

perfSONAR MDM updates: New interface, new possibilities

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GÉANT Multi-Domain Service Desk

<http://mdsd.geant.net>



- **perfSONAR MDM** now officially supported by the GÉANT MDSD
- **MDSD is operational from 08:00 to 17:00 UK time, Monday to Friday.**
- Reachable by email mdsd@geant.net or telephone +44 1480 484697

The Multi-Domain Service Desk (MDSD) - Mozilla Firefox

http://mdsd.geant.net

http://www.geant.net/service/multidomainsupport/pages/home.aspx

MOST VISITED: Le Monde.fr : Actualité..., Rhône - Le Progrès, Live Traffic, perfSONAR web user i..., perfSONAR web user i..., VT SMGC VRC - EGIWiki

MULTI-DOMAIN SERVICE DESK

PART OF THE GEANT SERVICE PORTFOLIO

ABOUT MDSD | USER EXPERIENCE | FAQs | RESOURCES | ABOUT US | CONTACT US

Part of the GÉANT Services Portfolio

Monday 30 Jan 2012 | Time - 02 19

Do you need assistance with a multi-domain Service? Contact the Multi-Domain Service Desk

Would you like to know more about Bandwidth on Demand? Find out how Bandwidth on Demand can help you

Would you like to know more about perfSONAR MDM? Find out how perfSONAR monitoring can improve your network performance

Multi-Domain Service Desk

The Multi-Domain Service Desk provides a single point of contact to help NRENs involved in the delivery of multi-domain services and the deployment of multi-domain tools

The Multi-Domain Service Desk is a GÉANT service providing a single point of contact to NREN NOCs requiring assistance with multi-domain services and tools. The pilot phase for this service commences on 30th January 2012.

The MDSD provides support for:

Service Desk Updates

Jan 2012 The Multi-Domain Service Desk pilot will commence on 30th January 2012

Meet the Multi-Domain Service Desk team

GÉANT News

25 January | 2012
First intercontinental identity federation delivers easier access to resources

18 January | 2012
New release of perfSONAR MDM makes multi-domain monitoring faster than ever

• communicate • collaborate

Simplicity for concrete benefits:



- **Simplicity:**

- Just four components to measure:
 - *Link utilisation, Input errors, Output drops*
 - *OWD, Jitter, Packet Loss, Traceroute*
 - *Bandwidth (on-demand and scheduled)*
- No hardware-dependent software
- No need for GPS antenna
- New release, entirely package based, running on any standard RHEL, 32 or 64 bits server
- Debian to follow before March 2012

More NRENs are joining the pilot: 13 NRENs (Jan 2012)



4 NRENs will join next months – Other 10 targeted in the next months

perfSONAR

connect • communicate • collaborate

- Current Situation:
 - The service is still offered as a managed service, just keep the machines switched on
- In the future (terms still to be defined, input welcome):
 - the model will change from managed to supported:
 - The service desk will help updating and configuring the deployment
 - The site will be able to intervene on the deployment, choosing what to measure, where to place the servers
 - If required the Service Desk will take care of the complete deployment and configuration before handing the installation to the site perfectly working
 - All the deployment will be package based (so the updates can be easily automated)

- NDGF has been the first one to redeploy perfSONAR according to the new model
- Some sites expressed a preference of running MDM
- 9 Tier1s have agreed to keep MDM servers up and running for the time being.

- A growing community of NRENs is joining perfSONAR MDM service
- A growing community of Tier2s are deploying perfSONAR MDM
- Some of them are already listed in the new interface
 - Others will come soon (Turkey, Taiwan, Denmark, France, ...)
- Tests have been enabled from Tier1s to Tier2 and between Tier2s

(see next slides)

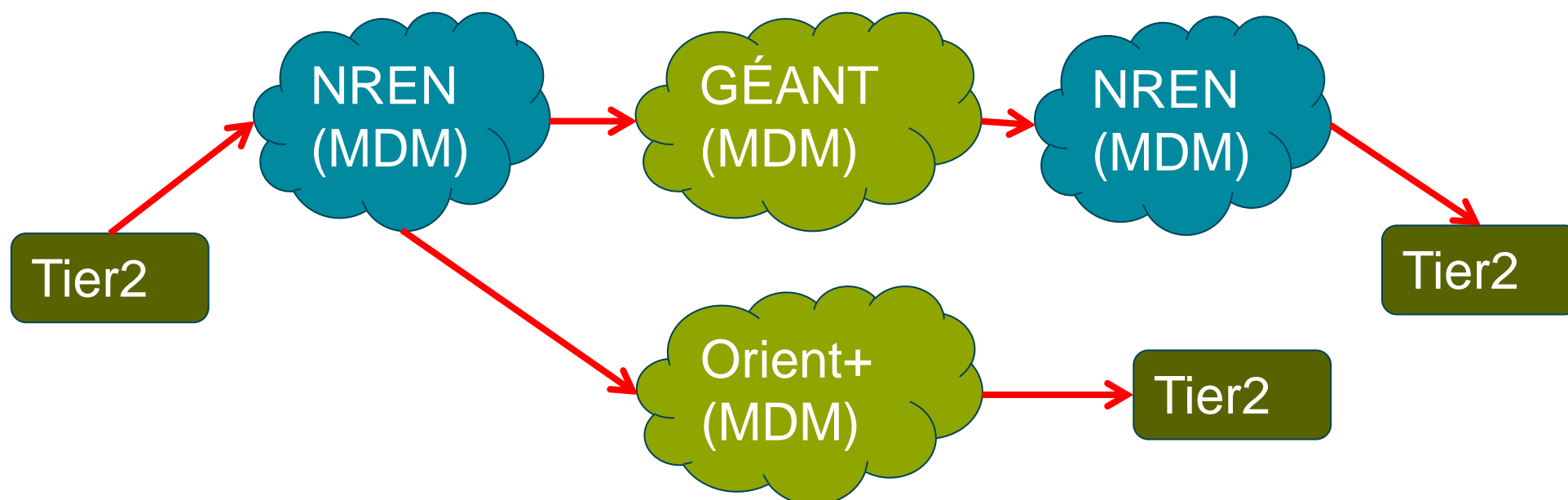
As a consequence:

- Possible integration of NREN and Tier2 monitoring infrastructures
- Aggregation of network measurements across the T2-T2 path
- (demo next LHCOPN meeting)

