Network Service Interface   Booth #3650

GÉANT
connect • communicate • collaborate

Network Service Interface version 2.0 from the Open Grid Forum

Why is NSI needed?

Dynamic circuit services have been introduced in recent years in many R&E networks. These circuit services use non-standard ways of describing connection requests; the goal of this work has been to define a method that will allow such disparate circuits services to interoperate. The NSI working group has now defined an open standard to achieve this goal - the NSI Connection Service protocol allows provisioning of end-to-end circuits that transit many provider domains.

Progress since SC11

At last year's SuperComputing exhibition, the NSI working group demonstrated version 1 of the NSI protocol. In the last 12 months the working group has reviewed the functionality of NSI and expanded it to ensure that it meets the needs of global Research & Education Networks – version 2.0 is able to support a full functioning production-ready grade of circuit service. NSI defines a protocol for end-to-end circuit reservation and provisioning and associated service architecture. Additional services in the NSI v2.0 framework include the NSI Topology Service and the NSI Discovery Service.
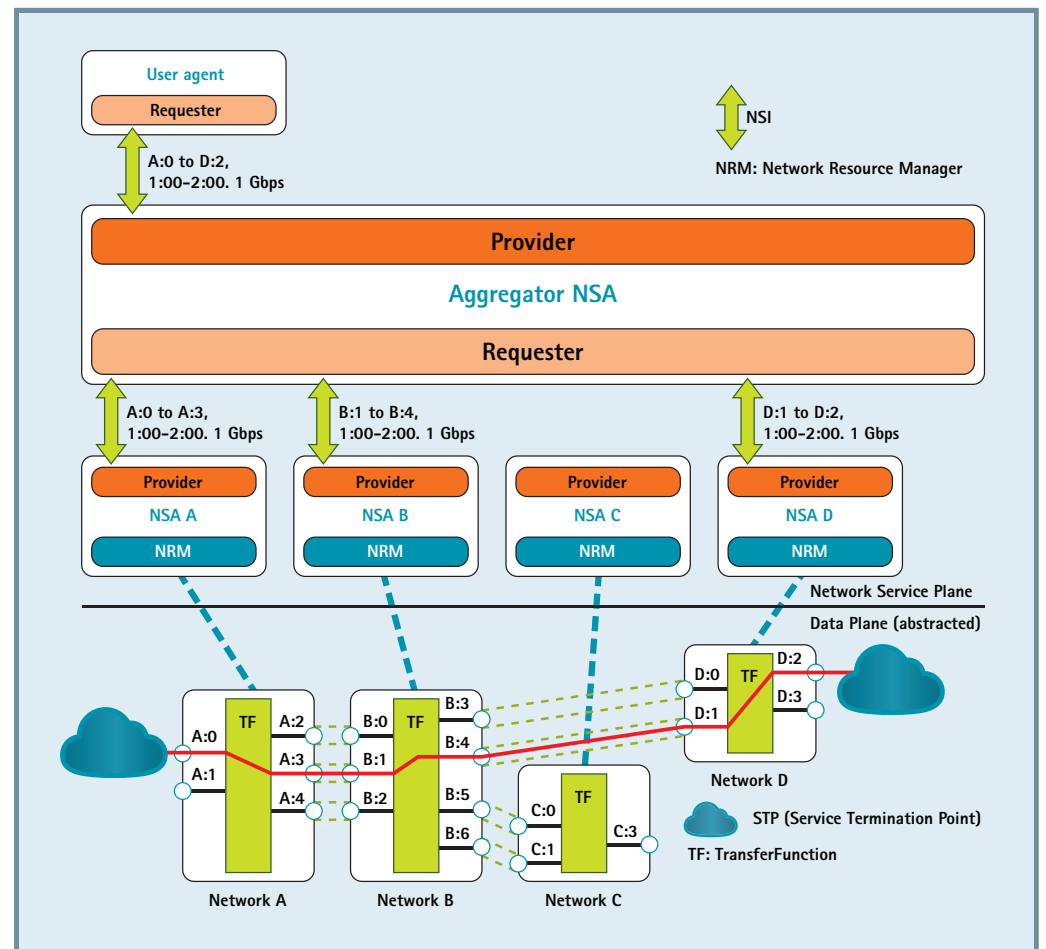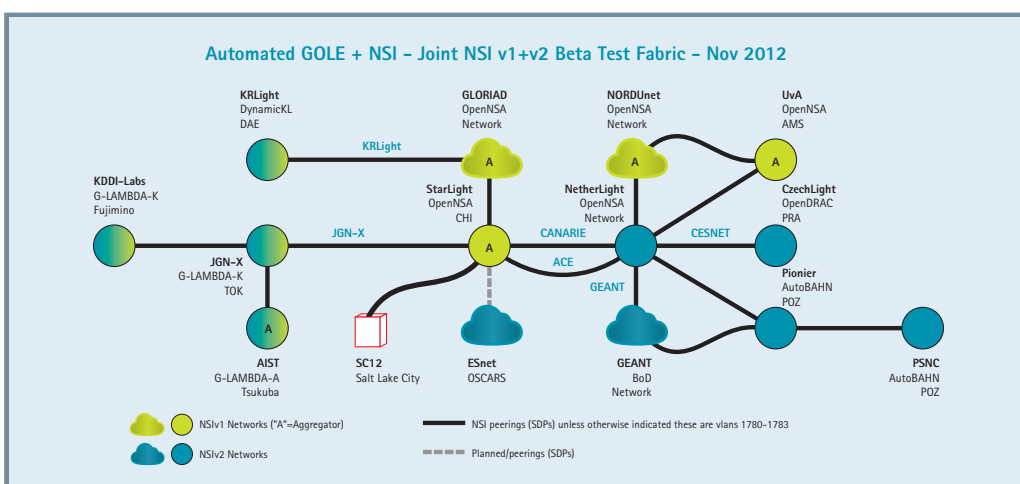
NSI v2.0 features

New in NSI v2.0:
• Modify command – allows reservations to be modified
• Topology service – how to describe and exchange network topology information
• Discovery service – service to share information on the NSI series supported and their versions.
• Enhance queries – supports hierarchical queries
• Security framework

NSI Demonstration

In this demonstration we show that automated dynamic exchange points can provision dynamic circuits without manual intervention, initiated by the end-user through the NSI interface. The demonstration uses a standardized NSI topology representation to describe and exchange network topologies. This provides all participants with a common view of the network and supporting visualization.

NSI implementations

• OpenNSA – NORDUnet (Copenhagen, DK)
• OpenDRAC – SURFnet (Amsterdam, NL)
• AutoBAHN – GEANT (Poznan, PL)
• G-LAMBDA-A - AIST (Tsukuba, JP)
• G-LAMBDA-K – KDDI Labs (Fujimino, JP)
• DynamicKL – KISTI (Daejeon, KR)
• OSCARS – ESnet (Berkeley, US)

Automated GOLE + NSI – Joint NSI v1+v2 Beta Test Fabric – Nov 2012

NSI partners:

www.geant.net

DANTE
www.dante.net