

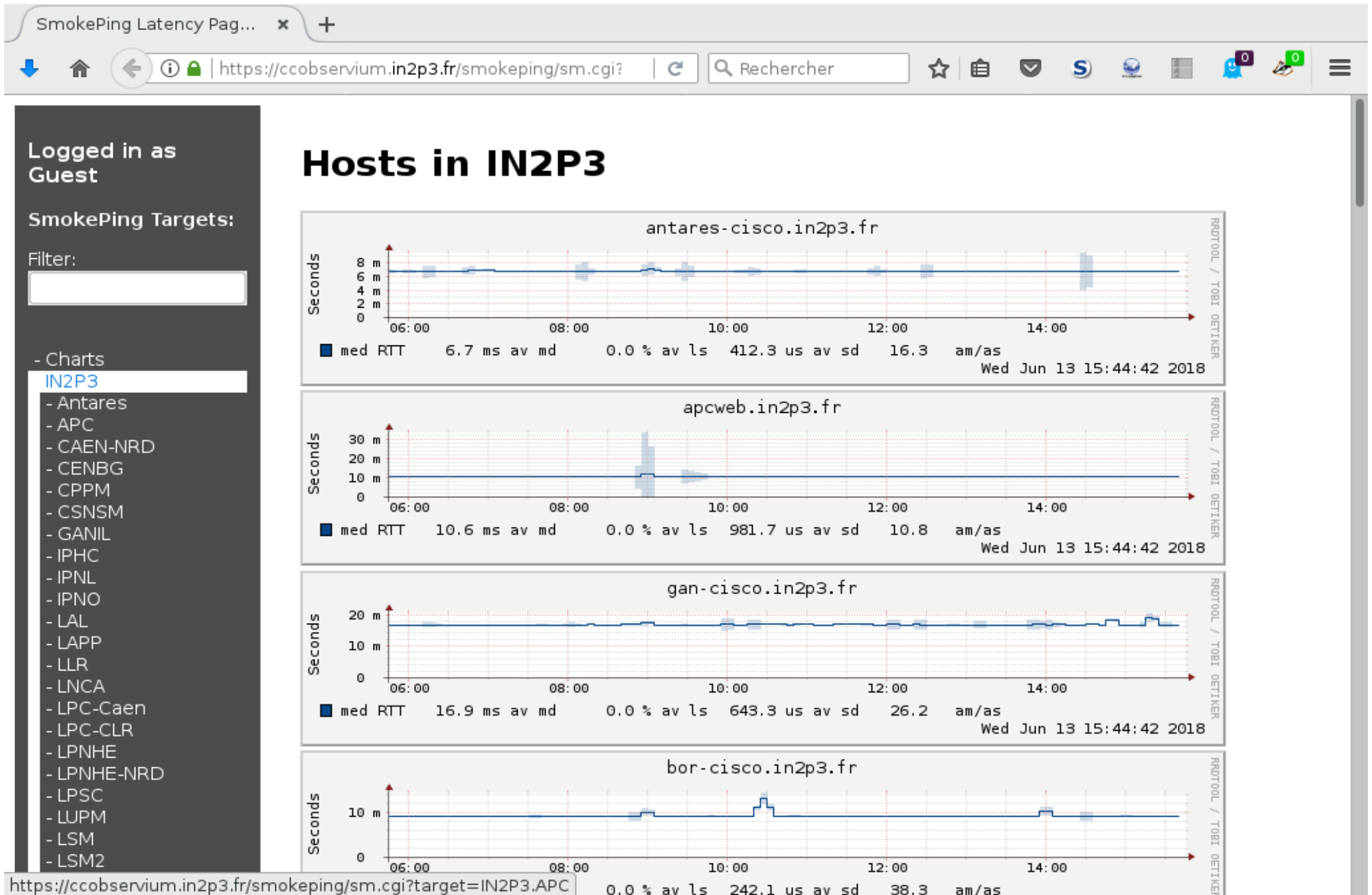
Outils de monitoring (réseau) et d'intégration (DNS)

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1. Outils de monitoring réseau IN2P3
netstat.in2p3.fr, observium, perfSONAR, ZNeTS
2. Outil de gestion DNS in2p3.fr
EfficientIP

- <http://netstat.in2p3.fr/>
- Liens vers les cartes de trafic réseau (weathermap dans observium)
- Graphiques de mesures de RTT (smokeping) entre le CC-IN2P3 et d'autres sites (laboratoires ou autres partenaires)
- Liens vers les dashboards perfSONAR OSG/WLCG
- Lien vers observium (SNMP)



- <https://ccobservium.in2p3.fr>
- Polling SNMP des routeurs IN2P3
- Un compte générique par laboratoire, ne voyant que les équipements du laboratoire (pour rester le plus lisible possible)
- Cartes de trafic (weathermap)

Monitoring réseau IN2P3 : observium

The screenshot displays the Observium web interface for the network 'cobobservium.in2p3.fr'. The interface includes a navigation bar with the Observium logo and a search bar. Below the navigation bar, there are two summary tables. The first table shows the overall status of network components, and the second table shows the status of alerts. A map of the location is displayed below the tables, with a green checkmark indicating a successful connection. Below the map, there are sections for 'Status Warnings and Notifications' and 'Recent Events'. The 'Recent Events' section shows a list of events, including BGP session flaps and interface status changes. The footer of the page displays the Observium version (18.5.9221) and the current time (0.387s).