perfSONAR MDM as a natural choice for GÉANT Service Area



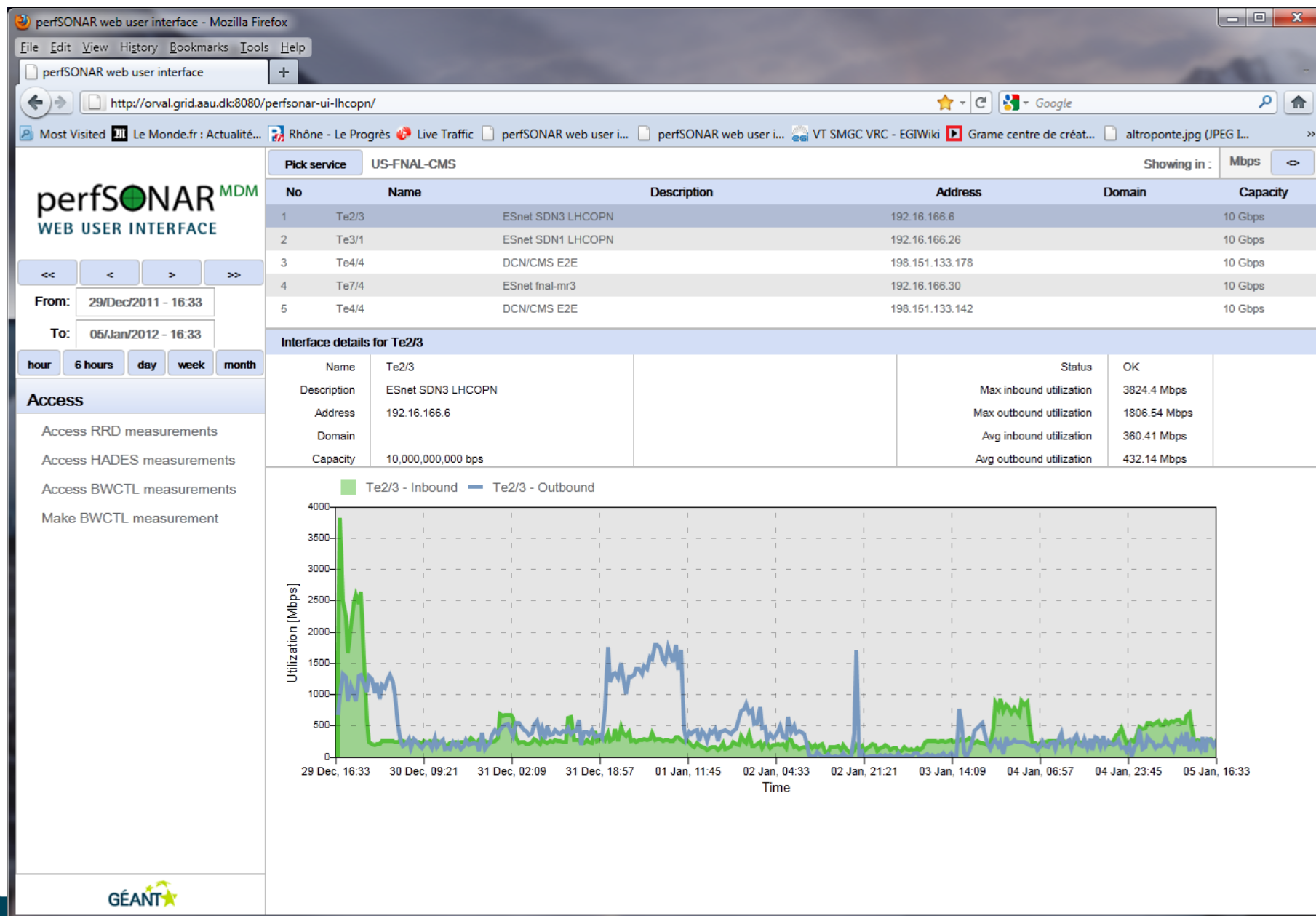
perfSONAR MDM is a natural choice for EU Tier2 part of the GÉANT(and Orient+) Service Area:



- perfSONAR MDM will have a new web interface
- Experimental version available here (password protected):
<http://orval.grid.aau.dk:8080/perfsonar-ui-lhcopn/>
- A professional usability expert is working with the developer to make sure it satisfies commercial-grade usability requirements
- It will be then presented to the NREN and LHCONe communities

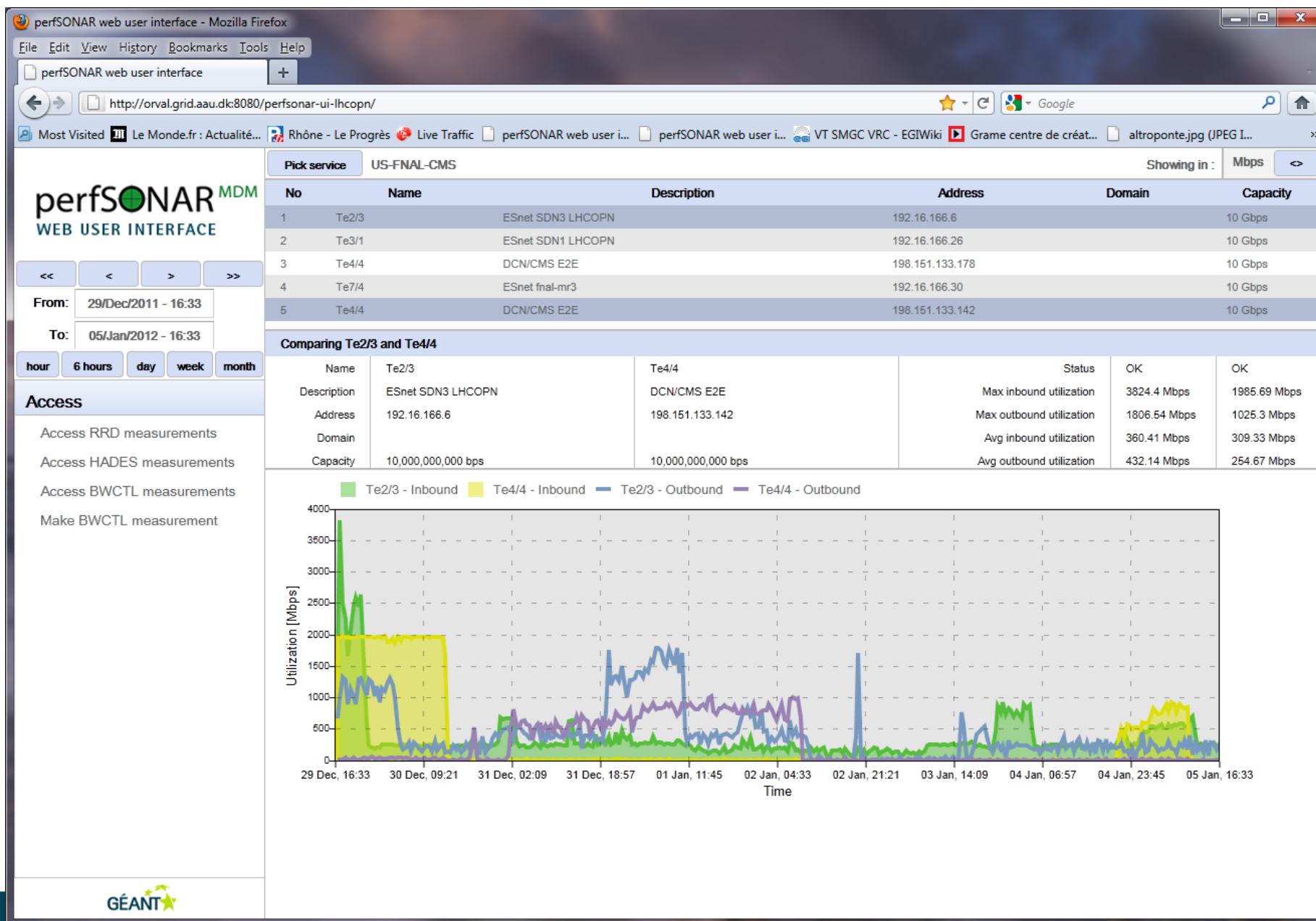
Screenshots from the LHCOPN/LHCONE web interface

Link utilisation, input errors, output drops (RRD-MA)

