

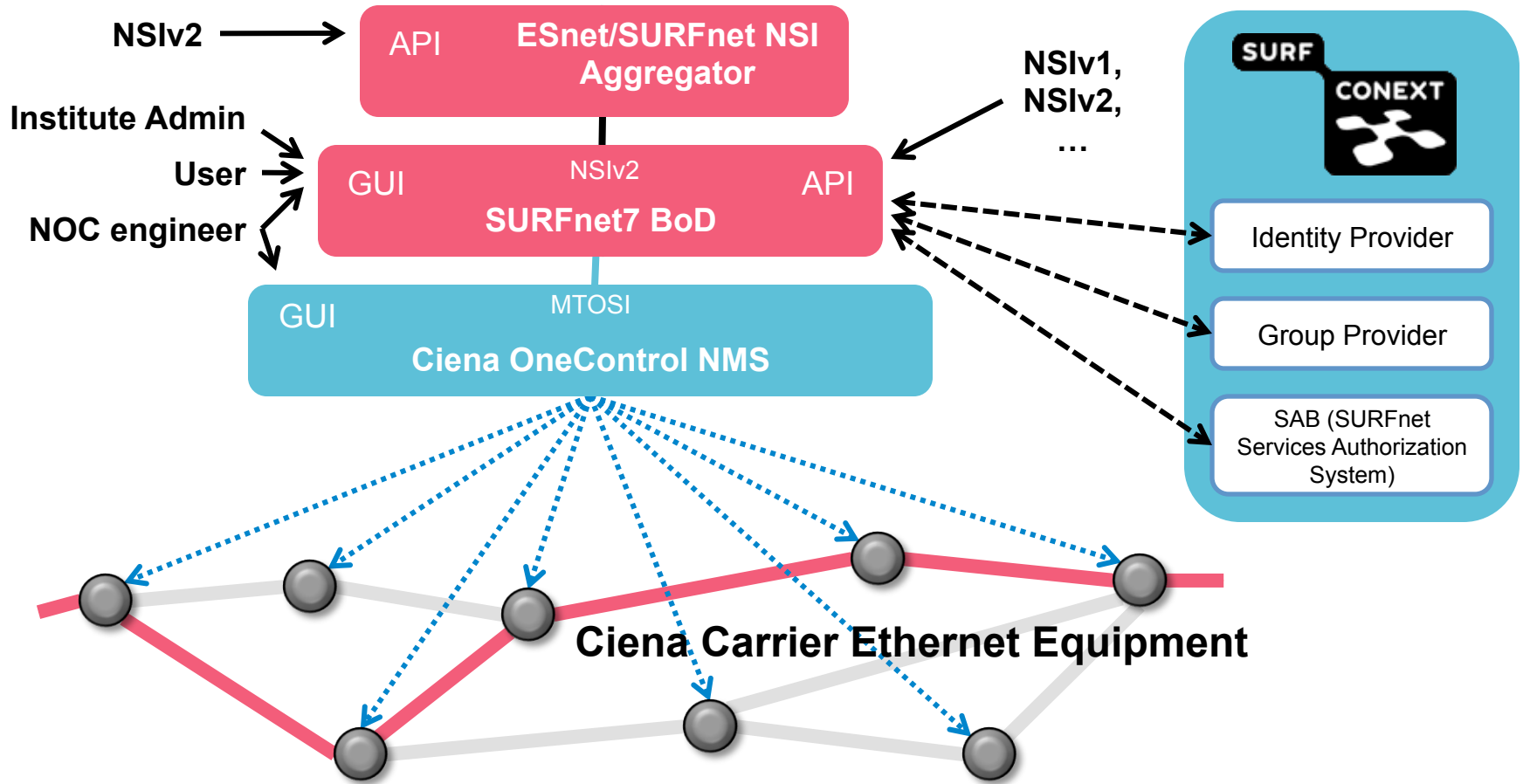
SURFnet BoD update

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SURFnet7 OnDemand Lightpaths



Ciena OneControl NMS

Ciena OneControl NMS:

- Own internal reservation database
- Mediation to Ciena Carrier Ethernet Equipment
- Automatic setup and tear down of circuits according to database
- VLAN retagging
- MTOSI north-bound reservation and inventory interface

SURFnet BoD

- Single domain
- Federative user authentication
- Authorization of resources
- GUI for:
 - NOC engineers
 - institute administrators
 - end-users
- API for automated reservation and provisioning (NSI CS 1.0 and NSI CS 2.0)
- Circuits with 100% guaranteed bandwidth
- Circuits are default protected
- Extension to API to specify circuit protection type (unprotected/protected)

ESnet/SURFnet NSI Aggregator

- Multi domain
- NSI CS 2.0 coordinator and multi domain pathfinder
- NML based topology
- Modular Path Computation Engine
- Currently deployed in the GLIF Automated GOLE
- Active developed by both ESnet and SURFnet
- Available under open source license for anyone to deploy
- Working on governance model

Gain experience with NSI

- Best done in production with real users
- For a production NSI deployment all of the following must be geared to one another:
 - Topology description
 - Topology exchange
 - Path finding
 - Authentication
 - Authorization
 - Security
- Can we wait for all the needed standardization to finish, or do we

NSI in production

- To gain experience with NSI and all that is related in the short term we:
 - Define a minimum Authentication and Authorization infrastructure that should be easily extendible and usable in other deployments
 - Augment the NML topology and describe how to exchange topology information and how to do path finding
 - Implement this in the SURFnet BoD uPA
 - Add this as a (modular) feature to the ESnet/SURFnet NSI aggregator
 - For the time being work together in a small group, currently SURFnet, NORDUnet, GÉANT

Other related work

- Add support to BoD GUI for Service Providers to automate the network resource setup
- Define thin layer to map user services to network resources including discovery



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