Infrastructure Area

Status update

AD's: Cees de Laat
        Franco Travostino

GGF19, Chapel Hill, January / February 2007

New / Existing groups

◆ **Grid High-Performance Networking RG (ghpn-rg)**

  ■ Dimitra Simeonidou

◆ **Grid and Virtualization Working Group (gridvirt-wg)**

  ■ Erol Bozak, Wolfgang Reichert

◆ **Network Measurements Working Group (nm-wg)**

  ■ Eric Boyd, Mark Leese, Richard Hughes-Jones

◆ **Network Mark-up Language Working Group (nml-wg)**

  ■ Paola Grosso, Martin Swany

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  ■ Dimitra Simeonidou

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Grid High Performance Networking RG

◆ It produced a set of use cases capturing the interaction between applications and grid network middleware (GFD-I in early 2007)

◆ Constituency is highly specialized in the type of networks used in R&E testbeds

◆ Now actively engaging GLIF and EU-funded Phosphorus participants --- they will jointly produce GFDs (OGF is the only group in this bunch with a document process)

Friday 2nd February, 9-10:30 am, Magnolia room

- ◆ 9:00 Agenda bashing and administration

- ◆ 9:05 Current status of drafts

- ◆ 9:15 Proposal for new draft on Grid User Network Interface (paper attached), George Zervas, IST-PHOSPHORUS project, EU

- ◆ 9:45 "GNS-WSI2: an interface defined by G-lambda project for bandwidth reservation", Atsuko Takefusa of AIST, Japan

- ◆ 10:05 "experiments of bandwidth reservation between US and Japan", MCNC

- ◆ 10:25 Announcements and updates of relevant upcoming events and AOB

- ◆ 10:30 Finish

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Grid and Virtualization Working Group

Chairs

- **Erol Bozak (SAP)**
    - **Development Architect**
    - **NetWeaver Solution and Platform Management**

- **Wolfgang Reichert (IBM)**
    - **Senior Technical Staff Member (STSM)**
    - **IBM On-demand Operating Environments**

Goals

- **Verification that within existing Grid standards the specifications are neutral to "virtualized systems / resources"**
    - **The request for resources may be satisfied either by / with "virtualized systems" or "physical systems"**
    - **"Virtualization is transparent to the Grid" (e.g. resource provisioning)**

- **Define use cases wherein the grid infrastructure is seen participating in an virtualized system infrastructure**

- **Explore how virtualization technologies can be leveraged to better support grid use cases**

- **Define one or more profiles that allows the Gird infrastructure to :**
    - **Monitor**
    - **Manipulate,**
    - **Migrate Virtual Systems etc.**

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Grid and Virtualization Working Group

Timeline

1. **OGF 19: Introduction of the Workgroup**
2. **OGF 20: Collection of Use Cases**
3. **OGF 21: First Version of the profile**
4. **OGF 22: tbd**

Meetings

Charter-Discussion: Grids and System Virtualization

– **Thursday, February 1, 2:00 pm - 3:30 pm
Franco Travostino, Erol Bozak, Wolfgang Reichert**

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"Hierarchy / Characteristics" doc GFD.23

- ◆ Status: document is an OGF Draft Recommendation
- ◆ Document is dated May 2004
- ◆ Ideas used in the NMWG Schemata
- ◆ Schemata implemented and in use by:
  - ■ Dante
  - ■ EGEE
  - ■ Internet2
  - ■ CLARA
  - ■ MonAlisa
- ◆ Discussions on Schemata in progress with the IETF IPPM

- ◆ Action from NMWG to move GFD.23 to an OGF Recommendation

- ◆ Create an Experimental doc on GFD.23 usage
  - ■ Document use of "Hierarchy / Characteristics" doc
  - ■ Section on use/experience from:
    - ● Dante
    - ● EGEE
    - ● Internet2

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Document "Schemata for Network Performance Characteristics"

Work In Progress. Document Layout:

