GÉANT

perfSONAR MDM

The multi-domain monitoring service for the GÉANT Service Area

Re-designed for seamless monitoring

Multi-domain networking is technically challenging. While problems in local network domains can be identified relatively easily, methods to track issues across multiple domains are limited and time-consuming.

The re-designed GÉANT perfSONAR MDM provides its users - primarily Network Operation Centre (NOC) and Performance Enhancement Response Team (PERT) engineers - access to network measurement data from multiple network domains. This can be used to easily identify problems with network performance.

Interoperable on a local and global level

With no hardware dependencies perfSONAR MDM is interoperable on a local level as well as with similar monitoring services offered by European and international partners. By being based on an open standard protocol (OGF NM-WG) it gives perfSONAR MDM the power to provide at-a-glance information about multiple networks seamlessly.

Delivering what the community needs

A user panel of NREN NOC and PERT engineers has been established to represent the views, needs and experiences of perfSONAR MDM users. The user panel assists the requirement-gathering process through strong two-way communication between the service development team and its users, ensuring on-going improvement to the service.

The ultimate beneficiaries of the perfSONAR MDM service are the network users. By providing a multi-domain monitoring and diagnostics infrastructure, NRENs can more immediately address network performance issues, improving the overall perception of network performance and customer service.

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perfSONAR MDM enabled the engineering teams across the domains between Barcelona and Brazil end points to quickly pin-point possible network bottlenecks and ensure the network configuration was adequate to support the dance performance transmission for the TERENA Network Performing Arts Production Workshop in Barcelona.

Fausto Vetter, RNP Research & Development Coordinator

Why Deploy perfSONAR MDM?

- Immediate access to monitoring data from multiple network domains
- Interoperable with other monitoring tools and services
- Simple structure, installation and use; no hardware dependencies
- Dedicated support from GÉANT
- On-going product development driven by strong user community

Supporting Many Different Communities

There is increasing interest in perfSONAR MDM from a wide range of communities including network research, grid/cloud computing, high-energy physics and even arts & humanities groups.

The power of the perfSONAR MDM service was demonstrated at a TERENA Network Performing Arts Production Workshop (Barcelona, 15 – 17 June 2011). The event included a successful simultaneous performance featuring dancers in Brasilia and Barcelona performing together in choreographed unison on a virtual stage. Images and sound of the dancers were captured, then transmitted across high speed academic networks and back, projected in real time at the other location to appear as if they were performing in the same place.

Making sure the performance was successful required fast, high capacity and stable network links between the two venues. As part of the collaboration the networks involved (CESCA, redIRIS, redCLARA, RNP and GÉANT) used perfSONAR MDM to test the route, monitor for potential problems and solve any issues before the performance began.

Powerful Visualisation Tools

The perfSONAR MDM solution collects network measurement data and presents the collated information as a complete picture to the user. This is done through powerful visualisation tools via a web-based user interface, showing:

- One way delay, jitter, traceroute & packet loss
- Link utilisation, errors, drops
- Achievable throughput
- New weather map integration

Interface access from mobile devices for on-demand troubleshooting, on the move.

Simple to Install and Configure

Free to NRENs, the new streamlined perfSONAR MDM now has only three components to install, taking less than a day to set up. With the minimum requirement of providing only one measurement point on the network, perfSONAR MDM is truly simple to be part of.

1. Prepare

During this phase GÉANT's deployment team works with the NRENs NOC and PERT staff to plan what needs to be done to achieve an operational service, such as software, hardware, connectivity, support and policy requirements.

2. Deploy

The focus of this stage is to install the main software components and to start developing the monitoring infrastructure within the NREN.

3. Transition

The GÉANT deployment team works with the NOC and PERT staff to integrate the software into their NRENs processes and procedures.

4. Operate

The GÉANT deployment team hands over support to the NRENs own internal support teams and GÉANT's Multi-Domain Service Desk for supporting, assistance and coordination of the day-to-day operations of the service.

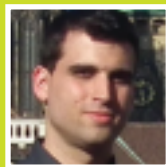**Deployment Status : May 2012**

In pilot
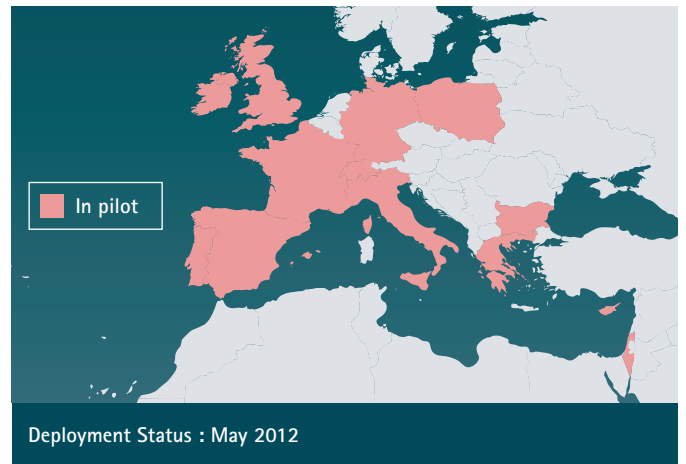
Be Part of the perfSONAR Community

A growing number of NRENs are piloting the perfSONAR MDM service for their NOC/PERT engineers including Red IRIS, DFN, PIONIER, SWITCH, HEAnet, GARR, GRnet, RENATER, JANET, FCCN, BREN, CYNET, IUCC and DANTE (for the GÉANT backbone).

All NRENs are invited to join the pilot. Contact the perfSONAR team: **perfsonar-info@geant.net**

> **Having perfSONAR MDM allows us to more efficiently debug network issues, especially to identify overloaded network segments/links. It is a huge advantage to be able to test an end-to-end connection, segment by segment.**
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> *Gerard Bernabeu, Production Coordinator at PIC (Tier-1 LHC centre)*

Part of the GÉANT Service Portfolio

In collaboration with the NRENs, GÉANT is developing user-focused, multi-domain services aimed at delivering seamless network performance across borders and domains.

The range of services currently offered and in development includes IP and dedicated circuits, authentication and roaming, security, monitoring and troubleshooting, advisory and support services.

For more information on the **GÉANT Service Portfolio** please visit **www.geant.net**

Further information:
http://perfsonar.geant.net

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