



## **GLIF ControlPlane WG Meeting**

**11-12 September 2006**

**Tokyo – Japan**

**Draft Minutes v 0.2**

### **Introduction**

Gigi welcomed the participants and provided an updated about the ControlPlane WG. Gigi also reviewed the scope of the ControlPlane WG and what has been discussed over the last year.

The latest evolution is to use Grid Middleware communication to talk to Network Management to create paths.

### **GN2-JRA3 efforts in the control plane area - Victor Reijs, HEANet**

JRA3 activity investigates bandwidth on demand is, meaning with this term the various technologies used, the multiple administrative domains and the multi-aggregated domain.

Victor also pointed out that it is also important take into account that there various ways to provide end-to-end connections, starting from human interaction to more advanced systems.

Victor identified two elements:

- IDM: Inter-Domain Manager
- Domain Manager: this element is not very relevant for this group, but it is decided by the local domain.

The interaction between the various IDMs is crucial for this WG.

### **Ethernet over the WAN - John Graham, ULCC**

John talked about the Provider Backbone Transport (PBT), the new technology that aims to make Ethernet more deterministic and presented a picture of Ethernet control-plane.

John recommended the group to look at a new internet draft (June -06) that covers GMPLS over Ethernet.

## **G-Lambda and Enlightened Middleware and Control Plane interactions - Tomohiro Kudoh, AIST and Jon MacLaren, CCT, at LSU**

Tomohiro's talk started providing an overview on various models that can be used to provide an end-to-end path between different domains, based on the assumption that each domain manager communicates only with the domain it belongs to.

In the GLambda collaboration the Global Resource Coordination was used.

Jon MacLaren discussed his open source Middleware architecture called HARC (Highly-Available Robust Co-scheduler).

HARC provides a framework for co-scheduling any resource with suitable booking functionality. HARC solves the transaction problem involving the co-scheduling of heterogeneous resources (multi-domain networks and geographically dispersed compute resources) utilizing transaction commit protocol based on Gray and Lamport's Paxos Commit Protocol.

Jon discussed the architecture that was used for the demo at GLIF.

### **Joint session with the OGF GPHH-WG (via phone conference)**

A phone conference with the GPHH-WG took place during the GLIF control plane working group. Dimitra Simeonidou, the current chair of the GPHH wg and Gigi gave a joint talk about the scopes of the two groups.

To consolidate collaboration between these two groups, which seem to have some common goals, a BoF has been scheduled to take place during the next SC in November 2006.

As preparation to the BoF it was agreed to draft a whitepaper to discuss the scope of the two groups and to define possible joint documents.

GLIF/GHPN BOF session

12:15pm-1:15pm, Nov. 14, Tue.

Location: 18-19.

<http://sc06.supercomputing.org/techprogram/bofs.php>

(Heterogeneous Optical)

**ACTION:** Gigi and Licia to follow up on this.

## **InterDomain Peering and Provisioning via Web Services and (G)MPLS - Tom Leham, ULCC**

The talk focuses on control plane objectives and how to provide control plane a in a multi-domain environment.

Various techniques to provide end-to-end circuits were presented and some examples of DRAGON implementation were also shown.

Tom also talked about the DRAGON Control Plane components, which are all open sources and available on the DRAGON website.

The use of Web services to capture control plane functionalities would be very useful. The major issue is to a NDL to abstract the network, which implies an agreement to standardise the XML schema to use.

It was pointed out that this is also an issue for JRA3 (GEANT2) and it was agreed to cooperate on this issue.

### **Control plane Strategy - Rick Summerhill, Internet2**

Rick presented briefly Internet2 network topology, from many perspectives (P2P, IP, DWDM) and focused in particular on the control plane effort.

### **Inter-domain progress between US and Japan - Tomohiro Otani, NICT**

The first part of the talk covered JGN II project, the network test-bed for research purposes and in particular the GMPLS implementation.

Tomohiro presented also the results of the evaluation of E-NNI and the related test conducted between Japan and US (EnLIGHTened project).

The experimental results showed that LSPs could be successfully demonstrated between US and Japan, without exposing topology information.

A IETF draft about GMPLS is under discussion, for more information please refer to: draft-ietf-ccamp-gmls-ospf-mib-00.txt.

It was pointed out that the GMPLS signalling, completed within 600 ms (one round-trip around the Pacific), is a bit too high.

### **Discussion and conclusions**

Gigi asked the audience whether the general feeling is that this group is moving to the right direction.

There are a lot of activities going on in the various projects, as presented, but there is not a lot done as a whole community.

However, it was noted that progress is being made in each of the various projects and it is now the goal of the GLIF community to start threading them together.

The audience was asked to look into the various efforts and see if they can be adopted.

In order to make to work of the WG more effective it was agreed to identify the two issues which have high priority. The issues were identified as:

- **agreeing on a NDL schema** to be used to support control plane. It was suggested the Tech-WG to use the NDL schema to represent the networks.

It was agreed to create a document to define an NDL schema; Mathieu Lemay will circulate a first draft and contributions are expected by Andree Toonk, Jeroen van der Ham, Victor Reijs, Tom Leham and John Vollbrecht.

Contributions from other members of the group are welcomed.

For this purpose Licia has set up a wiki, which is only available for the moment to the people that are working on this task.

- **defining a standard E-NNI interface.** Some efforts on this issues are being discussed by some institutions already (Dante, ESnet, Internet2 and CANARIE) and it was agreed to join forces.

### **Summary of the Actions**

**Action01:** Gigi and Licia to follow up the liaison process with the GPHW WG.

**Action02:** Mathieu Lemay to publish on the wiki the first version of the NDL schema document.