3. Base Schema

   Explain that definitive schemata is in RELAX-NG, with XML appendix from specific tool

3.1 Description

3.2 RELAX-NG Code

4. Extension Schema

   Explain that These Schemata MUST be used in conjunction with the NMWG Base Schema

   Example (as in how to doc) using characteristic/tool "foo"

4.1 Description

4.2 RELAX-NG Code

5. Extension Schemata for Current Characteristics and Tools

5.1 Round Trip Delay

5.2 TCP Achievable Bandwidth

5.3 UDP Achievable Bandwidth

5.4 Frame loss

5.5 Frame re-ordering

5.6 Bandwidth Utilisation

5.7 ping

5.8 iperf (TCP)

5.9 traceroute

Message | Store
type : String

Metadata

Subject
id : String

Parameters
id : String

Data
type : String
id : String
metadataIdRef : String

CommonTime
time : Time
Timerange or Timestamp
Datum
Results

Datum
time : Time
Timerange or Timestamp
Results

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perfSONAR Deployments

- ◆ **perfSONAR is a joint effort:**
  - ESnet
  - GÉANT2 JRA1
  - Internet2
  - RNP (Brazil)

- ◆ **ESnet includes:**
  - ESnet/LBL staff
  - Fermilab

- ◆ **Internet2 includes:**
  - University of Delaware
  - Georgia Tech
  - SLAC
  - Internet2 staff

- ◆ **GÉANT2 JRA1 includes:**
  - Arnes
  - Belnet
  - Carnet
  - Cesnet
  - CYNet
  - DANTE
  - DFN
  - FCCN
  - GRNet
  - GARR
  - ISTF
  - PSNC
  - Nordunet (Uninett)
  - Renater
  - RedIRIS
  - Surfnet
  - SWITCH
- ◆ **Recent additions:**
  - CLARA (Latin American Cooperation of Advanced Networks)
  - LHC Network

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Contact Details

◆ Chairs:
- ■ Eric Boyd (Internet2), eboyd@internet2.edu
- ■ Richard Hughes-Jones (University of Manchester), R.Hughes-Jones@manchester.ac.uk
- ■ Mark Leese (Daresbury Laboratory), m.j.leese@dl.ac.uk

◆ Website under re-construction: http://nmwg.internet2.edu

◆ Mailing list: nm-wg@ogf.org
- ■ To subscribe, https://forge.gridforum.org/sf/projects/nm-wg then Subscribe and fill in the web form

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NML-WG:
# Network Mark-up Language

Chairs:

Paola Grosso - UvA

Martin Swany - Udel

Purpose: to describe network topologies, so that the outcome is a standardized network description ontology and schema, facilitating interoperability between different projects.

The scope is to define one or more schemas to describe:
- a layer independent network topology
- properties that are common across multiple network technologies,
- a mechanism so that other working groups or other projects may combine technology specific schemas with the schemas created by the NML working group.

Such a schema can be used to create <u>inter-domain network graphs</u> at various abstraction levels, to provide an <u>information model for service discovery</u>, and to <u>facilitate lightpath provisioning</u>.

