

# Network Service Interface

GLIF meeting, Atlanta March 2014

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# Network Service Interface (NSI)



- The Open Grid Forum (OGF) is standardizing the NSI protocol.
- NSI is a framework and a suite of protocols that enables multi-domain network connections to be requested via a web-service API.
- NSI includes the Connection Service, the Topology description, Topology distribution and Discovery service.
- The NSI Connection Services protocol v2.0 is now out for public comment, responses by 15 April please.  
<http://redmine.ogf.org/projects/editor-pubcom/boards>

# OGF NSI Information



- OGF NSI Working Group Site
  - <http://redmine.ogf.org/projects/nsi-wg/>
- NSI Project Page
  - <https://code.google.com/p/ogf-nsi-project/>
- NSI Documents
  - NSI Framework:  
[http://redmine.ogf.org/dmsf\\_files/13168?download=](http://redmine.ogf.org/dmsf_files/13168?download=)
  - NSI CS v2 (in public comment till Apr 15 2014):  
[http://redmine.ogf.org/dmsf\\_files/13168?download=](http://redmine.ogf.org/dmsf_files/13168?download=)
- NSI Co-Chairs
  - Guy Roberts [guy.roberts@dante.net](mailto:guy.roberts@dante.net)
  - Tomohiro Kudoh [t.kudoh@aist.go.jp](mailto:t.kudoh@aist.go.jp)

# NSI Standards @ GENI



- Monday first session: provided an overview of the current NSI protocols
  - 9:10 – 9:50 am NSI 2.0 Update/Tutorial for GENI attendees, Chin Guok
  - 9:50 – 10:30 am NSI Tree and Chain models, John MacAuley
- Presentations are available to download here:  
[https://redmine.ogf.org/dmsf/nsi-wg?folder\\_id=6582](https://redmine.ogf.org/dmsf/nsi-wg?folder_id=6582)
- Good interaction with GENI participants – common thinking. Adoption of NSI by GENI would help expand the NSI user base.

# NSI Standards @ GENI



- Monday second session: working meeting
  - 11:00 – 11:30 am NSI NSA Discovery Protocol, John MacAuley
  - 11:30 – 11:50 am Multi-constrained Path Selection, Miroslav Zivkovic
  - 11:50 – 12:00 pm NSI working group chairs
  - 12:00 – 12:30 pm Review formal requirements
- While there is general agreement that a document distribution service is needed for both topology and discovery documents.
- The mechanism proposed by John has not received a consensus agreement yet.... Discussion is ongoing.
- An ‘intelligent’ overlay service needed for global topology creation.

# NSI – Making progress

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- Review and update NSI framework
- Complete NSI Service Definition framework document.
- Define Ethernet service schema
- NSI extensions to NML needs to be finalized
- The contents of the NSI discovery document needs to be agreed and standardized.
- NSI document distribution mechanism needs to be agreed and standardized.
- AAI – user identity and user roles and policy
- Divergent implementations - this is something we need to avoid...

# Error handling

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- Expand existing error set to include new errors values introduced through NSI 2.0 implementations.
- Useful error feedback for taking corrective action (especially for path finding).
- Formalize an agreement on which errors require a Failed versus and Error response message.
- Implementations need to test error use cases to validate inter-NSA protocol behaviors.



# Topology

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- Formalize NML and NSI-EXT schema changes.
- Expand NSI-EXT document to include a full set of NSI topology to NML mappings.
- Document any additional service attributes and formalize Ethernet schema.
- Update networks to use new schemas and populate switching services and service definition elements.
- Current topology discovery mechanism needs to be formally documented and behaviors defined (If-Modified-Since, security, etc.).
- Investigate a dynamic topology discovery mechanism that does not require full NSA mesh topology.

# Service Definitions

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- Formally document the Service Definition mechanism including integration into NML topology.
- Validate the current Service Definition mechanism within implementations to determine if goals are achieved.

# NSI-WG admin issues

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- Inder has retired as NSI co-chair and nominations are open until CoB Friday.
- OGF41 will be collocated with the XSEDE 2014 conference July 13-18 in Atlanta
- Q3 2014: No decision on location. Collocate with next GLIF techs?

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