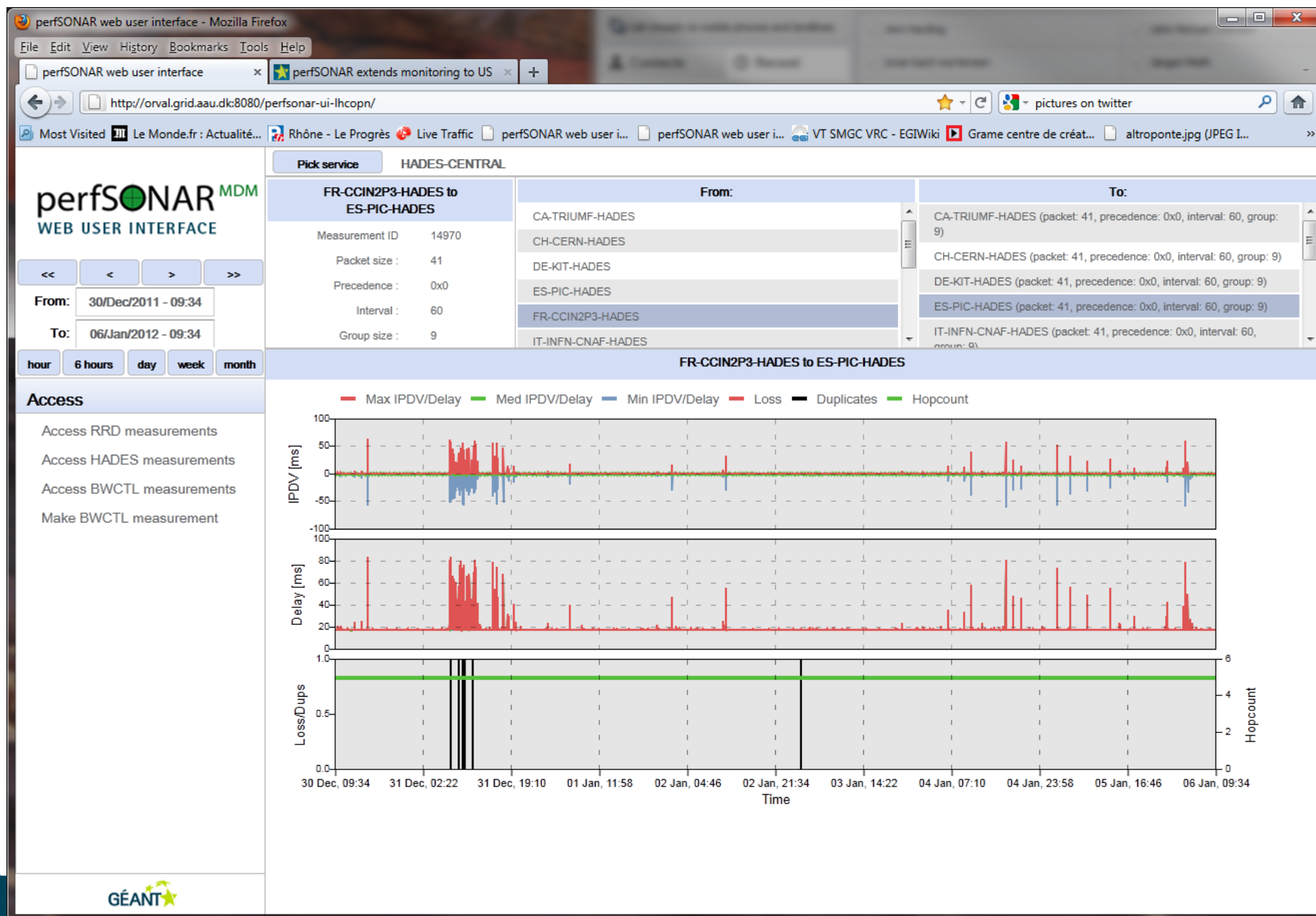


RRD-MA

Comparing two interfaces

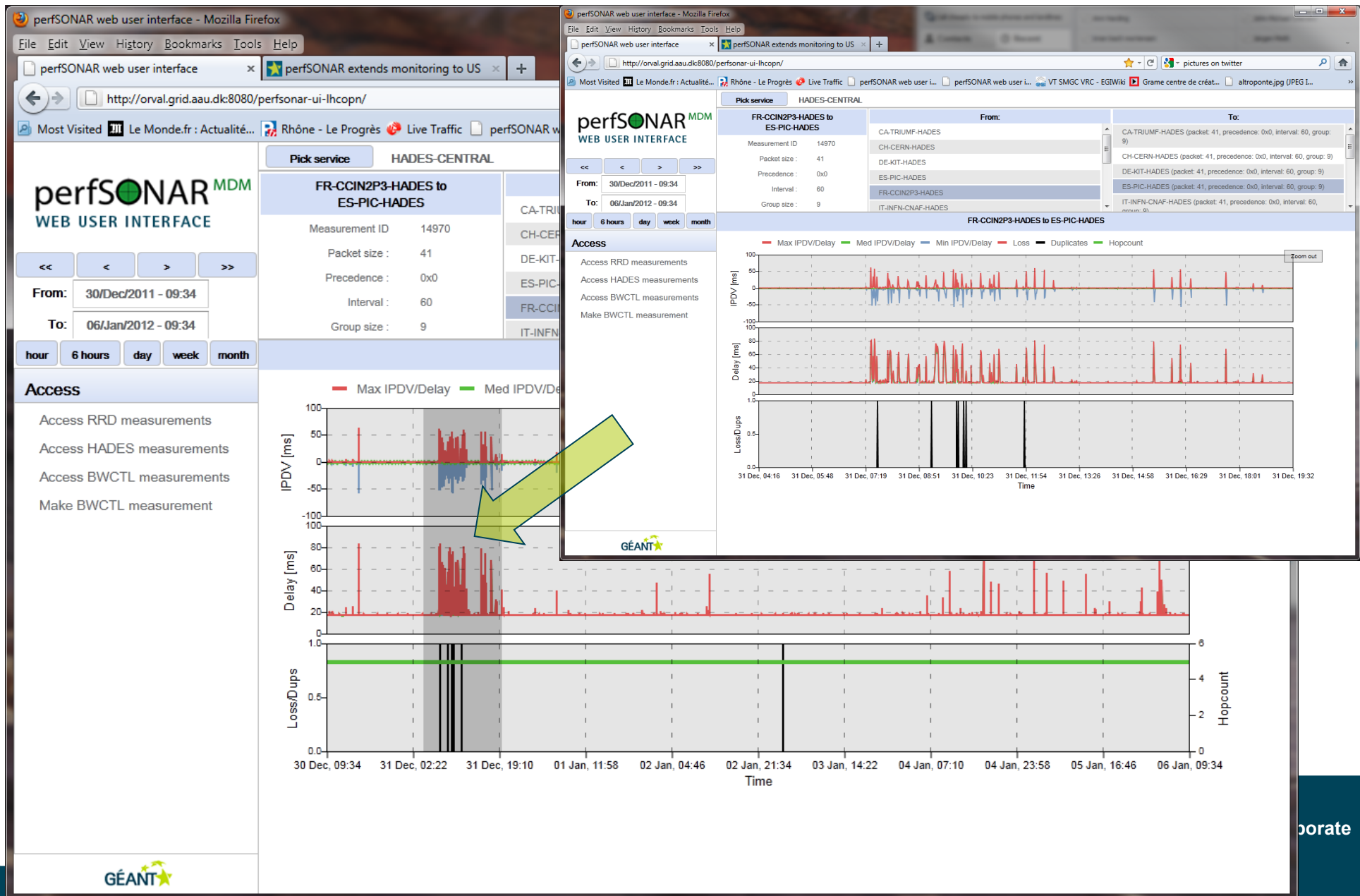


1Way Delay, Jitter, Packet Loss and Traceroute



rate

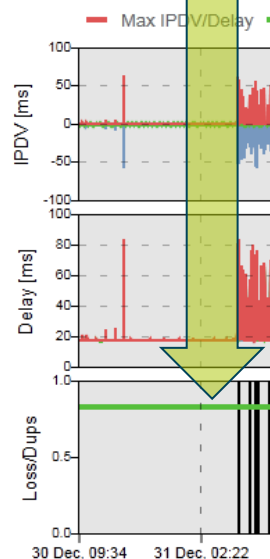
As usual you can select and magnify



1Way Delay, Jitter, Packet Loss and Traceroute



Clicking on the hop counts graph you can get the traceroutes and compare them



Route 1 - from 30 Dec, 09:34

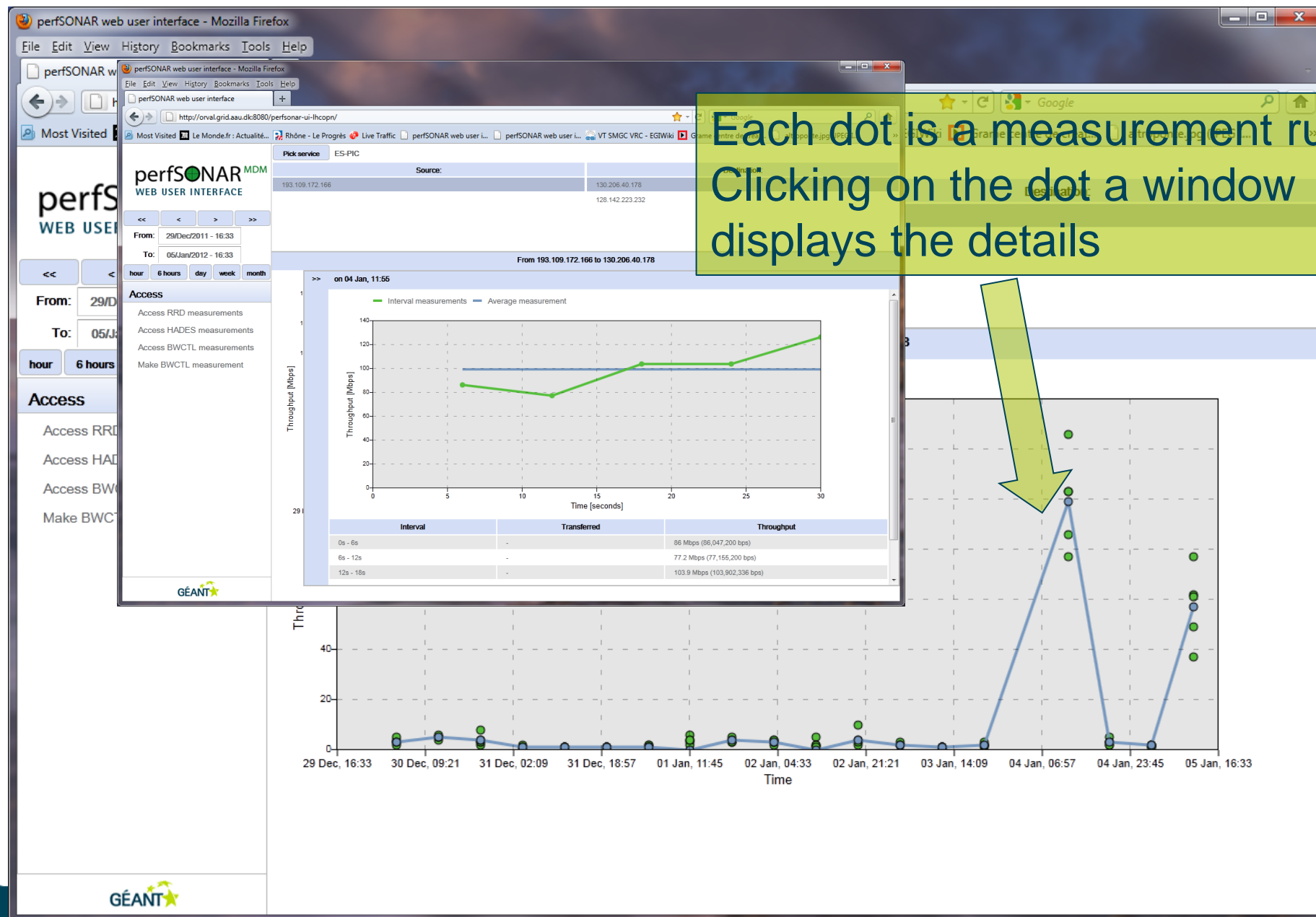
1	193.48.99.100	Lyon-OPN.in2p3.fr
2	192.16.166.41	IS13-e-rbml-2-be7.cern.ch
3	192.16.166.145	IS13-e-rbml-1-tl0.cern.ch
4	192.16.166.58	lhcopn-pic.cern.ch
5	193.109.172.165	hades-opn01.pic.es

Select route to compare:

Route 1 (from 30 Dec, 09:34 - 5 hops)

Traceroute

Accessing BWCTL Historic Measurements



Making an on-demand BWCTL measurement...



perfSONAR web user interface - Mozilla Firefox

File Edit View History Bookmarks Tools Help

perfSONAR web user interface

http://orval.grid.aau.dk:8080/perfsonar-ui-lhcopn/

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perfSONAR MDM
WEB USER INTERFACE

Pick source Pick destination NDGF Perform test

Protocol: TCP UDP Address type: IPv4 IPv6 Test duration (s): 30
TCP Window size (bytes): Reporting interval (s): 6
Type of Service bits:

Interval measurements Average measurement

From: 29/Dec/2011 - 16:33
To: 05/Jan/2012 - 16:33
hour 6 hours day week month

Access

- Access RRD measurements
- Access HADES measurements
- Access BWCTL measurements
- Make BWCTL measurement

Throughput [Mbps]

Please select source MP endpoint to query

Name	URL	Type
Tier 1 - CA-TRIUMF	http://206.12.9.68:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - CH-CERN	http://128.142.223.232:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - DE-KIT	http://192.108.46.125:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - ES-PIC	http://193.109.172.166:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - FR-CCIN2P3	http://193.48.99.245:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - IT-INFN-CNAF	http://131.154.254.5:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - NDGF	http://hades-bwctl.ndgf.org:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - NL-T1	http://145.100.17.7:8090/services/MP/BWCTL	BWCTL_MP