	Total	Up	Down	Ignored (Dev)	Disabled / Shut
Devices	1	1 up	0 down	0 ignored	0 disabled
Ports	78	30 up	48 down	0 (0) ignored	0 shutdown
Sensors	18	17 ok	1 down	0 ignored	0 disabled
Statuses	9	9 ok	0 alert	0 ignored	0 disabled

	Ok	Fail	Delay	Suppress	Other
Alerts	73	0	0	0	0

Leaflet | Map data © OpenStreetMap contributors, © CARTO

Status Warnings and Notifications

Recent Events

- 50d 2h 48m lapp-cisco AS789 192.70.69.21 BGP Session flapped: 192.70.69.21 (AS789), time 11s ago
- 75d 22h 24m lapp-cisco AS789 192.70.69.21 BGP Session Up: 192.70.69.21 (AS789), time 3m 17s ago
- 75d 22h 24m lapp-cisco Vlan98 Interface Up: [ifOperStatus] 'down' -> 'up'
- 75d 22h 24m lapp-cisco Vlan2 Interface Up: [ifOperStatus] 'down' -> 'up'

Observium 18.5.9221 (stable) 0.387s

Monitoring réseau IN2P3 : observium

The screenshot displays the Observium web interface for a Cisco device. The browser address bar shows the URL `https://cobservium.in2p3.fr/device/device=198/`. The page header includes the Observium logo and navigation tabs for Overview, Graphs, Health, Ports, VLANs, Routing, Inventory, Logs, and Alerts.

Device Information:

- Hardware: Cisco 4948E (WS-C4948E)
- Operating system: Cisco IOS 15.1(2)SG6 (ENTSERVICESK9)
- System name: lapp-cisco.in2p3.fr
- Location: France, Anney
- Serial: CAT1623S0GP
- Uptime: 2 years, 345 days, 4h 18m 13s
- Last reboot: 2015-07-04 13:27:42

Software Details:

Cisco IOS Software, Catalyst 4500 L3 Switch Software (cat4500e-ENTSERVICESK9-M), Version 15.1(2)SG6, RELEASE SOFTWARE (fc1)
Technical Support: <http://www.cisco.com/techsupport> Copyright (c) 1986-2015 by Cisco Systems, Inc. Compiled Mon 04-May-15 03:31

Ports:

A line graph shows port traffic over time. Below the graph, a summary indicates 64 ports, 16 are up (green checkmark), 48 are down (red minus), and 0 are disabled (grey minus). A list of ports follows, with Gi1/2 through Gi1/48 highlighted in red, indicating they are down.

Processors:

- Supervisor(slot 1) x 2: 6% usage

Memory:

- Processor: 227MB/918MB (25%)

Storage:

- Boot Flash: 108MB/119MB (91%)
- Cat4000 Private Flash A...: 796B/512kB (0%)

Status Indicators:

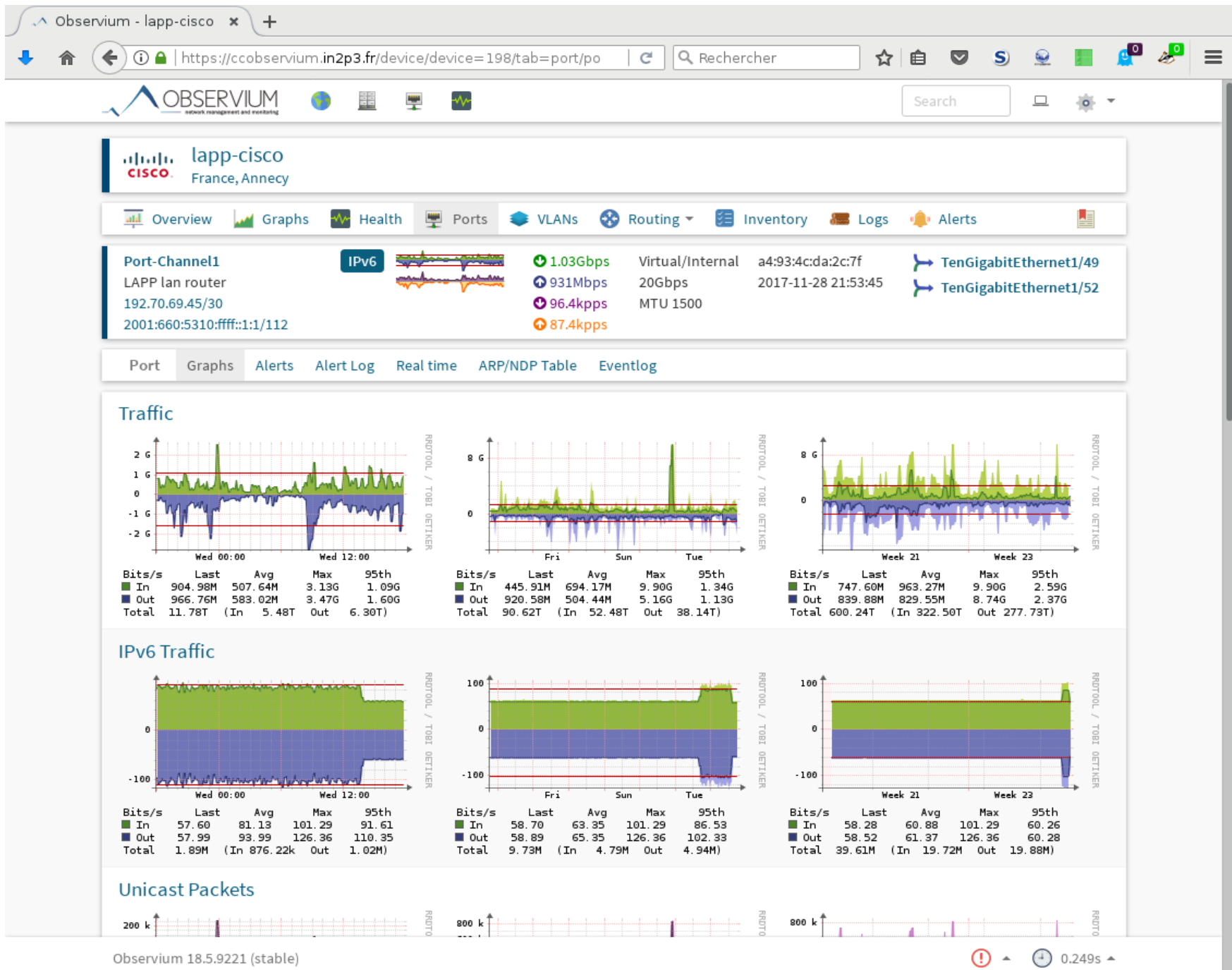
- Power Supply Fan - Power Supply 1 Fan: true
- Power Supply Fan - Power Supply 1 Fan: true
- Power Supply Fan - Power Supply 2 Fan: true
- Container of Container of Power Supply: redundant
- Power Supply 1 Source: ac
- Power Supply 2 Source: ac
- Power Supply 1: normal
- Power Supply 2: normal
- Chassis Fan Tray 1: normal

