Measurements WG
(GT-Mediciones)

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Measurements WG Goals

• Build upon the work started in the previous period (03/2009 – 03/2011) by the Measurements WG.

• Deployment of a monitoring infrastructure based on perfSONAR
• Deployment of monitoring nodes in RedCLARA’s backbone
• Deployment of at least two monitoring nodes in each NREN connected to RedCLARA
• Deployment of monitoring infrastructures in interested NRENs
• Installation of monitoring nodes in end user institutions
Proposed MPs in the Future Backbone
• Task 01: Deployment and tests with perfSONAR MDM
• Task 02: Deployment and tests with the most recent version of the perfSONAR Performance Toolkit (pS-PT)
• Task 03: Test the tools with IPv6
• Task 04: Interoperability tests between pS-PT and perfSONAR MDM
• Task 05: Recommendations on the software to be deployed for RedCLARA’s backbone monitoring infrastructure
• Task 06: Elaboration of the maintenance procedures for RedCLARA’s backbone monitoring infrastructure
• Task 07: Dissemination and Training in perfSONAR usage
### Reviewed Schedule

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>08</td>
<td>09</td>
<td>10</td>
</tr>
<tr>
<td><strong>1 – Pruebas con MDM</strong></td>
<td>#</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td><strong>2 – Pruebas con pSPT</strong></td>
<td>#</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td><strong>3 – Pruebas con IPv6</strong></td>
<td></td>
<td></td>
<td>#</td>
</tr>
<tr>
<td><strong>4 – Pruebas de Interoperabilidad</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5 – Recomendación para la troncal de CLARA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6 – Procedimientos de Manutención</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7 – Difusión y Capacitación</strong></td>
<td></td>
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<tr>
<td><strong>Reuniones</strong></td>
<td>0</td>
<td>0</td>
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</tbody>
</table>
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• Deployment and tests with perfSONAR MDM (developed by Géant)
• Recommendation for the best solution to be deployed in RedCLARA’s backbone
• Collaboration with Géant’s team for the installation and test troubleshooting among our sites and with MPs in Europe
DANTE is finalizing its implementation across the GÉANT backbone with 35 MPs in the PoPs across the network

7 NRENs are road-testing the service
• Version 3.3 is the latest stable release
• New Version:
  – Includes a new HADES MP and MA.
    • RPM Distribution ready
    • Debian Distribution in preparation
  – Currently the HADES MP in Madrid already supports OWAMP (answers to on-demand tests)
  – They are working on an OWAMP MP which should be available soon
Suggested set of services:

- HADES MP (90 packets every minute)
- BWCTL MP (tests every 6 hours)
- SQL MA (data stored for 12 months)

These services could be configured in a static fashion without the need for a LS

It would be nicer if the services would be visible from other parties via a LS
Next Steps (perfSONAR MDM)

• Confirmation of sites and machine configurations for the experimental deployment
  – VC 23/05/12: CEDIA, RAAP, RAU, RNP e RedCLARA (others are welcomed to join)
• Decide where the SQL MA and possibly LS will be deployed – Pending
• Webconf with Géant team for instructions on how to deploy and configure the services:
  – Held on 05/06/12
• Deployment, configuration and tests (IPv4 and IPv6)
  – Currently in Progress (BWCTL-MP) @ CEDIA, RAU, REUNA y RNP
• Report elaboration
### Available Machines

<table>
<thead>
<tr>
<th>NREN</th>
<th>Contact</th>
<th>CPU</th>
<th>RAM</th>
<th>NIC</th>
<th>HD</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEDIA</td>
<td>Ximena Robles</td>
<td>Dual Core</td>
<td>2 GB</td>
<td>1 Gbps (on board)</td>
<td>500 GB</td>
<td>1st Semester 2012</td>
</tr>
<tr>
<td>INNOVA-RED</td>
<td>Carlos Salazar</td>
<td>AMD athlon X3 435</td>
<td>4 GB</td>
<td>1 Gbps</td>
<td>320 GB</td>
<td>Yes</td>
</tr>
<tr>
<td>RAAP (INICTEL)</td>
<td>Andrés Leiva Cochachin</td>
<td>XEON 2.4 GHz</td>
<td>2 GB</td>
<td>1 Gbps</td>
<td>200 GB</td>
<td>Dec. 2011</td>
</tr>
<tr>
<td>RAU</td>
<td>Luis Silva</td>
<td>Dell PowerEdge 2950 - Procesador 2 x Intel(R) Xeon(R) CPU 3.00GHz</td>
<td>3 GB</td>
<td>100 Mbps</td>
<td>300 GB</td>
<td>Yes</td>
</tr>
<tr>
<td>REUNA</td>
<td>Albert Astudillo</td>
<td>i5</td>
<td>8 GB</td>
<td>1 Gbps</td>
<td>500 GB</td>
<td>April/May 2012</td>
</tr>
<tr>
<td>RNP</td>
<td>Wagner Pereira</td>
<td>dual-core 3 GHz</td>
<td>2 GB</td>
<td>1 Gbps</td>
<td>160 GB</td>
<td>Yes</td>
</tr>
</tbody>
</table>