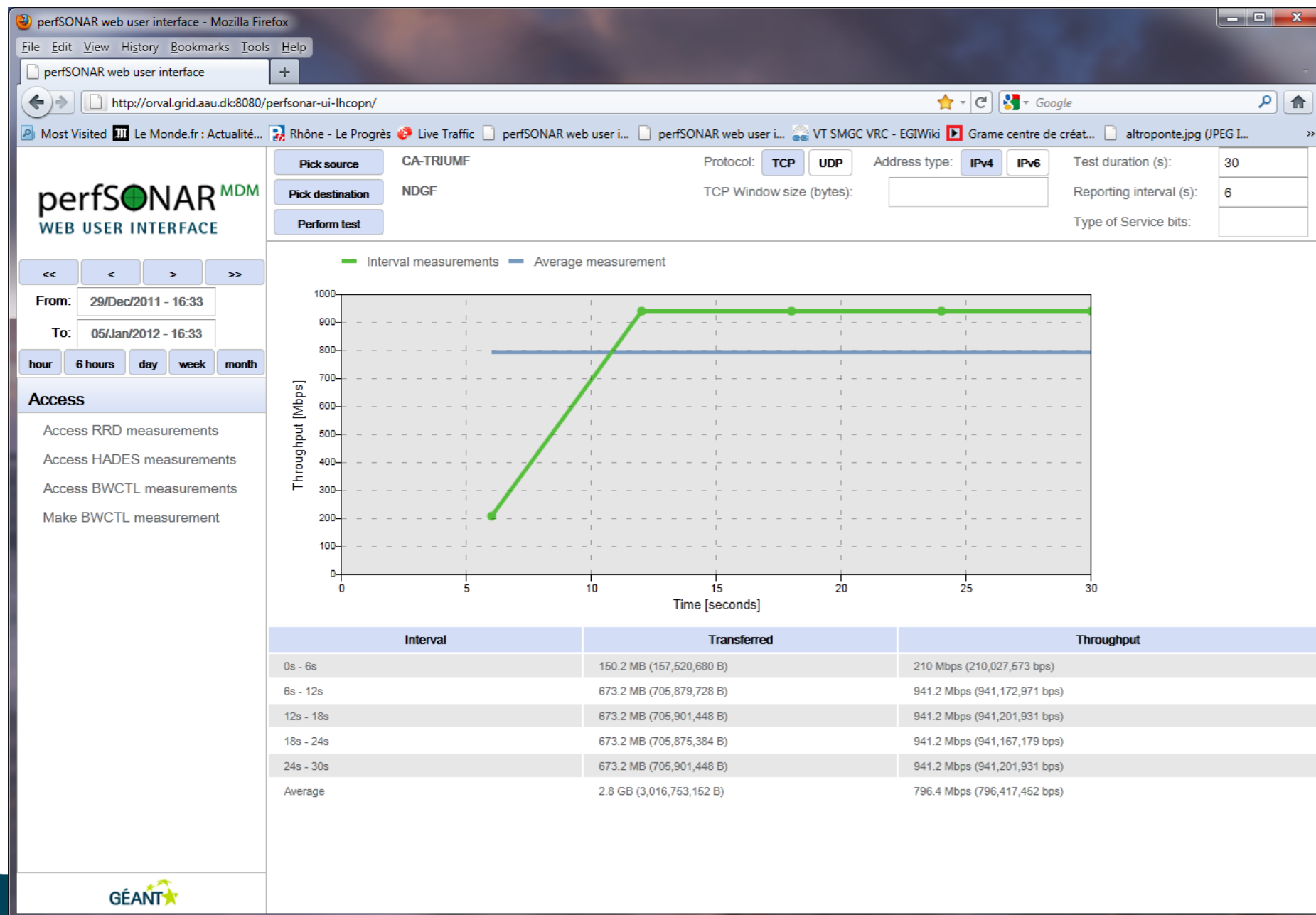
Cancel Select

Throughput

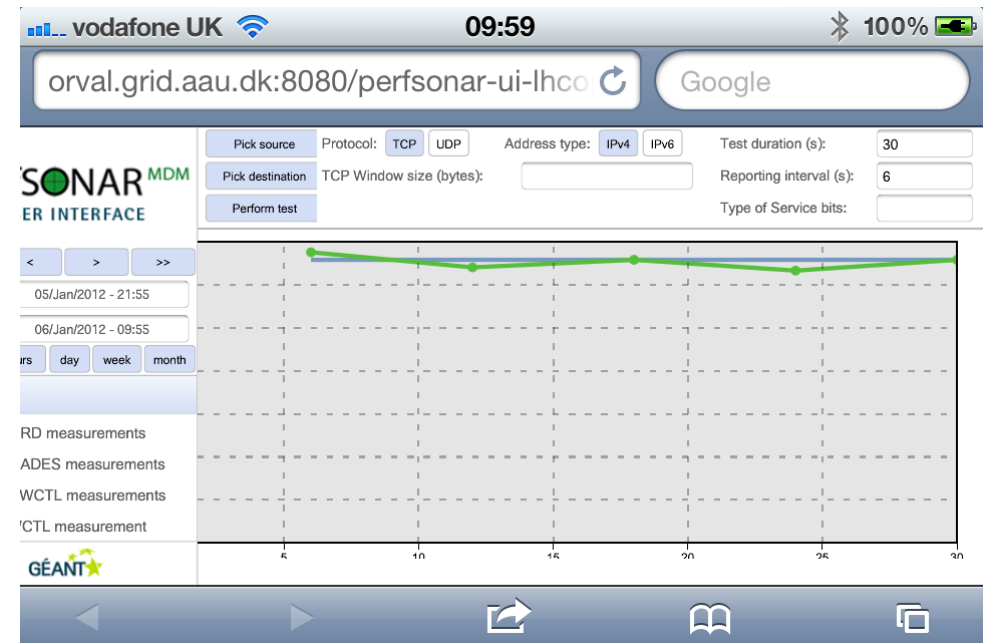
Time Range	Throughput (Mbps)	Throughput (bps)
0s - 6s	673.2 MB (705,901,448 B)	941.2 Mbps (941,201,931 bps)
6s - 12s	673.2 MB (705,875,384 B)	941.2 Mbps (941,167,179 bps)
12s - 18s	673.2 MB (705,901,448 B)	941.2 Mbps (941,201,931 bps)
18s - 24s	673.2 MB (705,901,448 B)	941.2 Mbps (941,201,931 bps)
24s - 30s	2.8 GB (3,016,753,152 B)	796.4 Mbps (796,417,452 bps)
Average		

