

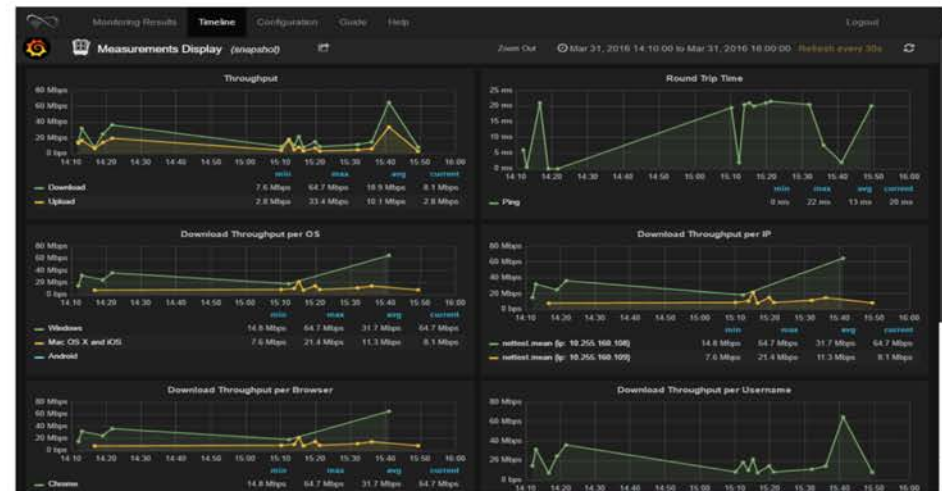
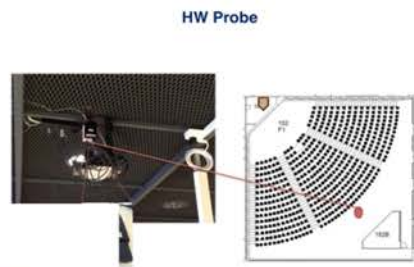
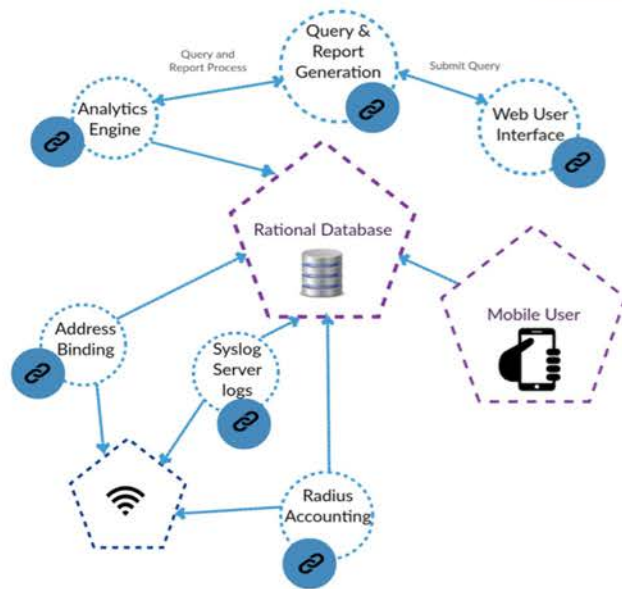
GN4-2-SA3T5 (eduPERT)

Kurt Baumann (SWITCH)

GN4-2-SA3T5 Discussion

	<u>eduPERT IST</u>	<u>eduPERT future</u>
Community model	<p><u>eduPERT</u> part of the GEANT project</p> <ul style="list-style-type: none"> - NRENs, Coordinator role - Coordination PERT - Volunteer basis (one person) - Work flow: Support solving performance issues (best effort) 	<p><u>eduPERT</u> part of the GEANT project (NQA– SA3)</p> <ul style="list-style-type: none"> - (N)RENs+ (Outreach organizations) - Expertise (small projects), KDB - Volunteer basis (team) - Work flow: Working on Expertise, offering tools - Umbrella SIG-PMV
Innovation drivers	<p><u>eduPERT</u>(rather passive role) Focus: PERT trainings, KDB</p> <ul style="list-style-type: none"> - Input: NRENs NOCs - <u>eduPERT</u> trainings / monthly calls - Virtual Organisation (Mailing list) - “Coordination as a service” 	<p><u>eduPERT</u>(pro-active) Focus: Competence Centre, tools, Expertise</p> <ul style="list-style-type: none"> - Input: (N)RENs, Universities+ (Outreach organizations) - <u>eduPERT</u> trainings, Expertise in PMV, - F2F meetings: SIG-PMV, forum, sharing expertise - New tools, approaches (<u>WCsPMV</u>, CFM, DTNs...)