Port sensors:

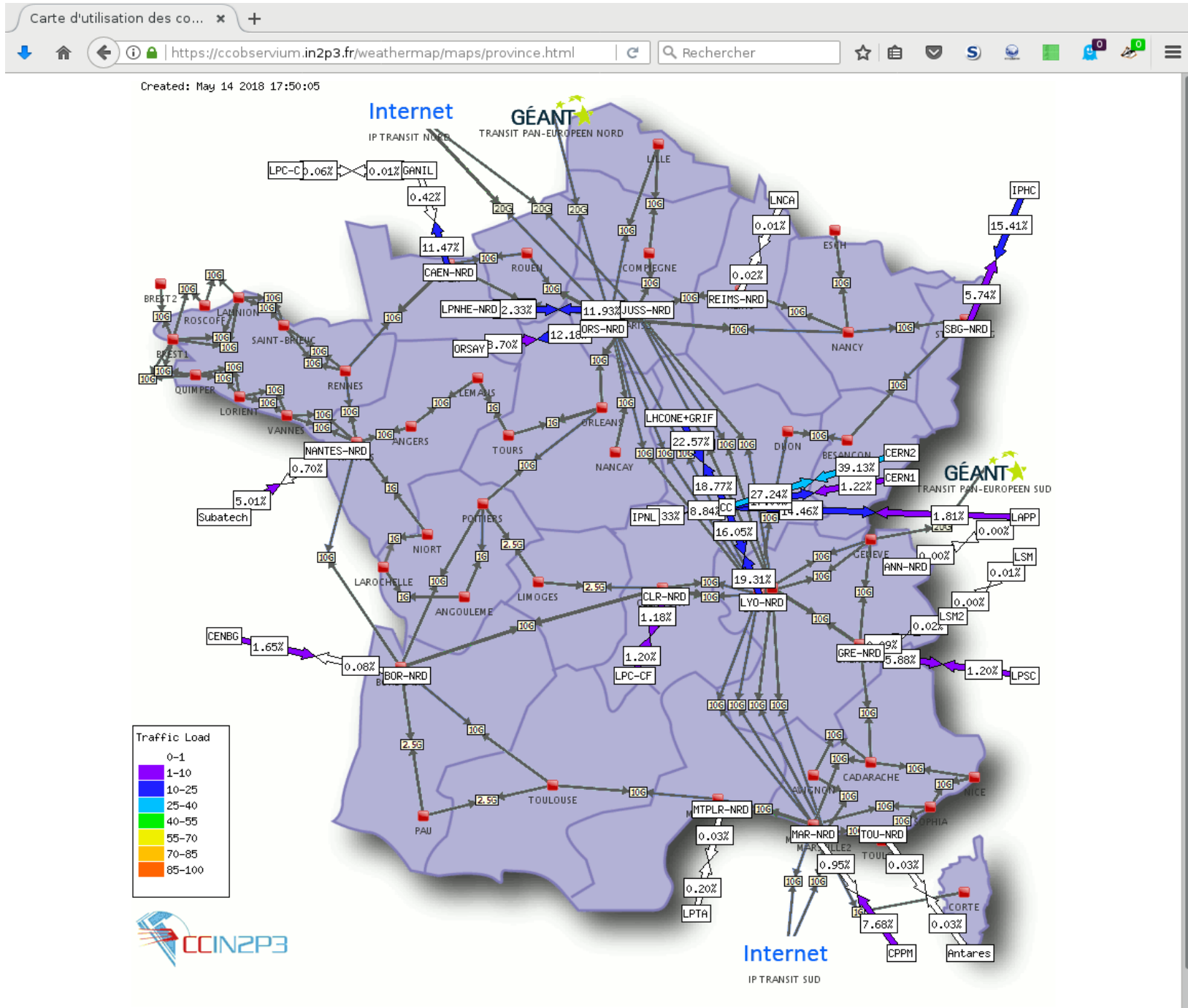
- TenGigabitEthernet1/49: Module Temperature: 44.2C

Observium 18.5.9221 (stable) | 0.384s

Monitoring réseau IN2P3 : observium



Monitoring réseau IN2P3 : observium



- 2 machines perfSONAR par laboratoire : une pour des tests de latence, une pour des tests de débit
- Configuration « mesh » **centralisée** par OSG/WLCG
- Résultats stockés dans un « datastore » centralisé
- Dashboards OSG/WLCG :
<http://psmad.opensciencegrid.org/maddash-webui/>
- Monitoring « **check_mk** » des machines
- CERN **Grafana**
- Attention : la version 4.1 qui devrait sortir en juillet ne supporte plus SL6 ; il va falloir passer en SL/CentOS 7 (cf. dernier HEPIX : WLCG/OSG Networking Update)

Monitoring réseau IN2P3 : perfSONAR

The screenshot displays the perfSONAR Toolkit interface. At the top, the browser address bar shows the URL <https://ccperfsonar1.in2p3.fr/toolkit/>. The page header includes the perfSONAR logo, the text "Toolkit on ccperfsonar1.in2p3.fr", and navigation buttons for "Log in", "Configuration", and "Help".