First official meeting at OGF20 in Manchester. See you there!
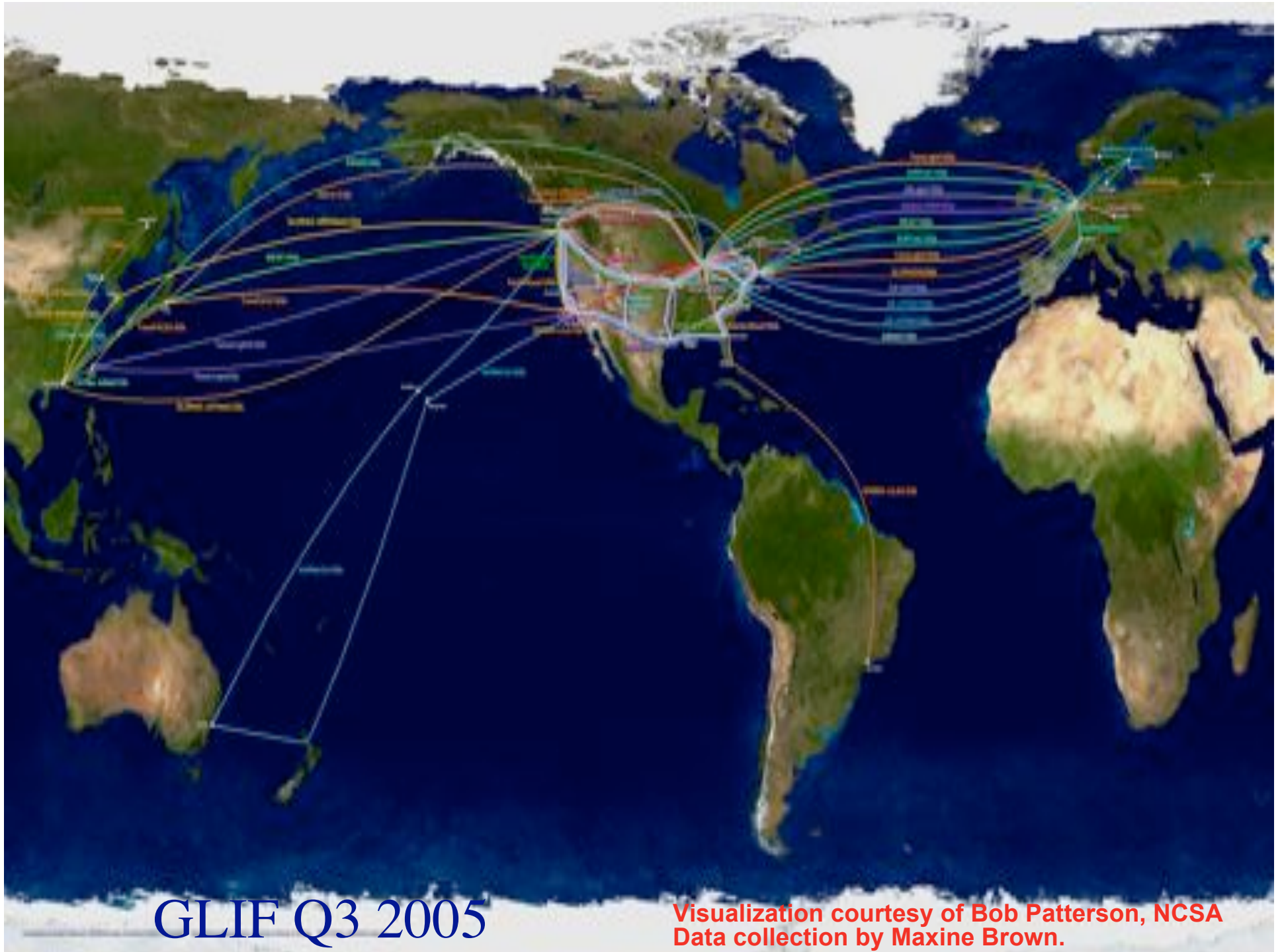
GLIF Q3 2005

Visualization courtesy of Bob Patterson, NCSA
Data collection by Maxine Brown.

Current status: NDL

NDL - Network Description Language - an RDF based model for hybrid network descriptions.