GN4-2-SA3T5 - Small Projects

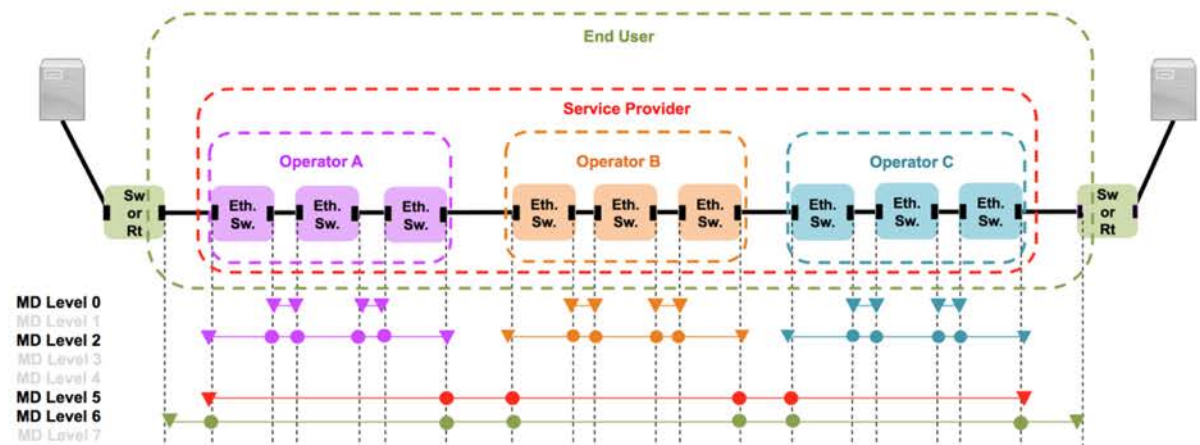


- The data we actually seek includes three items:
- The results of performance tests (JavaScript)
 - WAP where the user is/was connected (WAP-ID)
 - To when the test took place (Time Stamp)

ML7.1: <https://goo.gl/DgbPA1>

GN4-2-SA3T5 - Small Projects (cont)

- Ethernet services in multiple operator/administrative domain environments introduce complexity to operators task
- CFM has been standardized in IEEE 802.1ag
- Additional support is provided by ITU-T Y.1731



MD : Maintenance Domain

MA : Maintenance Association

▼ **MEP** : Maintenance End Point

(further distinguished: UP-MEP, DOWN-MEP)

● **MIP** : Maintenance Intermediate Point

MEP,MIP behaviour: MEPs generate CFM Message, MEPs and MIPs process CFM Message

- CFM Message with MD-Level > MIP/MIP Level : transparently pass
- CFM Message with MD-Level < MEP/MIP Level : discard
- CFM Message with MD-Level = MIP/MIP Level processes CFM Message (respond, transport or accepts)

Slide 4

Source: 1st SIG-PMV Meeting in Zurich - <https://goo.gl/C3XYJv>

GN4-2-SA3T5 - Small Projects (cont)



Knowledge Database

NETWORK: Network protocols, tuning and more...



END HOST: Application protocols, End-Host tuning and more...



TOOLS: Active and passive measurement tools, traceroute and more...



GENERAL KNOWLEDGE: Wizard gap, performance people, evil middlebox and more...



PERFORMANCE CASE STUDIES: History of the PERT cases (solved or still open).