• Gustavo Garcia (RedCLARA) pointed out the existence of machines in RedCLARA's backbone that are supposed to be used for deploying perfSONAR.
  – Albert (REUNA) had reported problems with the flavor of the OS installed in the machines which supposedly would prevent the deployment of the MDM package (rpm version).
Szymon presented two options for deployment:

- single BWCTL MP:
  - Appropriate for the international connection: results for regular tests would be stored at Géant's Measurement Archive service (SQL MA).

- multiple BWCTL MPs + one SQL MA:
  - Should be our case with the services being deployed
  - Still pending the selection of a machine to install the SQL MA (suggestions/availability are welcome)
Tasks

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Synergy with GISELA

• Grid Initiatives for e-Science virtual communities in Europe and Latin America

• [www.gisela-grid.eu](http://www.gisela-grid.eu)

• Objective:

  – To guarantee the long-term sustainability of the European – Latin American e-Infrastructure and thus ensure the continuity and enhancement of the Virtual Research Communities (VRC) using it.
Europe
- Italy: INFN – Catania
- France: CNRS, HLP
- Portugal: U.PORTO
- Spain: CIEMAT (Coord. Institution)

Latin America and the Caribbean
- Argentina: INNOVA-T
- Brazil: UFRJ, UFCG
- Chile: REUNA
- Colombia: UNIANDES
- Cuba: CUBAENERGIA
- Ecuador: CEDIA
- International: CLARA
- Mexico: CUDI, UNAM
- Panama: CIDETYS
- Peru: RAAP
- Uruguay: UdelaR
- Venezuela: ULA
• MonGISELA site: [http://mongisela.cecalc.ula.ve/](http://mongisela.cecalc.ula.ve/)
  – One-way delay tests using pS-Performance Toolkit v.3.2.1.1

• Measurement Points:
  – Brasil: UFRJ
  – Colombia: UIS
  – Ecuador: CEDIA
  – Panamá: UTP
  – Venezuela: ULA
Grid Initiatives for e-Science virtual communities in Europe and Latin America

Click on any link of the map to show the network delay between two GISELA Resource Centres
This table shows the list of the Measurement Points (MP) installed around the GISELA Grid infrastructure.

<table>
<thead>
<tr>
<th>Country</th>
<th>Institution</th>
<th>FQDN</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brasil</td>
<td>Universidade Federal de Rio de Janeiro (UFRJ)</td>
<td>mp.eela.ufrj.br</td>
<td>146.164.137.42</td>
</tr>
<tr>
<td>Colombia</td>
<td>Universidad Industrial de Santander (UIS)</td>
<td>servIGALC.uis.edu.co</td>
<td>200.16.117.47</td>
</tr>
<tr>
<td>Ecuador</td>
<td>Consorcio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA)</td>
<td>-</td>
<td>190.15.132.69</td>
</tr>
<tr>
<td>Panamá</td>
<td>Universidad Tecnológica de Panamá (UTP)</td>
<td>mp.utz.ac.pa</td>
<td>168.77.8.44</td>
</tr>
<tr>
<td>Venezuela</td>
<td>Universidad de Los Andes (ULA)</td>
<td>mp.cec alc.ula.ve</td>
<td>190.168.16.11</td>
</tr>
</tbody>
</table>
MonGISELA: ULA-VE MP

**pS-Performance Node For Universidad de Los Andes In CecalcULA**

### Host Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization Name</td>
<td>Universidad de Los Andes</td>
</tr>
<tr>
<td>Host Location</td>
<td>CecalcULA</td>
</tr>
<tr>
<td>Administrator Name</td>
<td>Javier Contreras</td>
</tr>
<tr>
<td>Administrator Email</td>
<td><a href="mailto:javieri@ula.ve">javieri@ula.ve</a></td>
</tr>
</tbody>
</table>

