security Sensor Network (REINS network)	Satoru Okamoto (Keio University)
NRE-027	High Bandwidth U.S.-Japan Traffic Test Using Virtualized IXIA IxNetwork	Yasohiru Ohara (NTT)
NRE-028	QEMU/KVM VM Migration Test Between U.S. and Japan Sites	Yasohiru Ohara (NTT)
NRE-029	In-Transit Remote Visualization via HpFP (High-Performance and Flexible Protocol)	Ken T. Murata (NICT)

NRE Panel

The Future of Networking and Computing with Big Data Streams

- Joe Mambretti (International Center for Advanced Internet Research / Northwestern University)
- Harvey Newman (California Institute of Technology)
- Gauravdeep Shami (Ciena)
- Magnos Martinello (Universidade Federal do Espírito Santo)
- Paul Ruth (Renaissance Computing Institute / University of North Carolina)
- Joey White-Swyft (University of Texas - Dallas)
- Linden Mercer (Naval Research Laboratory)
- Tom Lehman (Energy Sciences Network)



SC22

Dallas, TX | hpc accelerates.

Thank You