Virtual Machines for the training

VMs: domain *.switch.ch, that means pert1.switch.ch - pert20.switch.ch

We have logins for tutors:

For the ubuntu user (with sudo rights)

```
$ ssh ubuntu@pertX.switch.ch
```

and for the training attendees:

For the ptraining user

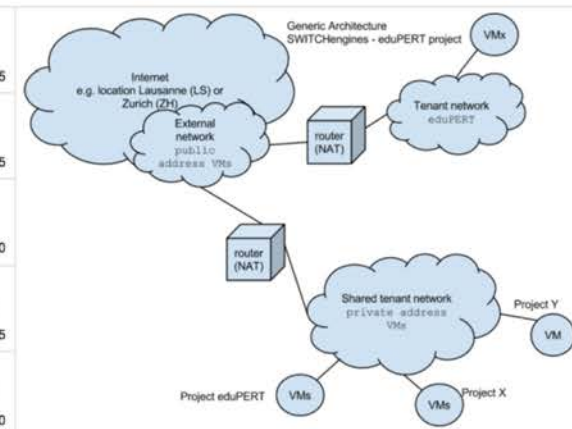
```
$ ssh ptraining@pertX.switch.ch
```

Password: "Soc04ansb11#* — all attendees, they will send us their SSH public key we will upload it under the "ptraining" authorized key file.

The ptraining user has all rights needed to complete the tasks in the training successfully, while the ubuntu user has rights to enable the installation of software, updates etc

Each attendee will have their own VM from SWITCHengines to work on, and that will be allocated to you during the training. This table shows the IP-addressing details for each VM

pert1 10.0.0.41 86.119.30.48	pert2 10.0.0.254 86.119.30.51	pert3 10.0.0.27 86.119.30.52	pert4 10.0.0.28 86.119.30.65
pert5 10.0.0.3 86.119.30.71	pert6 10.0.0.30 86.119.30.72	pert7 10.0.0.31 86.119.30.73	pert8 10.0.0.32 86.119.30.75
pert9 10.0.0.51 86.119.30.88	pert10 10.0.0.70 86.119.30.89	pert11 10.0.0.10 86.119.30.9	pert12 10.0.0.94 86.119.30.10
pert13 10.0.0.95 86.119.30.91	pert14 10.0.0.106 86.119.30.93	pert15 10.0.0.115 86.119.30.94	pert16 10.0.0.116 86.119.30.95
pert17 10.0.0.120 86.119.30.98	pert18 10.0.0.117 86.119.30.96	pert19 10.0.0.118 86.119.30.97	pert20 10.0.0.122 86.119.31.10

