

GN2-JRA1

Performance Monitoring and Management

Canarie - Internet2 - GN2 meeting,
Detroit, 18/12/03

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GOAL

- **Multi-domain Network Performance Measurement and Management Platform**
 - Retrieve network information from several domains through a pre-defined interface.
 - Performance Monitoring: monitoring of network characteristics such as delay, packet loss, available bandwidth, “traceroute”, etc
 - extended to looking glass type of functionality
 - netflow like data (to track DoS attack)
 - passive monitoring (e.g. DAG cards)

What is it?

- Management platform
 - Provide an “aggregated/concatenated” view of the information retrieved.
 - Available bandwidth $R1 \rightarrow R2 = x$ Mbps ; $R2 \rightarrow R3 = y$ Mbps ; $R3 \rightarrow R4 = z$ Mbps
 - Available bandwidth $R1 \rightarrow R4 = \min(x,y,z)$ Mbps
 - Enable users to *generate* traffic with some specific characteristics between measurement point not under one’s administrative authority.
 - Generate flow $\langle \text{IP (destIP, tos, size, etc); TCP/UDP (port, etc)} \rangle$
 - Allow to retrieve information out of several domains.

Activities

- **Three main activities foreseen**
 - Adaptation of existing measurement tools (and interoperability).
 - “Middleware” development (multi-domain).
 - Data consumers development (user-representation).

Three layers (foreseen)

Data Consumers (examples)

- Troubleshooting for NOC
- web server for generic users
- GRID middleware
- SLA verification
- DoS attack tracking

To be determined

*Interface/
middleware/ architecture*
(per domain or global for all
of them)
To be determined

Monitoring Tool Adaptation (deployed per domain)

Active
Monitoring

To be determined

Passive
monitoring

To be determined

Data from
network elements

To be determined

Where does the project come from?

- **PERT - network of people aiming at addressing the end-to-end performance problem. We need to provide them (for the network side) tools.**
 - PERT stands for Performance Emergency/Enhancement Response Team (<http://www.dante.net/tf-ngn/pert/>) - *building phase.*
- **Users (European National Research and Educational Networks) and their users (GRIDs, researchers) are requesting more and more networks statistics.**

Type of information exported (foreseen)

- **OWD type (e2e QoS, NOCs, PERT, GRID, researchers, campus administrators)**
- **netflow (dos tracking, accounting NOCs and PERT)**
- **Passive - in depth analyses (PERT, NOCs)**
- **Network equipment info (NOCs)**
- **AB - which one? (NOCs, GRID)**

Work

- **Measurement point**
 - adaptation of one IPPM type of box
 - adaptation of one passive box (scampi)
 - utilisation of existing netflow collector
 - AB???
- **“Middleware”**
 - take into account IPPM, passive, netflow, network element data, AB.
 - AA, mp finder, interfaces
- **data consumers**



development of two of them.

Collaboration areas

[See document]

- **The End.**

Slide Title

[Subtitle if needed]

- **Title:**
 - Text
 - Text