AutoGOLE Task Force update

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GLIF Technical Working Group Meeting #23 - Spring 2015

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SURF NET

AutoGOLE


glif
NORDUnet
Pionier
ACE
GLORIAD
KRLight
NetherLight
GÉANT
USLHCNet
StarLight
CzechLight
KDDI Labs
JGN-X
UvA
CANARIE
ESnet
MAN LAN
CERN
Caltech
AIST
AMPATH
SouthernLight

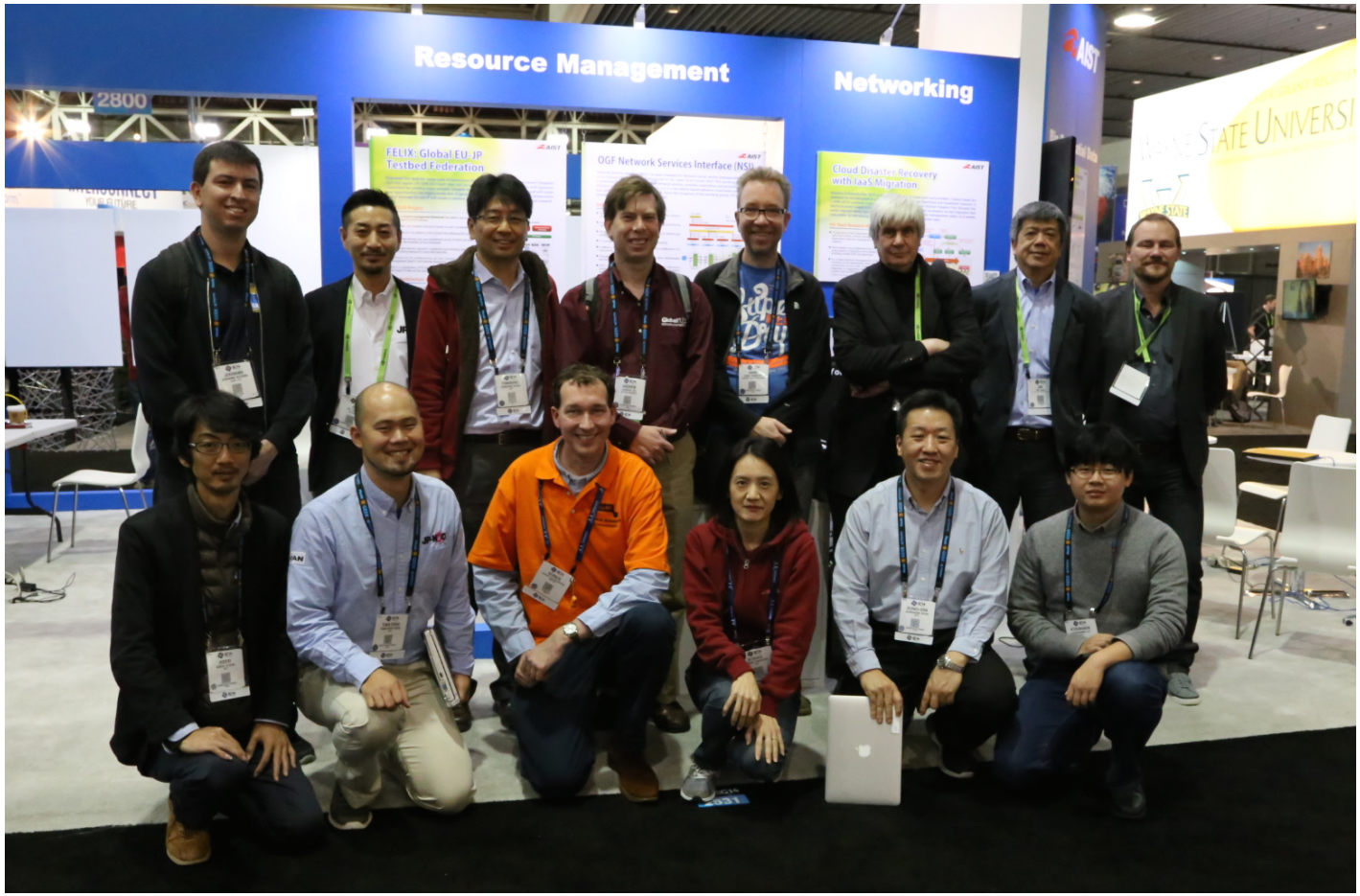
AutoGOLE status

- **AutoGOLE fabric is capable of delivering services between GOLEs and networks**
  - Based on NSI Connection Service v2 and TLS
  - Using DDS service between aggregators
  - Used in demonstrations
    - Open Cloud eXchange (OCX) by GÉANT
    - SC'13 and SC'14 'Portable cloud' by JGN-X
    - NRM with OpenFlow underneath by iCAIR
    - UltraGrid by CESNET
    - NEXPReS by JIVE
    - …

