

A world map where the landmasses are dark and the city lights are glowing in a golden-yellow color, set against a dark blue background. The text is overlaid on this map.

Network Services Interface Working Group

Guy Roberts

Seattle, 2nd Oct 2008

OGF

- **An open community**
- **Drive the rapid evolution and adoption of distributed computing**
- **Explore trends and share best practices**
- **Consolidate these best practices into standards**



GRIDS

- **GRIDS are a service for sharing computer power and data storage capacity over the Internet/circuits**
- **Network infrastructure for grids often based on fixed circuits**
- **Increasing interest in allowing GRIDs to request dynamic circuits**
- **Need for standard mechanisms to describe and publish network descriptions, performance characteristics, & enable dynamic control**



BoFs in Barcelona meeting

Two BoFs meetings in OGF23:

- **DICE initiated BoF to standardise network-network control plane**
- **OGF GHPN initiated BoF to standardise Grid middleware requests to networks for circuits**



BoFs in Barcelona meeting

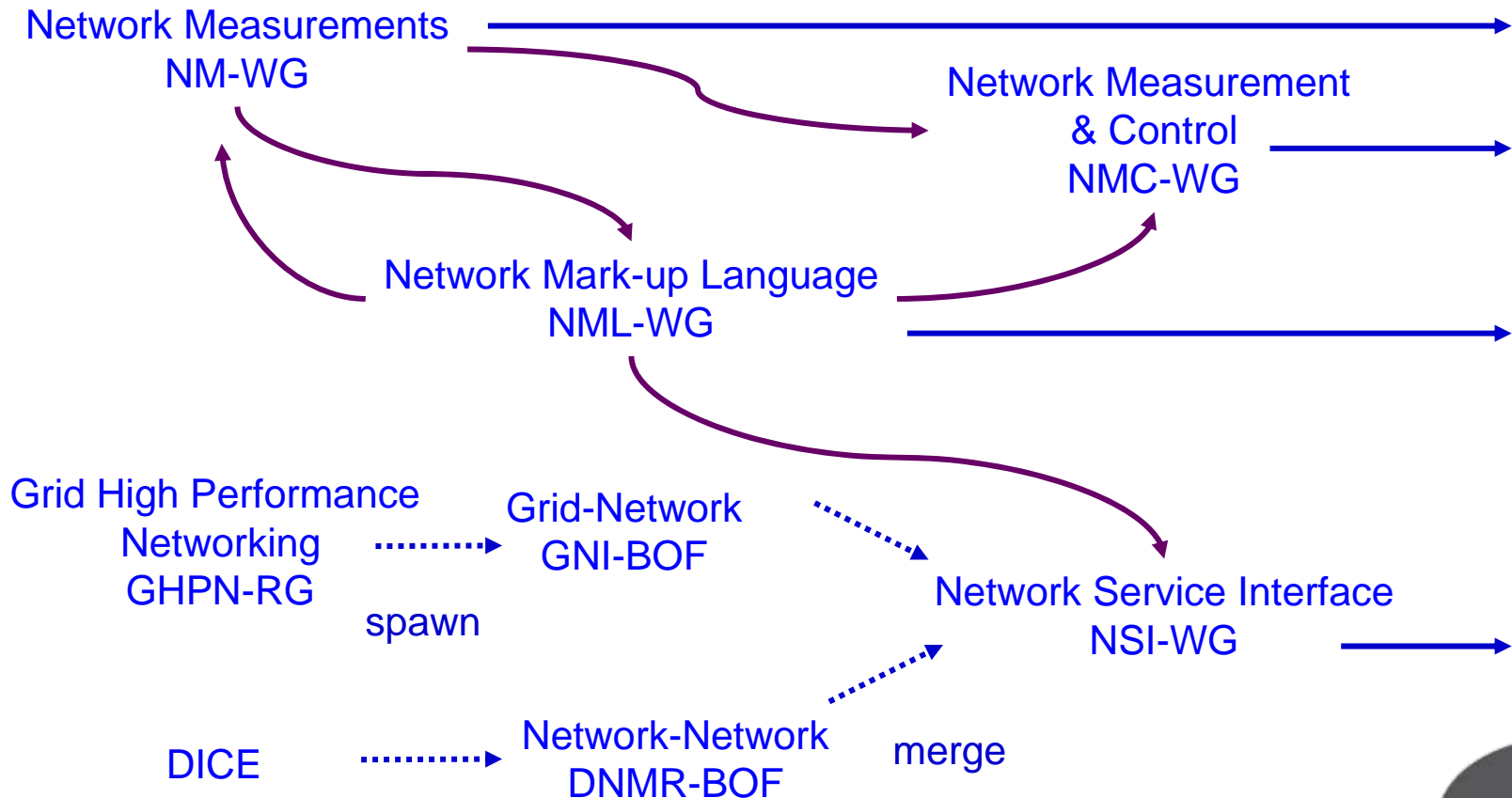
- Agreement was reached that the aims of these groups are compatible
- Merged groups to form:

Network Service Interface Working Group



Infrastructure Area: Networking

- The relation between the working groups



Network Services Interface

- Facilitate interoperation between Grid users, applications and network infrastructures spanning different service domains
- Development of abstract messaging and protocols.
- The NSI WG should provide an open definition independent of implementation of provisioning systems
- It should be sufficiently flexible, modular and scalable to facilitate future enhancements.
- Recommendation will allow any user and network service to interoperate by using a common naming and message definition.



Participants

- **Interest & support from industry – grid operators, network equipment vendors:**
 - industry partners include NTT, KDDI, Nortel and Alcatel-Lucent Bell Labs
- **Build on research projects including:**
 - Phosphorus, AutoBAHN, DICE, and G-Lambda
- **Involves currently deployed dynamic networks such as**
 - ESnet, Internet2, GÉANT, Surfnet
- **Coordination with other groups:**
 - GLIF, IETF others?



NSI Charter

- **Charter has been agreed**
- **Sets 4 deliverables**
- **Agreed chairs and editors**



Positions

Co-Chairs:

Guy Roberts

DANTE

Tomohiro Kudoh

AIST

Inder Monga

NORTEL

Editors:

John Vollbrecht

Internet2

Eduard Escalona

University of Essex

Georgios Zervas

University of Essex



Deliverables

- 1. *Network Service Interface use cases***
An informational document describing the key use cases and user requirements.
- 2. *Network Service Interface architecture***
A recommendation document describing the architecture for NSI including requirements and functionalities.
- 3. *Network Service Interface common message and protocol specification***
A set of recommendations describing protocols and message specification for the NSI.
- 4. *NSI “User-to-Network” and “Network-to-Network” specification***
A recommendation detailing protocols and message specifications associated with the “User-to-Network” and “Network-to-Network” interfaces.



Deliverable 1

Title: Network Service Interface use cases

- A informational document describing the key use cases and user requirements.
- Use cases describing requirements of a variety of users, including Grid Middleware, Grid Applications, and by other Network service providers
- Identification of requirements for users and network service providers.



Deliverable 2

Title: Network Service Interface architecture

- A recommendation document describing the architecture for NSI including requirements and functionalities.
- Definition of the NSI positioning (User-Network, Network-Network).
- Specification of NSI functionality and interface protocol requirements.



Deliverable 3

Title: Network Service Interface common message and protocol specification

- A set of recommendations describing protocols and message specification for the NSI.
- It is expected that the NSI will be modular in its structure and will include several message sets.
- Each message set will be associated with a particular task. For example, different message sets may be used to describe network service requests, network service monitoring, discover network service capabilities etc.
- Any given instance of the NSI interface (User-to-Network, Network-to-Network) may implement a subset of the available message sets.



Deliverable 4

Title: NSI “User-to-Network” and “Network-to-Network” specification

- It is expected that in addition to a complete definition of the message sets provided by Deliverable 3, two additional documents will be provided in this deliverable.
- These will be reference profiles of NSI, namely the user-to-network instance of NSI and the network-to-network instance of NSI



Deliverable 4 (continued)

Title: NSI “User-to-Network” and “Network-to-Network” specification

- The first document will be targeting on providing the information required to deploy the NSI as a “User-to-Network” interface. Special attention will be paid to limiting the complexity and length of the document in order to attract large number of users that may not have experience of networking. This document will consist of only the information exchange and specific messages required for such an interface.
- Similarly the second document will be driven by the information exchange required to provide interoperability between Network Service providers.
- Both documents will refer to Deliverable 3 for further details regarding the message description. In this way, both instances will have a common message description document and also be easily adapted by different communities.