The main content area is divided into two columns. The left column features a host information card for **ccperfsonar1.in2p3.fr** at IP 193.48.99.77. It lists the organization as CNRS/IN2P3-CC, the address as Villeurbanne 69100 FR, and the administrator as the Network team. Below this is a "Services" table:

SERVICE	STATUS	VERSION	PORTS	SERVICE LOGS
bwctl	Running	1.6.6-1.el6	4823	View
esmond	Running	2.1.2.2-1.el6		View
lsregistration	Running	4.0.2.2-1.el6		View
meshconfig-agent	Running	4.0.2.1-1.el6		View
owamp	Disabled	3.5.6-1.el6	861	View
pscheduler	Running	1.0.2.6-1.el6		View

Below the services table is a "Test Results" section with 93 results. It includes a search box and a dropdown for "Results for the last..." set to "1 week". A table of test results is shown below:

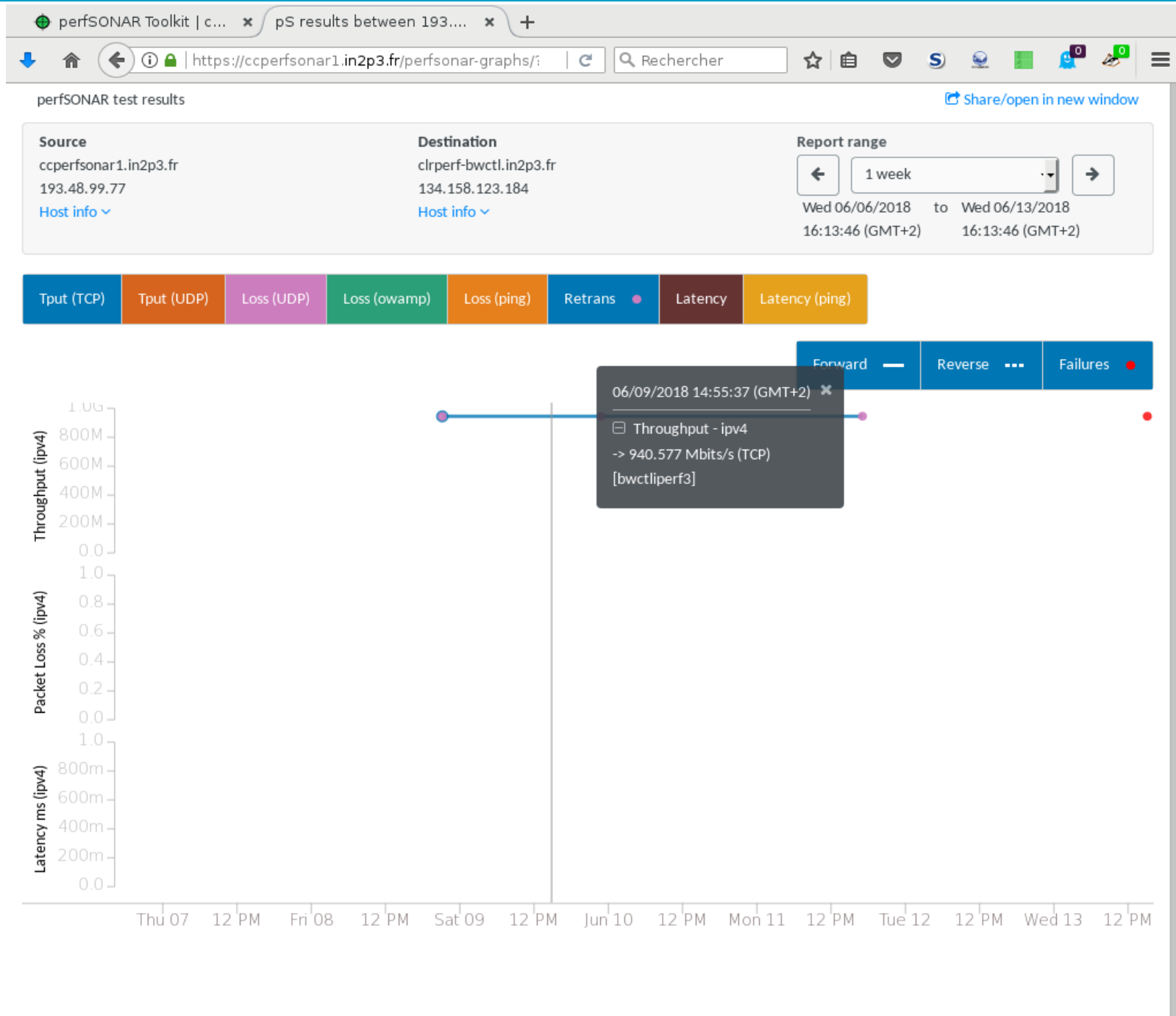
SOURCE	DESTINATION	THROUGHPUT	LATENCY (MS)	LOSS
ccperfsonar1.in2p3.fr 193.48.99.77 Details Traceroute	atlas-npt2.bu.edu 192.5.207.252	→ 1.10 Gbps ← 671 Mbps	→ n/a ← n/a	→ n/a ← n/a
ccperfsonar1.in2p3.fr	atrogr009.ninne.ro	→ 4.27 Gbps	→ n/a	→ n/a

The right column contains a "Host Information" sidebar with a "Log in for more info" link. It lists various system details:

- Interfaces: [Details](#)
- Primary Interface: p2p1
- NTP Synced: Yes
- Globally Registered: No
- Node Role: Site Internal
- Access Policy: R&E Only
- Virtual Machine: No
- RAM: 16 GB
- More Info: [Details](#)

Below this is a section for "On-demand testing tools" with links for Reverse ping, Reverse traceroute, Reverse tracepath, and Traceroute Visualization. At the bottom, there is an "Other services" section with a link to the Global node directory.