Work items 2014

- Implementing two-way TLS on the control plane
- Implementing NSI-CSv2.0 (GFD.212)
- Implementing OpenFlow-based controlling in at least one domain (StarLight)
- Implementing Authentication and authorization (draft implementation)
- Implementing topology exchange
- Improving operational procedures

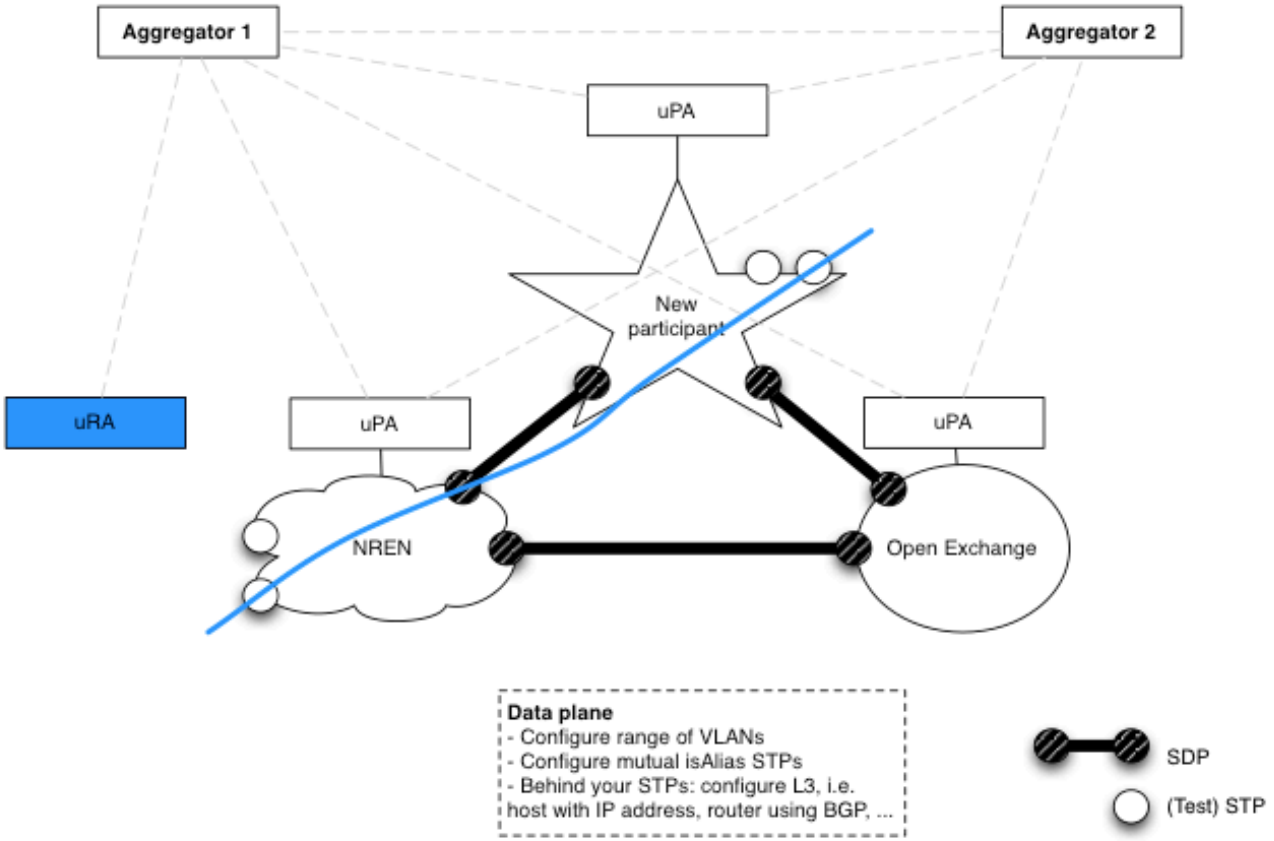
SuperComputing ‘14



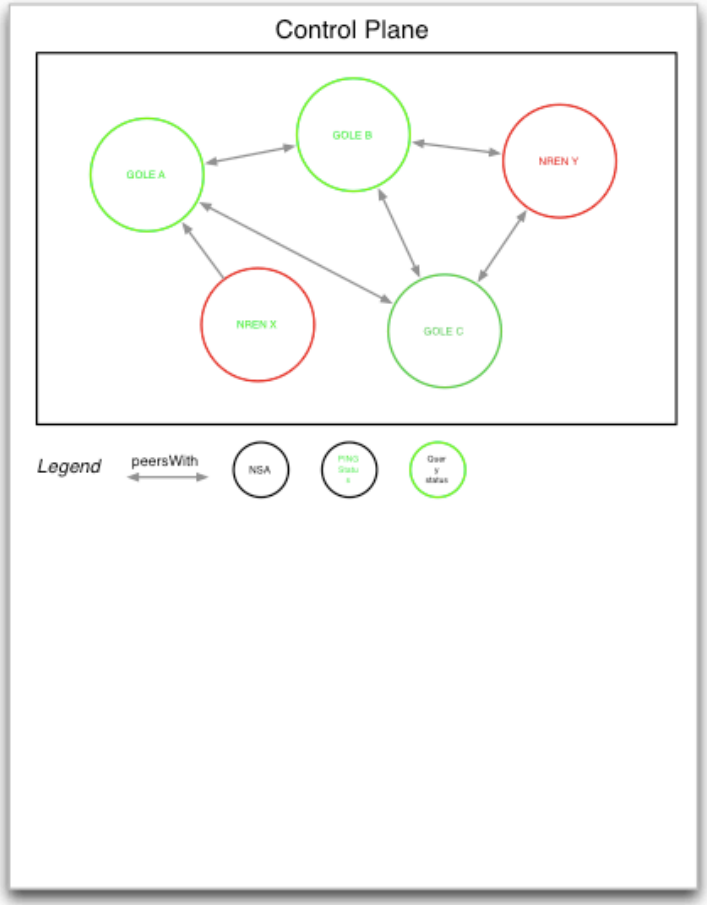
Work items 2015

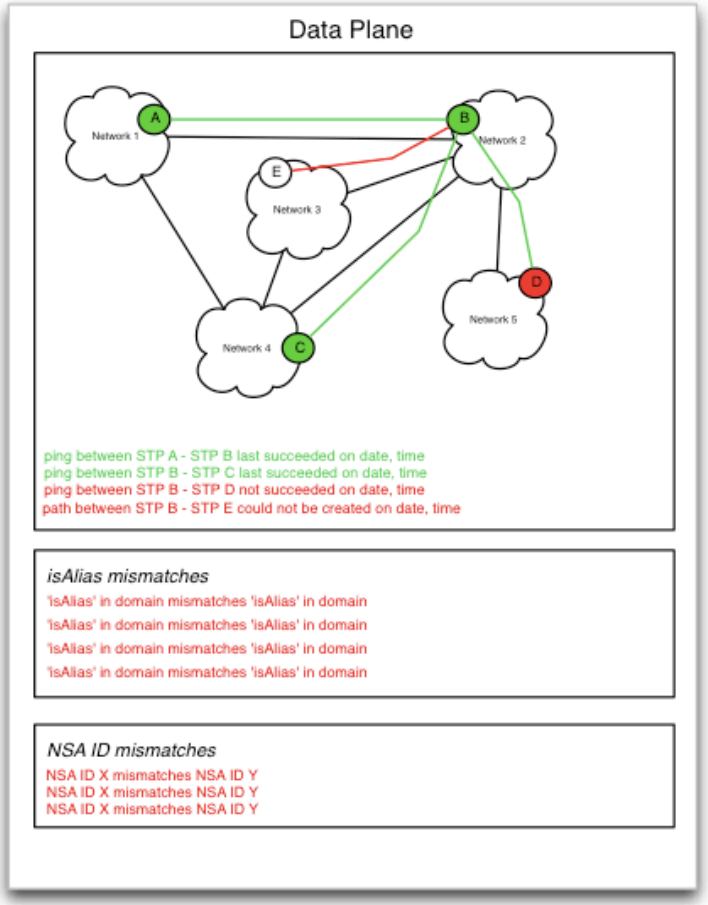
- **I. Monitoring system / Fault finding / Troubleshooting**
  - At SC'14 we came to the conclusion that a monitoring system for the AutoGOLE is needed for both control plane and data plane…
- **II. Supporting LHC Sites**
  - We need to support new LHC sites that connect to the AutoGOLE in 2015 - starting January…
- **III. More redundant control plane**
  - ESnet and NetherLight already have a redundant setup. If you cannot reach a certain uPA, a request can be forwarded to another aggregator…
    - by John MacAuley and Hans Trompert

AutoGOLE Cookbook



AutoGOLE Dashboard





Supporting LHC (1/2)

- Green light in Ann Arbor, Sep 2014:
  - **Goal** is to demonstrate a working implementation/ solution of the LHCONE Point2Point Service with a number of LHC sites, based on the Automated GOLE infrastructure

- **Activity 1**: Connecting LHC sites and AutoGOLE
  by Gerben van Malenstein

- **Activity 2**: Middleware integration
  by Tangui Coulouarn

Supporting LHC (2/2)

- After Cambridge meeting in February 2015 it was decided to form two ‘solution subgroups’:

  1. OpenFlow-based solution by Azher Mughal

  2. BGP-based solution by Sander Boele

- LHC sites currently connected: SURFsara, DE-KIT, Caltech, Brookhaven, Fermilab

Discussion topics

- AutoGOLE Cookbook
- AutoGOLE Dashboard
  - Volunteers for building a prototype?
- Operational implications supporting LHC
- Upcoming AutoGOLE demonstrations (TNC, GLIF, SC)
- Attracting use cases
- NSI progress and AutoGOLE further steps