GÉANT

...and getting the results in two clicks from the web interface

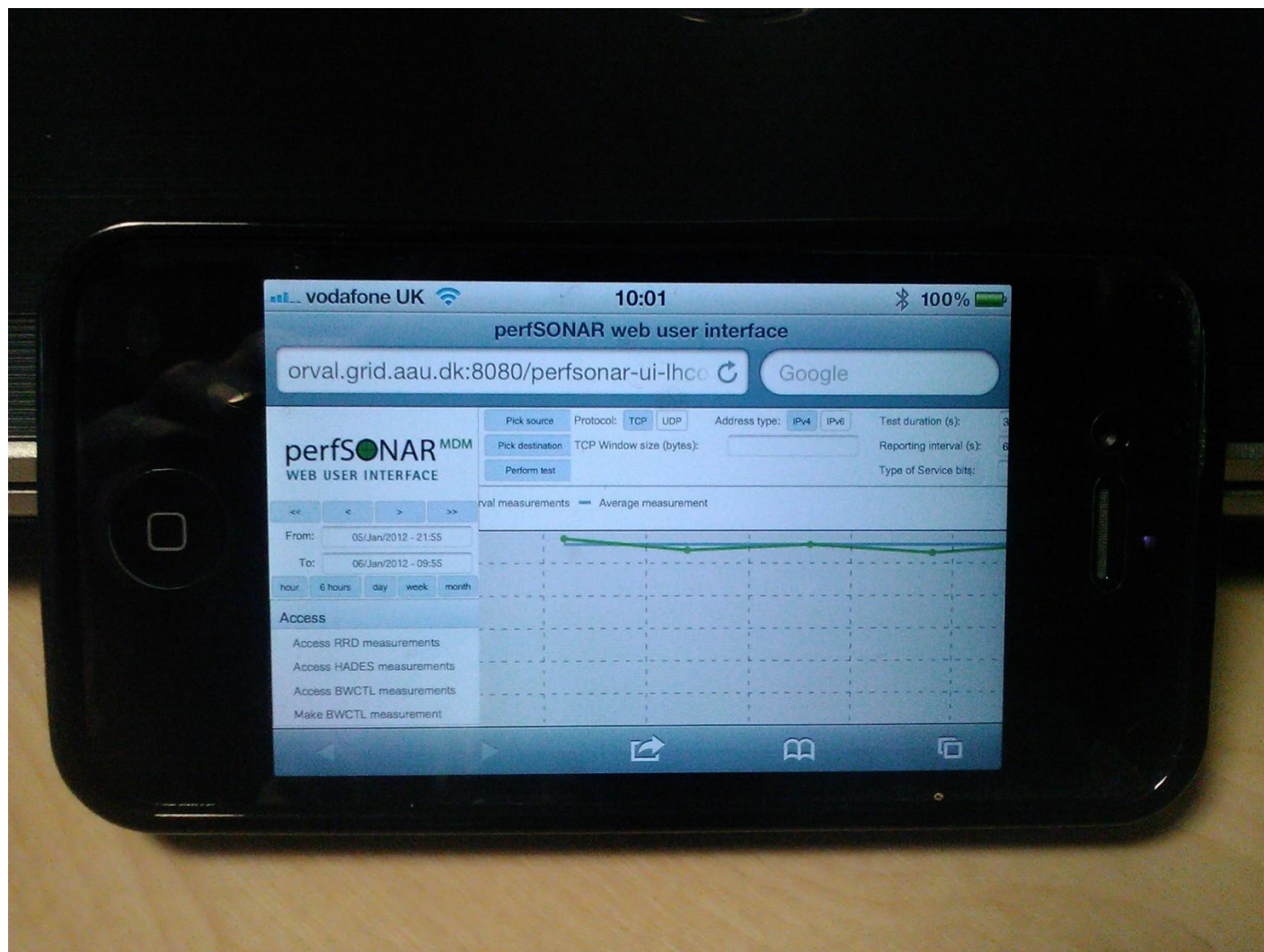


Interface accessible from mobile devices (with on-demand capabilities)



The interface on a smartphone (Apple iPhone)