Monitoring réseau IN2P3 : perfSONAR



MaDDash - Monitorin... x +

psmad.opensciencegrid.org/maddash-webui/ | Rechercher

WLCG/OSG New Production perfSONAR Dashboard

Dashboards Reports Settings WLCG/OSG Networking Resources

Last page refresh time: juin 13, 2018 16:09:34 PM CEST

OPN Mesh Config Dashboard

OPN Mesh Config - TCP BWCTL Test Between OPN Bandwidth Hosts

Throughput >= 900Mbps Throughput < 900Mbps Throughput <= 500Mbps Unable to retrieve data Check has not yet run

⚠ Found a total of 26 problems involving 11 hosts in the grid

Host	CERN-PROD	FZK-LCG2	IN2P3-CC	INFN-CNAF	KR-KISTI-GSDC-01	NDGF	National Research Centre "Kurchatov Institute" (NRCKI)	RAL-LCG2	SARA-MATRIX	TRIUMF-LCG2	Taiwan-LCG2	US-BNL LT	US-FNAL BW	pic
CERN-PROD	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
FZK-LCG2	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
IN2P3-CC	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
INFN-CNAF	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
KR-KISTI-GSDC-01	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
NDGF	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
National Research Centre "Kurchatov Institute" (NRCKI)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
RAL-LCG2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
SARA-MATRIX	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
TRIUMF-LCG2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Taiwan-LCG2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
US-BNL LT	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
US-FNAL BW	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
pic	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Monitoring réseau IN2P3 : perfSONAR

Check_MK Local site ... x +

https://psetf.opensciencegrid.org/etf/check_mk/index.py?start_url=%2Fe Rechercher

Check MK Raw 1.4.0p31

Host sea... 20 rows /C=FR/O=CNRS/OU=USR6402/CN=Laurent Caillat-Vallet/emailAddress=caillat@cc.in2p3.fr (user) 16:11

Tactical Overview

Hosts	Problems	Unhandled	State
278	0	0	0
Services	Problems	Unhandled	State
4337	1433	1433	1

Quicksearch

Views

- Overview
- Hosts
- Host Groups
- Services
- Service Groups
- Metrics
- Business Intelligence
- Problems
- Inventory
- Other

Edit

Bookmarks

Add Bookmark Edit

WATO · Configuration

- Main Menu
- Hosts
- Host & Service Parameters
- Manual Checks
- Check Plugins
- Logfile Pattern Analyzer
- BI - Business Intelligence
- Passwords
- Monitoring Agents

