Meeting Object: **3rd EGEE-III Technical Network Liaison Committee (TNLC)**

Editor: **Xavier Jeannin (CNRS UREC)**

Meeting Date: **July 3rd, 2009**

Meeting Place: **Video conference**

Attendees:

Name	Institution	Short Name
Guillaume Cessieux	CNRS IN2P3-CC	GCX
Xavier Jeannin	CNRS UREC	XJN
Domenico Vicinanza	DANTE	DVA
Klaus Ullman (Postponed)	DFN	KUN
Chrysostomos Tziouvaras	GRNET	CTS
Vassiliki Pouli	NTUA	VP
Mary Grammatikou	NTUA	MG
Alberto Escolano Sánchez	RedIRIS	AES
Cecile Germain	CNRS LRI	CG

Apologies: Karin Schauerhammer (DFN), Mario Reale (GARR)

Contents

1. AGENDA

This meeting follows two previous EGEE-III Technical Network liaison Committee (TNLC).

First was held in Istanbul during EGEE'08 on 2008-09-24 (agenda is here: http://indico.cern.ch/conferenceDisplay.py?confId=37575).

The agenda of the second meeting (2009-02-24) and slides presented can be found at: http://indico.cern.ch/conferenceDisplay.py?confId=51084

The agenda of this third meeting (2009-07-03) and slides presented can be found at: http://indico.cern.ch/conferenceDisplay.py?confId=62476

2. ACTIONS

Previous actions:

N°	Registration date	Who	Subject	Status
1.	2008-09-24	GRNET CERTH / CNRS	TT: Investigate how to improve the input of the converter	Postponed
2.	2008-09-24	GRNET	TT: GRNET should send current Data Model	Done
3.	2008-09-24	CRNS	TT: Follow up if NREN would like to install the converter in their own facility	Done
4.	2009-02-24	CNRS	TT: GCX: Coordinate trouble ticket process.	Ongoing
5.	2009-02-24	CNRS	Monitoring: WG to be set up by XJN WG has been set-up but the WG should include more people especially SA1 people; SA1 has been requested but answer so far.	Done
6.	2009-02-24	CNRS	TT: Document shortly (2 pages maximum) by GCX	Postponed
7.	2009-02-24	NRENs	TT: Give feedback on TT topic	Postponed
8.	2009-02-24	CNRS/ GRNET CERTH	TT: Dissemination: Improve Trouble Ticket data model and disseminate	Done

New actions:

N°	Registration Date	Who	Subject	Status
9.	2009-07-03	DANTE	DVA: Advanced network services investigate to answer TNLC questions. See talk http://indico.cern.ch/conferenceDisplay.py?confId=62476.	
10.	2009-07-03	CNRS	XJN will try to find SA1 beta-tester for PerfSONAR-Lite TSS	
11.	2009-07-03	CNRS	XJN will try to relaunch the collaboration with SA1 around monitoring	

12.	2009-07-03	DANTE	DVA: Monitoring, investigate heterogeneous machine and virtual machine usage	
13.	2009-07-03	DANTE	DVA: Monitoring, investigate aggregated metrics usage	
14.	2009-07-03	CNRS	Shortly document (concept, goal, mean…) to come to EGEE'09 with a concrete proposal toward NRENs. Pending action (gather NRENs viewpoint etc) will be gathered during EGEE'09.	

3. MEETING NOTES

The five following presentations have been given during the phone conference:

A. Network Troubleshooting: PerfSONAR-lite TSS (TroubleShooting Service) by XJN
B. Network monitoring for EGEE and beyond by XJN
C. Grid Observatory: collaboration around monitoring CG (presentation postponed)
D. Exchange of standard network trouble tickets by GCX
E. Advanced Network monitoring XJN

All slides are attached to the aforementioned agenda.

A. Network troubleshooting

In the presentation "Network Troubleshooting: PerfSONAR-lite TSS", XJN explained the state of the development of the PerfSONAR Lite TSS.

Then some questions were raised:

GCX: Why NRENs are the only testers? Grid sites should be part of testers as they are the primary target for the software. Some Grid sites may be especially suitable to be software testers.

XJN Yes this is true we should include sites into our group of beta-testers.

Action:

- XJN will try to find site beta-testers.

B. Network monitoring for EGEE and beyond

XJN presented slides around network monitoring for the EGEE project. The working group includes currently GARR and CNRS. A first document has been delivered, https://edms.cern.ch/document/1001777. This working document summarizes the approach to design a monitoring solution. Starting from the identification of actors and their requirements, the document investigates the services that have to be provided. Then technical aspects are considered:

chosen metrics, time synchronization through NTP, scheduled measurements. A discussion about the big number of sites to monitor (300) and how to reduce the number of end to end paths to monitor is raised and several solutions are proposed. The available architectures that are foreseen to build on the network monitoring solution were then presented.

The questions raised are following:

Why applications have no requirements about monitoring?

MG: No idea.

XJN: slide 22, perfSONAR UI shows availability of the measurement. The result shows that the multi-domain measurement seems not operational. Is it due to ICMP filtering? What is the good solution for multi-domain measurement?