### Communities This Host Participates In

- pS-NPToolkit-3.2.1

### Host Status

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Address</td>
<td>190.168.16.11</td>
</tr>
<tr>
<td>MTU</td>
<td>1500</td>
</tr>
<tr>
<td>NTP Status</td>
<td>Synced</td>
</tr>
<tr>
<td>Globally registered</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Services Offered

**Bandwidth Test Controller (BWCTL)**

- tcp://190.168.16.11:4823

**Lookup Service**

Some Results (CEDIA → UFRJ)

perfSONAR-PS delay graph - Google Chrome

One way latency between Source: 190.15.132.69(190.15.132.69) -- Destination: 146.164.137.42(146.164.137.42)

- Max delay
- Min delay
- Loss
- Third Quartile
- Median
- First Quartile

Start date: Monday, July 02, 2012
End date: Monday, July 02, 2012
• MonGISELA Portal can be extended to report our Measurement WG collected data.

• A report was generated on the experiences with perfSONAR-MDM and the pS-Performance Toolkit.
• BWCTL
  – MDM: version 1.2a
  – psPT 3.2.1.1 (MonGISELA): version 1.3
  – pSPT 3.2.2: version 1.4 – Added support for -6 and -4 flags to explicitly set IPv4/Ipv6 behavior

• OWAMP
  – psPT 3.2.1.1 (MonGISELA): v3.2rc2
  – pSPT 3.2: v3.3 – Added support for -6 and -4 flags to explicitly set IPv4/Ipv6 behavior
• Communities in RedClara’s site (started on 07/02/12)
  – GT-Mediciones
    (http://www.redclara.net/index.php?option=com_community&view=groups&task=viewgroup&groupid=100&Itemid=543&lang=es)
    – To join the group it is necessary to register.

• Wiki (started on 07/02/12):
  – http://www.redclara.net/wiki/gtmediciones
  – To view and edit is also necessary to register first.
GT-Mediciones

Group Information

Category: 3 - Ingeniería y tecnología
Name: GT-Mediciones
Created: Tuesday, 07 February 2012
Creator: José Augusto Suruagy Monteiro

Description

Objective: To continue the work begun by the Measurements WG in the period that ran from March 2009 to March 2011. Development of a monitoring infrastructure based on perfSONAR (PERformance Service Oriented Network monitoring ARchitecture).

Coordinator: José Augusto Suruagy Monteiro
e-Mail: suruagy@cin.ufpe.br
Institution: UFPE - Universidade Federal de Pernambuco
Category: Deployment of a new technology test bed
NREN: RNP
GT-Mediciones

Información sobre la comunidad (Usted es de la comunidad de administradores)

**Categoría:**
3 - Ingeniería y tecnología

**Nombre:**
GT-Mediciones

**Creado el:**
Martes, 07 Febrero 2012

**Coordinador:**
José Augusto Suruagy Monteiro

Descripción

Objective: To continue the work begun by the Measurements WG in the period that ran from March 2009 to March 2011. Development of a monitoring infrastructure based on pPERFORMANCE Service Oriented Network monitoring ARchitecture.

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Category: Deployment of a new technology test bed
REN: RNP

Novedades

**Confirmeación Reunión GT-Mediciones (23/05 16:30 UTC-3)**

Martes, 22 Mayo 2012 por José Augusto Suruagy Monteiro

Hola amig@s,

En este miércoles (23/05) tendremos una reunión por Conferencia Web del GT-Mediciones a las 15:30 (UTC-3). Todos están invitados!

La URL es: http://webconf2.rnp.br/mon (atención porque esta URL es diferente de las utilizadas en otras ocasiones).
• Alex Moura
• Andres Leiva
• Carlos Gonzales
• José Suruagy (2x)
• Maria José
• Nidia Ximena Robles
• Seg RedCLARA
• Thomas Fryer
Página Principal

**Goals**
- Build upon the work started in the previous period (03/2009 - 03/2011) by the Measurements WG.
- Deployment of a monitoring infrastructure based on perfSONAR.

**Long Term Vision**
- Deployment of monitoring nodes in RedCLARA's backbone
- Deployment of at least two monitoring nodes in each NREN connected to RedCLARA
- Deployment of monitoring infrastructures in interested NRENs
- Installation of monitoring nodes in end user institutions

**Tasks**
• AP (Action Point):
  – Everyone interested should register in RedClara website and request participation in the “GT-Mediciones” community.
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