Availability 3 60s

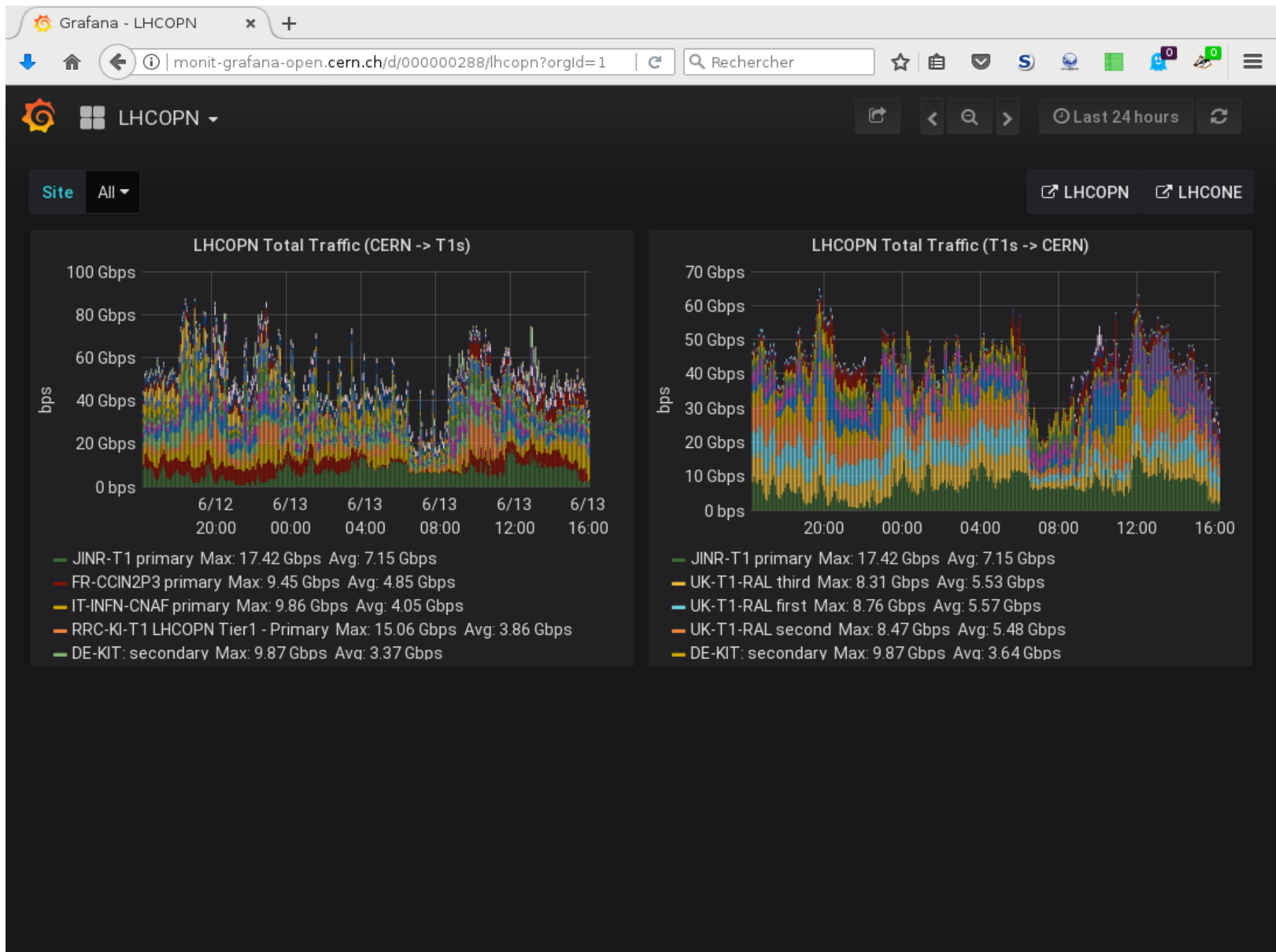
Local site etf

state	Host	Icons	OK	Wa	Un	Cr	Pd	state	Host	Icons	OK	Wa	Un	Cr	Pd	state	Host
UP	ccperfsonar1.in2p3.fr		12	3	0	0	0	UP	ccperfsonar2.in2p3.fr		12	2	0	0	0	UP	clrperf-bwctl.in2p3.fr
UP	clrperf-owamp.in2p3.fr		11	2	0	1	0	UP	lapp-ps01.in2p3.fr		12	3	0	0	0	UP	lapp-ps02.in2p3.fr
UP	llrpsonar1.in2p3.fr		12	2	0	0	0	UP	llrpsonar2.in2p3.fr		12	3	0	0	0	UP	lpnhe-psb.in2p3.fr
UP	lpnhe-psl.in2p3.fr		2	0	8	4	0	UP	lpsec-perfsonar.in2p3.fr		12	3	0	0	0	UP	lpsec-perfsonar2.in2p3.fr
UP	marperf01.in2p3.fr		12	3	0	0	0	UP	marperf02.in2p3.fr		12	2	0	0	0	UP	nanperfs01.in2p3.fr
UP	nanperfs02.in2p3.fr		12	3	0	0	0	UP	psonar1.lal.in2p3.fr		1	0	8	5	0	UP	psonar2.lal.in2p3.fr
UP	sbgperfps1.in2p3.fr		12	0	2	0	0	UP	sbgperfps2.in2p3.fr		12	3	0	0	0		

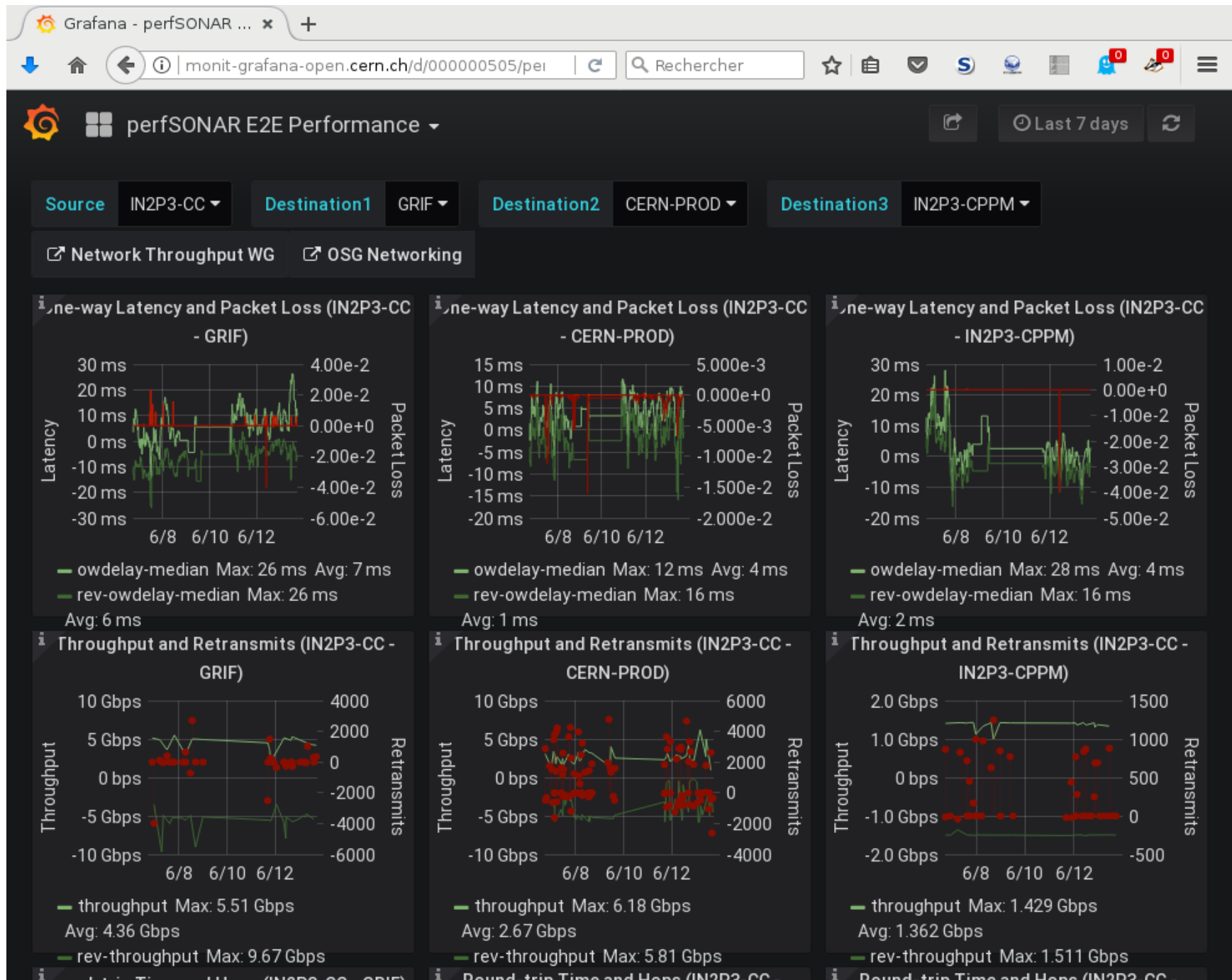
refresh: 60 secs

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Monitoring réseau IN2P3 : perfSONAR