Troubleshooting on the move



The result of an on-demand Bandwidth test run from an iPhone

T1-T1, T1-T2 and T2-T2 monitoring from the same interface

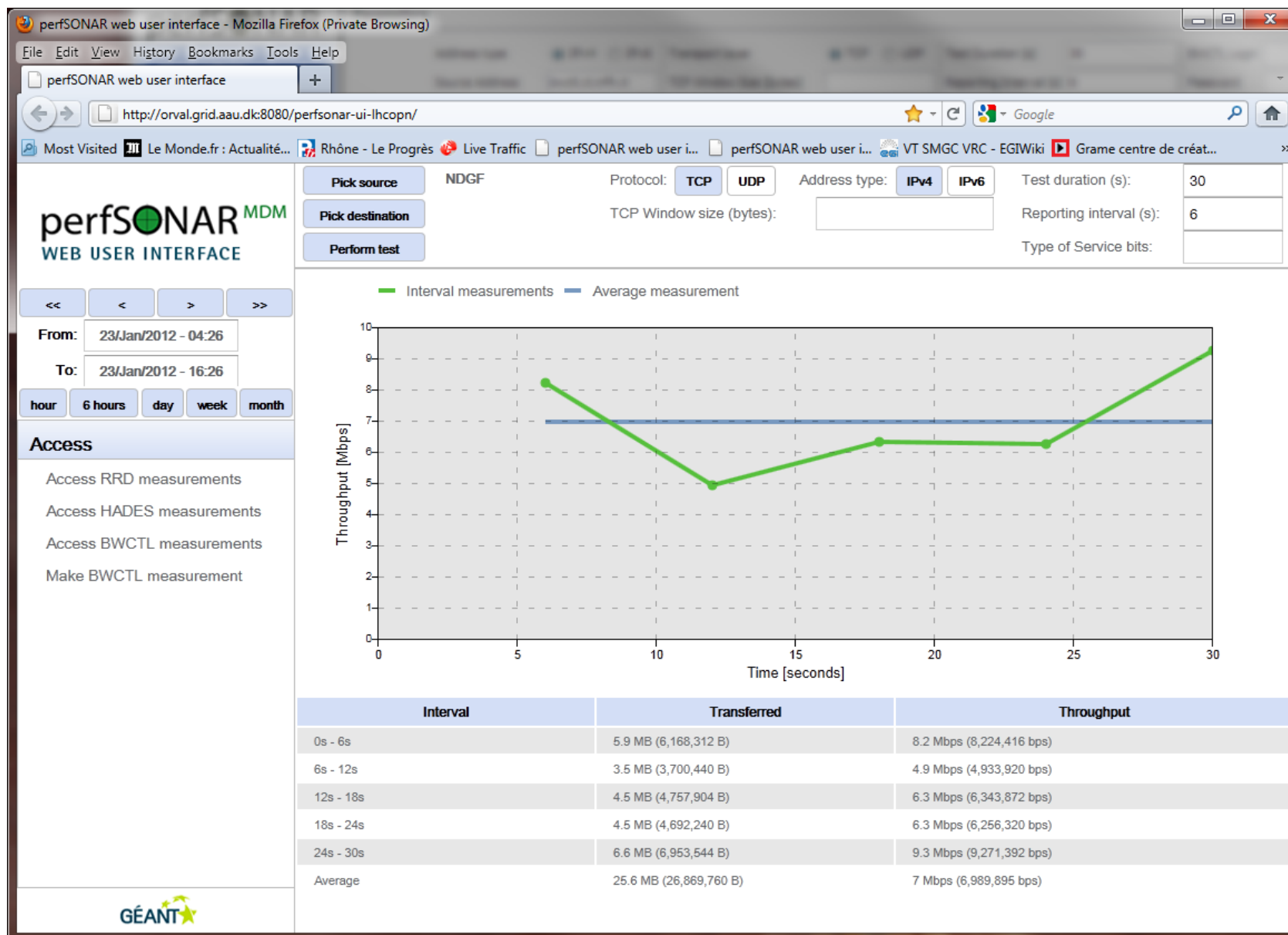


Please select source MP endpoint to query

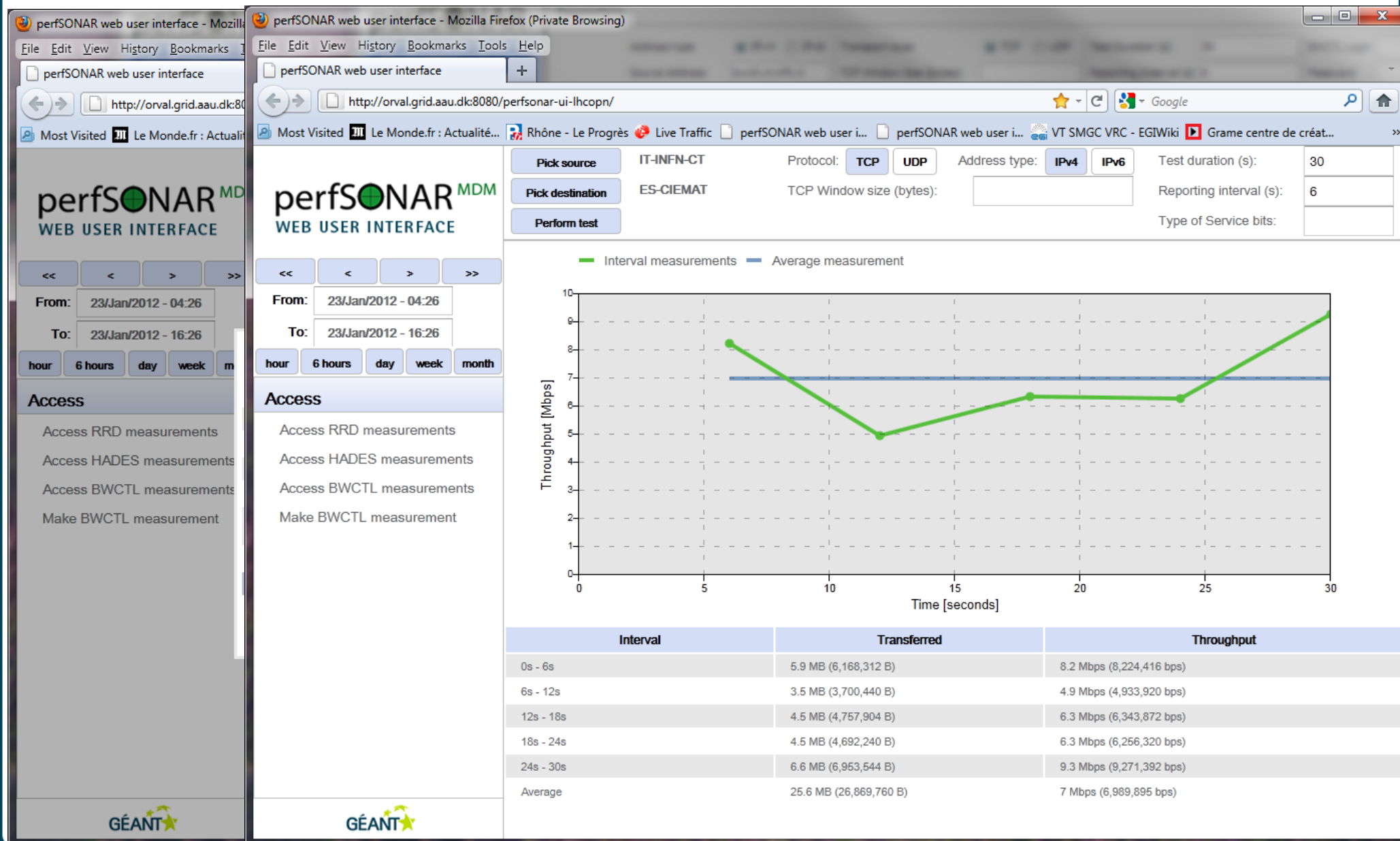
Tier 1 - IT-INFN-CNAF	http://131.154.254.5:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - NDGF	http://hades-bwctl.ndgf.org:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - NL-T1	http://145.100.17.7:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - TW-ASGC	http://117.103.105.184:8090/services/MP/BWCTL	BWCTL
Tier 1 - UK-T1-RAL	http://130.246.152.245:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - US-FNAL-CMS	http://198.49.208.19:8090/services/MP/BWCTL	BWCTL_MP
Tier 1 - US-T1-BNL	http://192.12.15.66:8090/services/MP/BWCTL	BWCTL_MP
Tier 2 - ES-CIEMAT	http://perfbw.ciemat.es:8090/services/MP/BWCTL	BWCTL_MP
Tier 2 - IT-INFN-CT	http://bwctl.ct.infn.it:8090/services/MP/BWCTL	BWCTL_MP