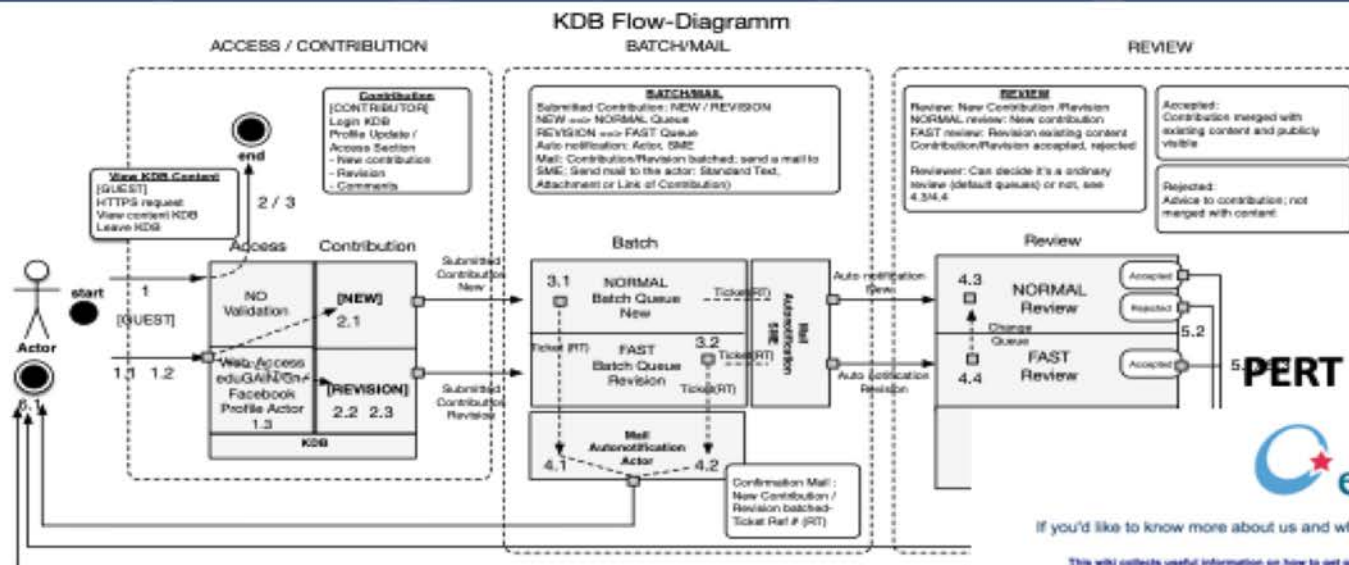


<http://kb.pert.geant.net/PERTKB/WebHome>

<https://wiki.geant.org/display/gn41na1/eduPERT@TNC15+Training>

GN4-2-SA3T5

tnc18



Legend:
 [GUEST] = Actor
 [NEW] = New Contribution - create new content - major change - review needed
 [REVISION] = Revision of existing KDB content - minor change - review needed
 NORMAL Batch Queue - New Contribution
 FAST Batch Queue - Revision
 NORMAL Review: New contribution ==> major change (change NORMAL to FAST Review by Reviewer)
 FAST Review: Revision of existing content ==> minor change (change FAST to NORMAL Review by Reviewer)

Role Description
 [GUEST] A guest (actor) is somebody who is connecting to the KDB but without authN ==> can only view the content
 [GUEST][authN] ==> [CONTRIBUTOR] A guest authorized (actor) comes up to a contributor ==> can contribute (New, Revision) to all sector
 [CONTRIBUTOR] A contributor can submit [NEW] or [REVISION] contribution, add expertise to the KDB or revised existing content of the KDB
 [REVIEWER] A reviewer is an [SME] [authN] which has full access to the whole content and is reviewing new contribution (accept, reject) and Remarks:
 Comments to existing contribution will not be reviewed and immediately visible for everybody

PERT Knowledge Data Base



If you'd like to know more about us and what the eduPERT community is up to, visit our portal.

This wiki collects useful information on how to get good performance out of networks, in particular research networks. This KB is open and public and anybody can benefit and contribute to its content. Editing is simple (see below). In the past years many topics have been collected with regards to performance and general knowledge of the network. To make the navigation easier they have been grouped in categories:

- 
NETWORK
Network protocols, tuning and more...
- 
END HOST
Application protocols, end host tuning and more...
- 
TOOLS
Active and passive measurement tools, databases and more...
- 
GENERAL KNOWLEDGE
Wizard gpg, performance people, best practices and more...
- 
PERFORMANCE CASE STUDIES
History of the PERT cases (closed or still open)
- 
TO DO
If you're looking for topics to work on, check out the To-Do list. You can also add suggestions for improvement there.

TNC18 Intelligent networks, cool edges? <https://wiki.geant.org/display/public/EK/Welcome+to+the+eduPERT+Knowledge+Base>

GN4-2-SA3T5 Conclusion

• What are some of the challenges and what can others do to support our efforts?

- To build a Community with an active role
 - → GEANT - SIG-PMV, the umbrella for researchers, the NRENs' PERT teams, outreach etc.
- To bring the NRENs requirement to PMV
 - → GEANT eduPERT task: To offer expertise → make tool sets available
- To force the NRENs active role for evolving PMV awareness, knowledge
 - → GEANT eduPERT task: To offer trainings, to support a KDB
- Outreach, Research organizations involved on figure out requirements
 - → ? , Collaborations, SIG-PMV or another forum

• What other might do to stand up similar functionality at their organisations?

- NRENs, from their interests point of view to address requirements to the GEANT (eduPERT) PMV task
- KDB available or contribution on PMV-Issues
- Collaborations on building tool sets (motto – from/to the community)
- Research on performance VERIFICATION
- ...