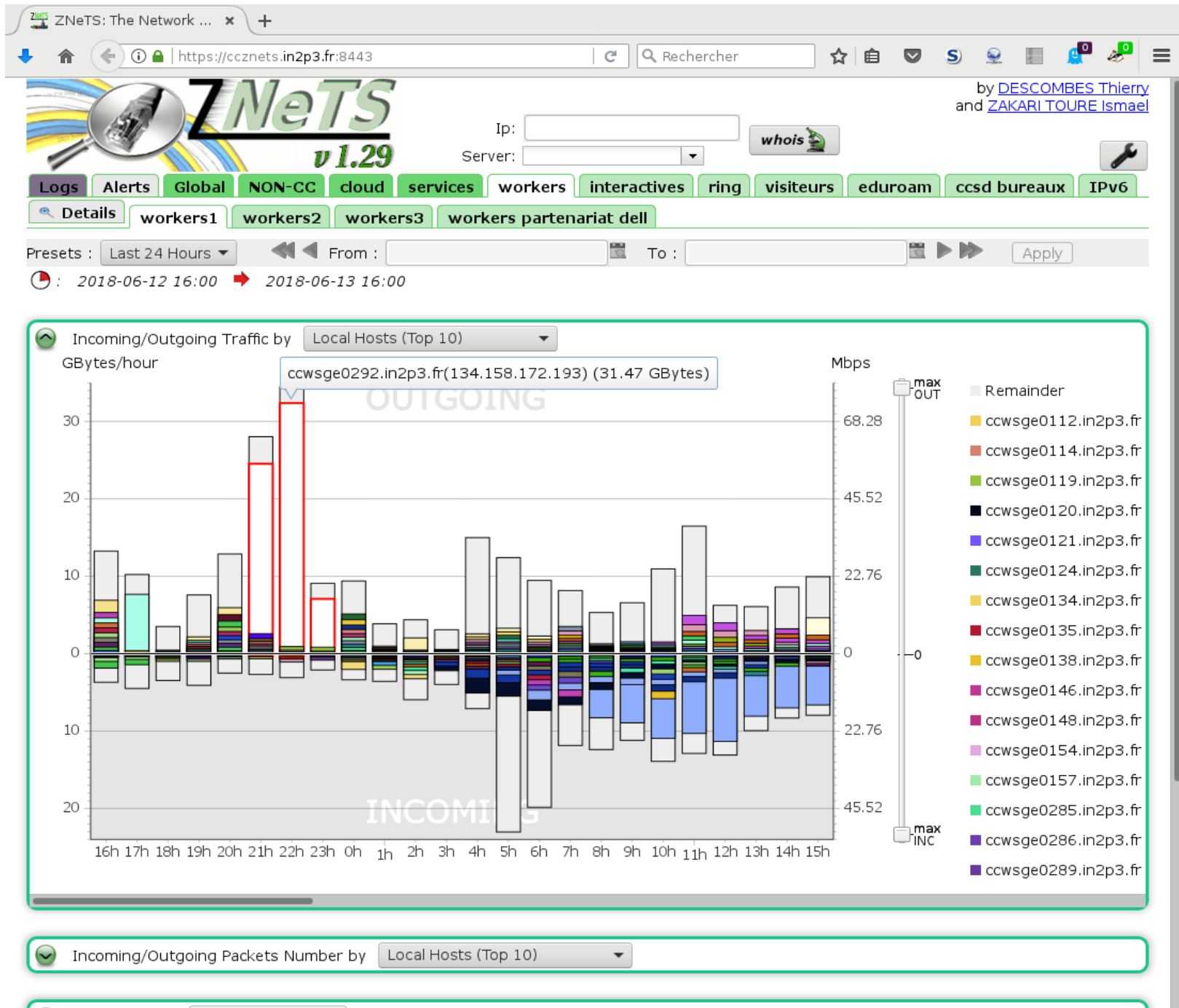


Monitoring réseau IN2P3 : perfSONAR

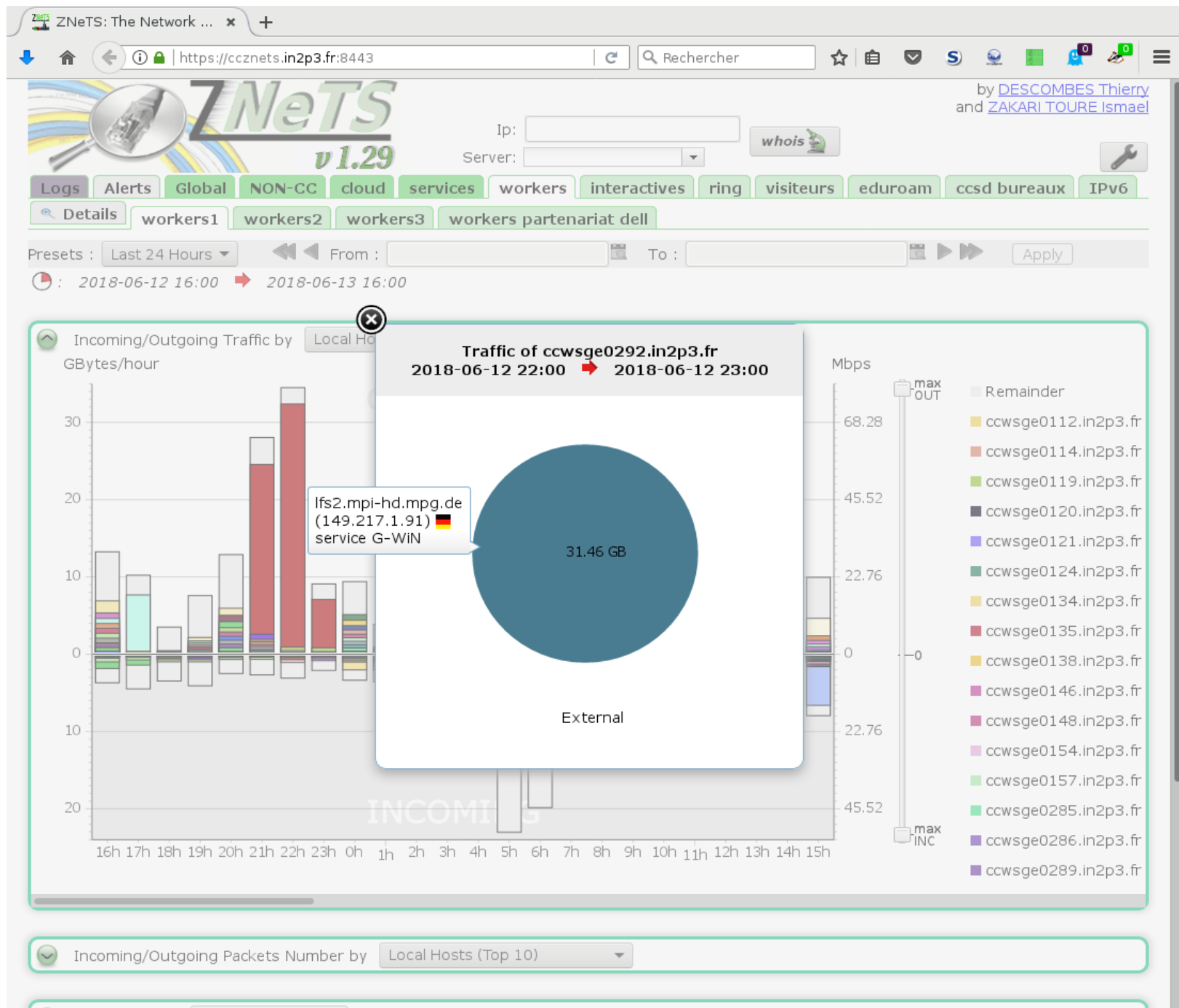


- 1 machine ZNeTS par laboratoire
- Accès par certificats CNRS, restreint aux administrateurs réseau des laboratoires
- Analyse le trafic entrant et sortant d'un laboratoire (capture sur une interface recevant une copie du trafic du routeur, ou netflows envoyés par le routeur)
- Supporte IPv6
- Interface web fournissant des graphiques « top 10 » du trafic
- Flux de la journée précédente sauvegardés au CC toutes les nuits (pour 1 an)

Monitoring réseau IN2P3 : ZNeTS