Cancel Select

T1-T2 Measurements



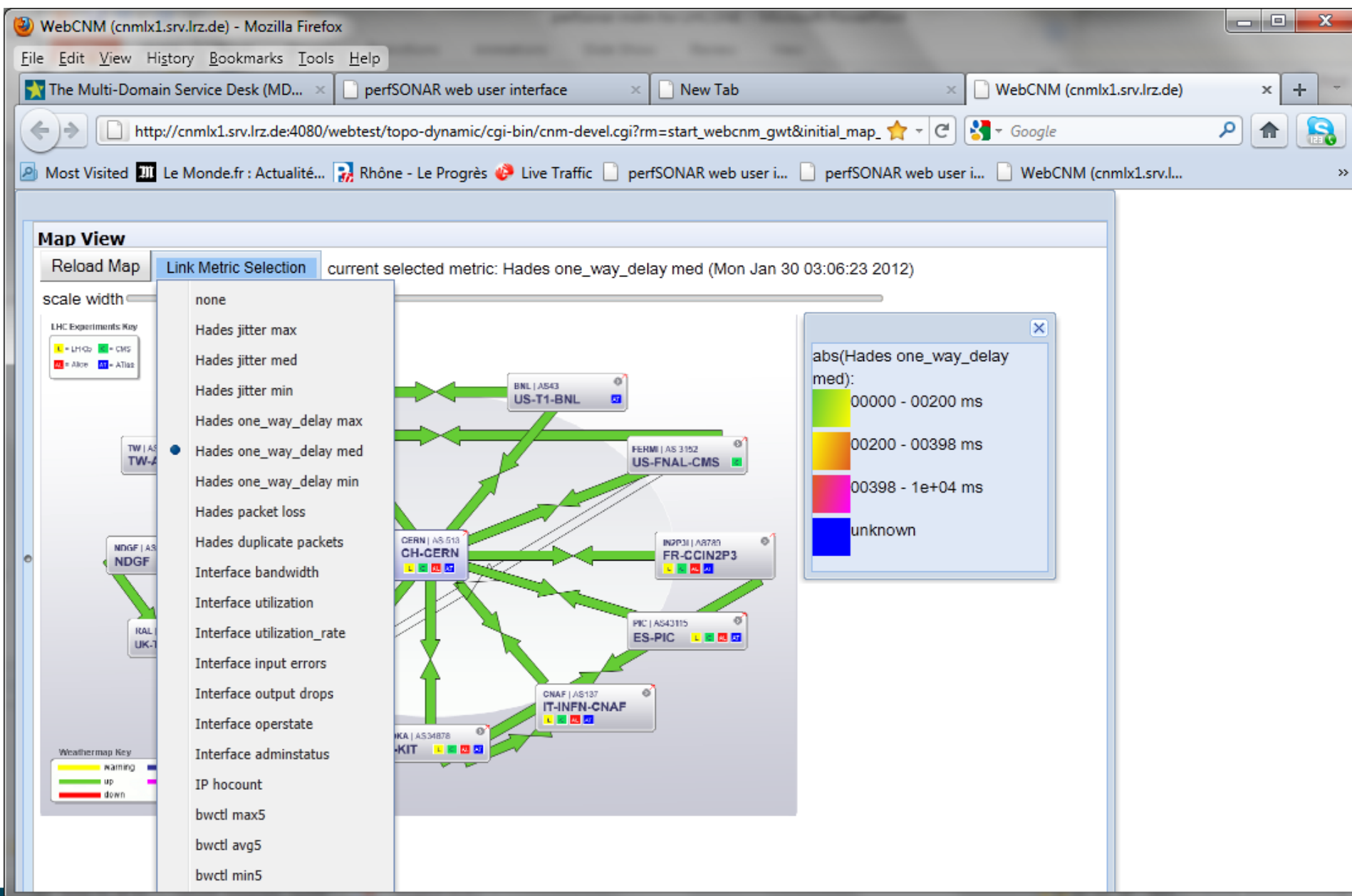
T2-T2 Measurements



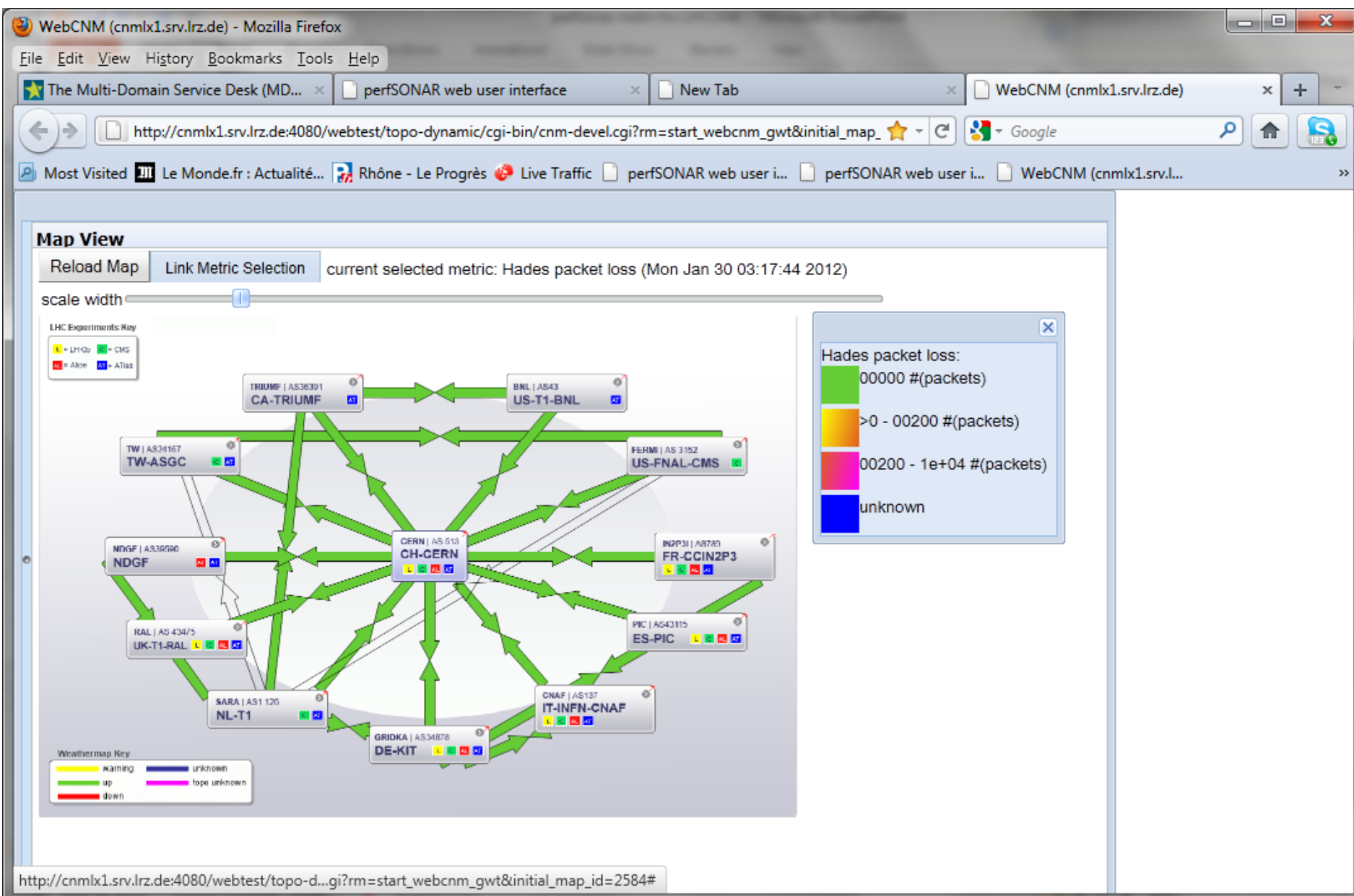
New developments: Integration of the new weather map

New weather map integration

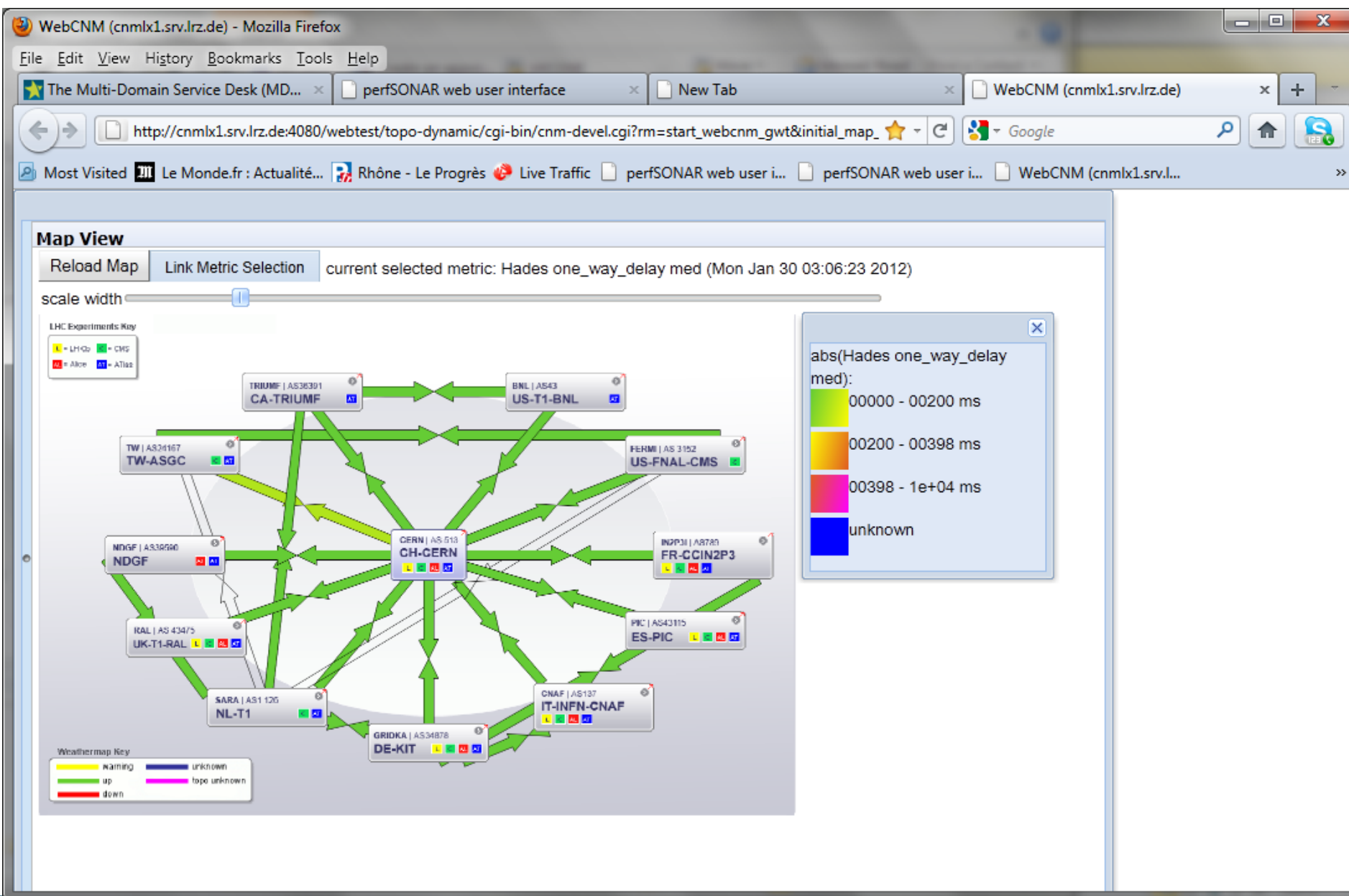
19 perfSONAR parameters available



Weather map examples (Packet loss)



Weather map examples (One-way delay)



**Summarising:
4 good reasons to have perfSONAR MDM**

Four good reasons to deploy perfSONAR MDM



1. **Supported.** perfSONAR MDM is supported by the Multi-Domain Service Desk (telephone and email) and deployment is assisted by a dedicated GÉANT team.
 - ✓ Support covers deployment, configuration and incident management.
 - ✓ Support is coming from the same time zone
2. **Accessible.** Integrated web-based user interface
 - ✓ shows from one single website all the metrics
 - ✓ enabling engineers to run crucial performance tests from their mobile devices (i.e. smartphones)

3. Simple yet powerful.

- ✓ Simplified structure
- ✓ Simplified installation procedure
- ✓ No hardware dependencies.
- ✓ Training events for deployers.

4. Open and flexible.

- ✓ Active panel of real users
- ✓ Interoperability
- ✓ Growing community of NRENs and research projects in Europe, Latin America and Asia.

Questions?



perfSONAR

connect • communicate • collaborate