It leverages all the semantic web tools, to provide:

- parsing of the RDF files
- graphs and visualization of connections and lightpaths
- lightpath provisioning support at inter and intra domain level.
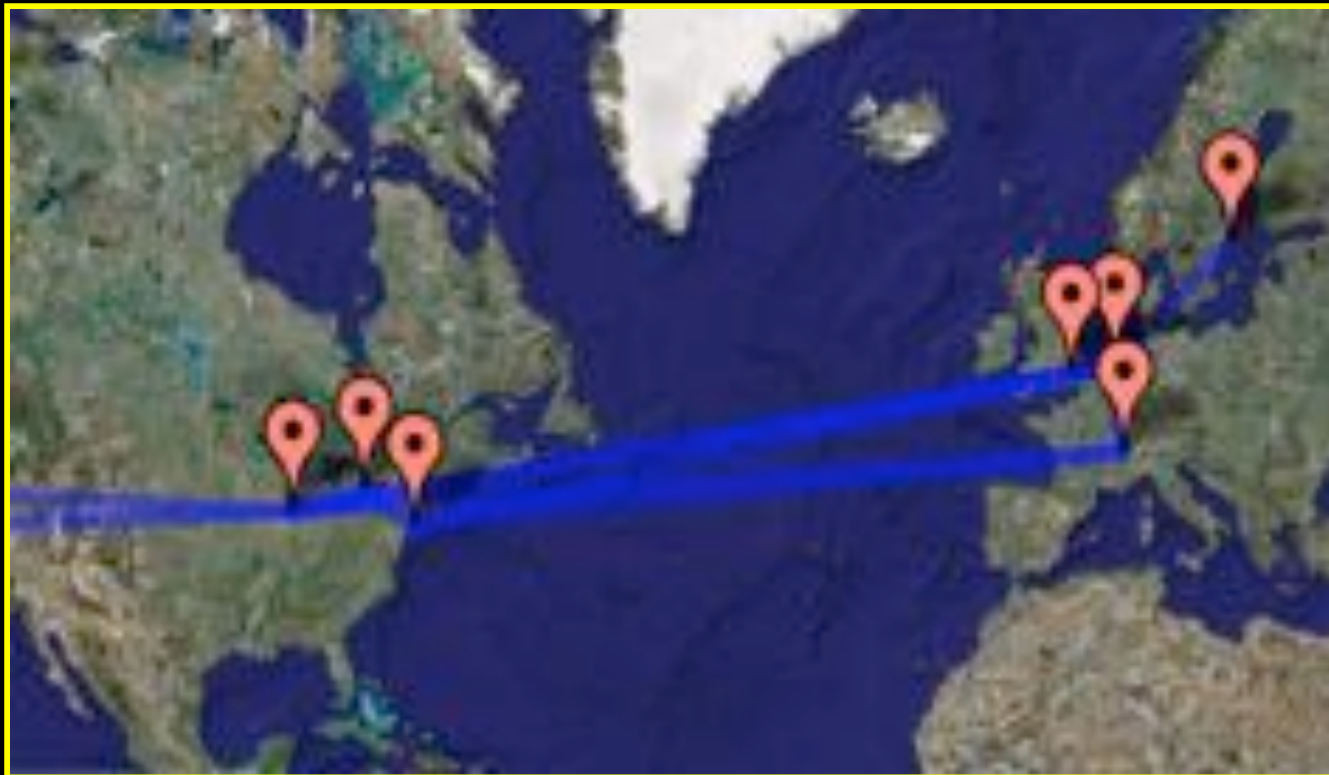
Latest developments were presented at the GLIF meeting in Sep. '06.

Google-maps and NDL…

…the GLIF connections described by NDL.

Meetings this week

◆ **Grid High-Performance Networking RG (ghpn-rg)**
  ■ Friday morning 9h00 - 10h30 and 11h00 - 12h30, Magnolia

◆ **Grid and Virtualization Working Group (gridvirt-wg)**
  ■ Thursday afternoon 14h00 - 15h30, Mountain Laurel

◆ **Network Measurements Working Group (nm-wg)**
  ■ Thursday morning 9h00 - 10h30 and 11h00 - 12h30, Mountain Laurel

◆ **Network Mark-up Language Working Group (nml-wg)**
  ■ not this time, see you in Manchester

◆ **Infrastructure area meeting**
  ■ Wednesday late afternoon 18h00 - 19h30, SunFlower

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