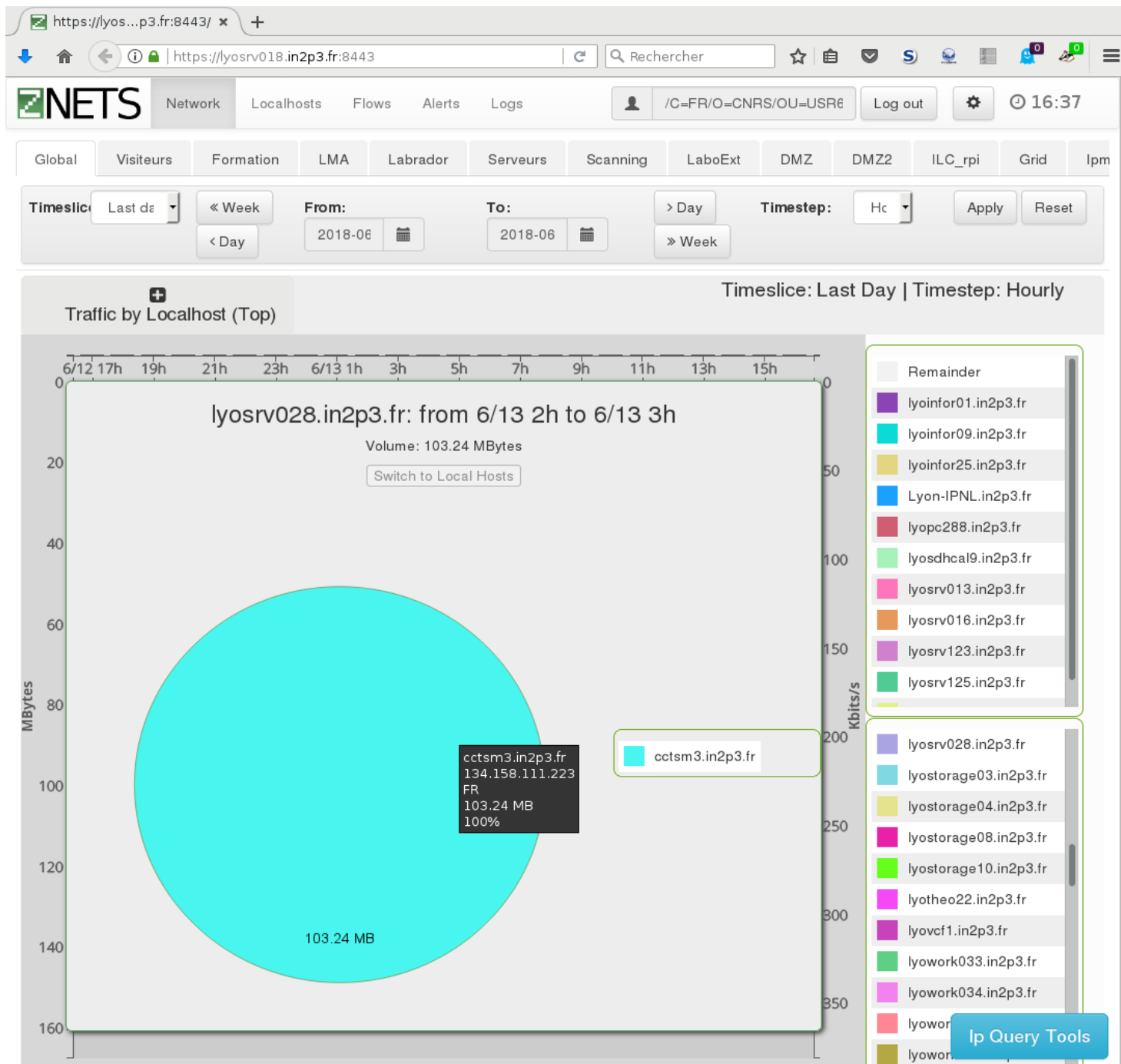


Monitoring réseau IN2P3 : ZNeTS



- ZNeTS2 installé au CC-IN2P3 et à l'IPNL
- Nouvelle interface web plus « moderne » et plus réactive
- Sera déployé sur les machines des autres laboratoires d'ici fin juillet 2018

Monitoring réseau IN2P3 : ZNeTS2



- EfficientIP
- En remplacement de l'application web « DNS4labo »
- Supporte les adresses IPv6
- Objectif : fournir les mêmes fonctionnalités qu'actuellement (sauf les ACLs), pour IPv4 et IPv6
- Tests par l'IPNL et le LAPP avril-mai 2018
- Mise en production prévue octobre 2018