DVA: This is a side effect, PerfSONAR UI shows the availability of the measurement and the availability is validated only if the full mesh measurement is achieved. But there is no measurement that is currently made between all sites of a domain A and all the sites of domain B, so it is why there lot of zones where the measurement seems not available.

XJN: As ICMP seems filtered and delayed into router, TCP measurement seems a good approach.

Discussion on GPS antenna. Is this really needed?

XJN: GPS antenna is not needed, we should find a cheap solution

Discussion on heterogeneous hardware.

XJN: From network monitoring point of view is using heterogeneous hardware a problem? What does RedIRIS plan to deploy within its monitoring project?

AES: We will use 2 machines, we will make recommendations for the sites but we cannot impose anything to sites. So we will use heterogeneous hardware.

GCX: I have not seen a project imposing specific hardware to the sites, expected in private company world. So we should not impose that to the sites, it is more realistic.

XJN: Could we use virtual machine for the monitoring probe?

DVA: I will investigate this question internally

XJN: Are aggregated metrics only prospective matter or can we use in our case especially in order to reduce the number of paths that we have to monitor

DVA: I will investigate this question internally

Action:

- XJN should try to involve more SA1 in monitoring process.
- DVA should investigate aggregated metrics usefulness.
- DVA should investigate heterogeneous hardware usage (virtual machine).

C. Grid observatory

The discussion was delayed to the Thursday 9 of July

The idea was to correlate Grid upper level failures to potential network failure.

CG explains that the Grid observatory retrieves information from the BDII and the WNS, and most information is related to job. We do not have application log, if you are interested in that information, see the Dashboard.

XJN: Do you have any idea of the traffic pattern generated by the Grid?

CG: No

One very interesting work is the IBM Real-Time Active Inference and Learning (RAIL) based on I. Rish research work. It allows you optimizing the probe deployment.

We try to correlate the usage of file and job thank to a kernel hook. I will be one of our future tasks.

Conclusion: It is very difficult to correlate a job with its usage of the network (traffic transfer)

D. Standard Network trouble tickets exchange

GCX would like to clarify the work plan. The workgroup will provide a short document (concept, goal, mean, objective...) – 2p max. The time is really short before end of EGEE-III. GN3, NRENs, OGF, other entities/projects could benefit or be interested in our initiative? GCX highlights that multi-domain network operations may be a common problematic.

XJN: It is a very general problem, big projects and big institutes should have the same problem.

GCX: It is no longer a technical problem, maybe political but clearly there are manpower issues.

Dissemination was fruitful: Grid paper, TNC, poster, RFC.

GCX: Is there a working group in GN3?

No working group around in GN3.

GCX: It is surprising when it claims to address multi domain issues and when operational issue might be a big issue.

Result of the discussion around ticket with DFN (Monday 6th of July):

KUN: From a strategic point of view I think the approach via trouble ticket system is a dead end road and will never fly in a concrete system. You can see the methodological difficulties already on L2 in LHCOPN where we monitor nothing else than up/down status of a link.

My methodological favorite would always be the performance monitoring which is well understood methodology wise (other than the trouble ticket connection).

Moreover due to the diversity NRENs (and Grid providers) have in that field I don't really believe that this is the way to go.

I share your view that identifying an error in a big system which includes applications and network (multi domain) is a generic problem but I would strongly recommend not using TTs for its solution.

GCX: It could be useful in case of scheduled outage announced thanks TT (Maintenance Ticket).

Action:

- GCX: Wait EGEE'09 talks and makes a really concrete proposal for people around the table there to join.

E. Advanced network services:

XJN reminds that the Grid users think that the network is offering only best effort services. The grid users do not know what network services are available currently. The new network services are not enough deployed over European countries to be used by multi-domain project like EGEE

- Easiness access to the services is crucial for user
- Where do users find the information about the advanced network services available?
- Where a project like EGEE can post its requests?

XJN: what is the better way to interface the Grid and the advanced network services, thanks to the ENOC, integrated within middleware?

DVA: dissemination is needed. User need to see easily how this can be done. There is big gap between users and developers. I will see with Richard and be back but we are at the beginning in the moment.

MG: Are there documents about how to use the service in GÉANT2 network? Is there a place to centralize information?

First step is to know what NRENs intend to do, dissemination is second step.

Result of the discussion around advanced network services with DFN (KUN, Monday 6th of July):

The whole thing depends on what you define as "advanced service". For KUN definition of advanced service would be:

- Beyond 10G
- Advancements of the control plane in multi domain environments i.e. to be able to switch channels faster than in the order of some months.

GLIF isn't per se an advanced service. It's plain technology.

My experience in the past 4 years of D-Grid (national) and EGEE (European) is that Grid users don't have - very much to my surprise - demands to specialized services with HEP being a bit of an exception. Most users have been more than satisfied with an over-provisioned IP service and no user group including HEP is at the moment able to create or consume more than one 10G stream.

Action:

- DVA will investigate internally to answer to TNLC questions

4. NEXT MEETING

DVA: Is there a remaining phone conference before EGEE'09? No this is the last one.

The date of the next conference will be announced on the mailing list.