GLIF Control Plane WG

30 September 2005, San Diego (CA)

Introduction

The Control Plane Working Group, officially established at the beginning of 2005, met for the first time as a working group in San Diego on Friday 30 September.
The meeting was a real kick-off for the attendees and gave the opportunity to meet each other and to discuss possible working items.
Gigi Karmous Edwards will chair the Control Plane Working Group which operates under the GLIF umbrella and will liaison with other relevant international activities such as GGF, NLR and I2.

Due to the fact that the Technical Working Group is already active, a joint session Control Plane/ Technical was organised on Friday morning to discuss the focus of the two working groups to make sure that they complement each other instead than duplicating work.

The Control Plane working group was introduced at the joint meeting. Gigi presented on the mission and focus of the group and how this group will build upon the work from the Technical working group. Due to the tight coupling of the two working groups, joint sessions on a periodic basis will have to take place.

During the joint session it was agreed that the Technical WG will focus on all the current technologies and procedures to allow users to discover and request GLIF resources, whereas the Control Plane WG will focus on how to automate these procedures with a final goal of signalling across global networks to establish an end-to-end lightpath.
First thing for both working groups is to establish a Common Service Definitions to be used by the GLIF community.
Next, how will these services be verified by the users, and thirdly, by what means will we start to automate today's very manual intensive processes for establishing end-to-end connections. Three presentations were given during the session to discuss these topics.

The minutes of the joint meeting (produced by Kevin Meynell) are available at:
http://www.glif.is/meetings/2005/tech/

The Control Plane meeting started later than planned, due to a delay of the joint meeting. The proposed agenda had to be reviewed and shortened due to time constrains. The scheduled discussion about what control plane should be, could not take place, but it was suggested discussing this topic on the list.

Three presentations were offered to foster discussion.

The first presentation came from Jerry Sobieski, who talked about GPMLS and proposed a way to define services.

Common Service Definition – Jerry Sobieski (MAX)

Jerry talked about an activity that was carried out by his institution to connect various test-beds. The aim was to still be able to define what kind of service was available for the users. Users normally have no control on what happens over the internet, they just can send requests and define whether the service requested has been delivered and how.
A common Service definition describes an arbitrary set of parameters and values that define the service that could be offered to the users.
Jerry proposed to agree on a common service definition that describes what a service should deliver in terms of detailed parameters and to use the same model to ask users to indicate what they have received.
The newly defined Common Service Definitions should be compared to existing ITU definitions for consistencies.

ACTION: Jerry to send to the list some example of services description and lead this task
ACTION: Pascale Primet, Patric Gary, Michiaki Hayashi, Paul Daspit and Rod Wilson, volunteer to work on this task.

3 Views of optical network - Bill St. Arnaud (CANARIE)

Bill gave the second presentation on UCLP and the use of Web services to support optical networks.

UCLP is the combination of the newly announced NSFGENI (Global Environment Network Initiative) and SOA (Service Oriented Architecture).
The GENI concept looks at the networking virtualisation and how users can manipulate virtual networks with in the same underlying network infrastructure, whereas SOA is a web service workflows that provides a means for combining services together in a flexible way. There are several web services platform to use (including Globus toolkit 4). Bill also recommended .net.

The UCLP web services software is based on the Open Grid Service Architecture and allows end users to self provisioning and dynamically reconfigure optical (layer one) networks within a single domain or across multiple independent management domains. For these characteristics it fits in the virtual networking.

Gigi asked whether web services could be used to represent a control plane service for a particular routing domain, in order to help automate some end-to-end connection procedures. Bill answered that in principle it could work, but what it is needed and what the steps are needs to be agreed upon.

Bill also suggested doing Google Mash-ups.

Testing and Monitoring - Matt Zekauskas (Internet 2)

The third and final presentation was given by Matt Zekauskas and was focused on end-2-end testing and monitoring on optical network.
What is the absolute minimum to keep people satisfied? How do you verify services from end points? How about fault management? These are all problems that need to be addressed.

Matt also pointed out that monitoring networks can be rather tricky when many technologies are used (L1 + L2 + MPLS etc) and finding the point of failure becomes harder.

The HOPI (Hybrid Optical and Packet Infrastructure Project) can be an example, although the test-bed is meant mainly for Ethernet.

End user verification (meaning the end point delivery) is the most important thing to do.

It was a agreed to as a first priority on this subject to work closely with the task team developing the Common Service Definitions to understand what tools exists and are necessary to verify a service once requested and operational. Therefore, part of the CSDs should discuss techniques to verify the service.

Other topics discussed

Control plane and management plane were also discussed. The distinction between these two things was not very clear. Gigi explained according to her that management plane is more an vertical application that goes down to the control plane, whereas the control plane is an horizontal application that defines the behaviour of the network.

ACTION: Gigi to circulate a short document that describes the differences between the control and management plane
ACTION: It was also agreed to provide a bi-monthly report over the list to summarize any progresses.
ACTION: Licia and Gigi to circulate such a report at the end of November 2005.

Summary of the actions

Reference		Action	Status
20051026-01	Jerry	To send to the list some example of services description and lead this task	4 Nov 2005
20051026-02	Pascale Primet, Patric Gary, Michiaki Hayashi, Paul Daspit, Rod Wilson	To work with Jerry on this task.	
20051026-03	Gigi	To circulate a short document describing the differences between the control and management plane	4 Nov 2005
20051026-04	Licia and Gigi	To provide a bi-monthly report about the progresses of the group	30 Nov 2005

Attendees list

Peter Clarke	UK e-Science
Matt Crawford	Fermilab
Pauld Daspit	Nortel
Licia Florio	TERENA
Pat Gary	NASA/GSFC
Leon Gommas	University of Amsterdam
Paola Grosso	University of Amsterdam
Michiaki Hayashi	KDDI R&D Labs
Bonnie Hurst	MCNC
Wataru Imajuku	NTT
Gigi Karmous Edwards	MCNC
Tomohiro Kudoh	AIST
Tom Lehna	USC/ISI
Jan Matsukata	NII
Fernardo M. Muro Macias	CLARA
Pascal Primet	INRIA
Yasunari Sameshima	NTT
Richard Schneider	NASA
Yoichi Shinoda	JAIST
Jerry Sobieski	MAX
Yoshihiro Takigawa	NTT
Payam Torab	Lamba Optical Systems
Velikhov Vasily	Institute of Information Systems RRC
Paul Wielinga	SARA
Rod Wilson	Nortel
Matt Zekauskas	Internet2