CERN Network and WLCG network monitoring

ISGC Monitoring BoF - 14 Mars 2016
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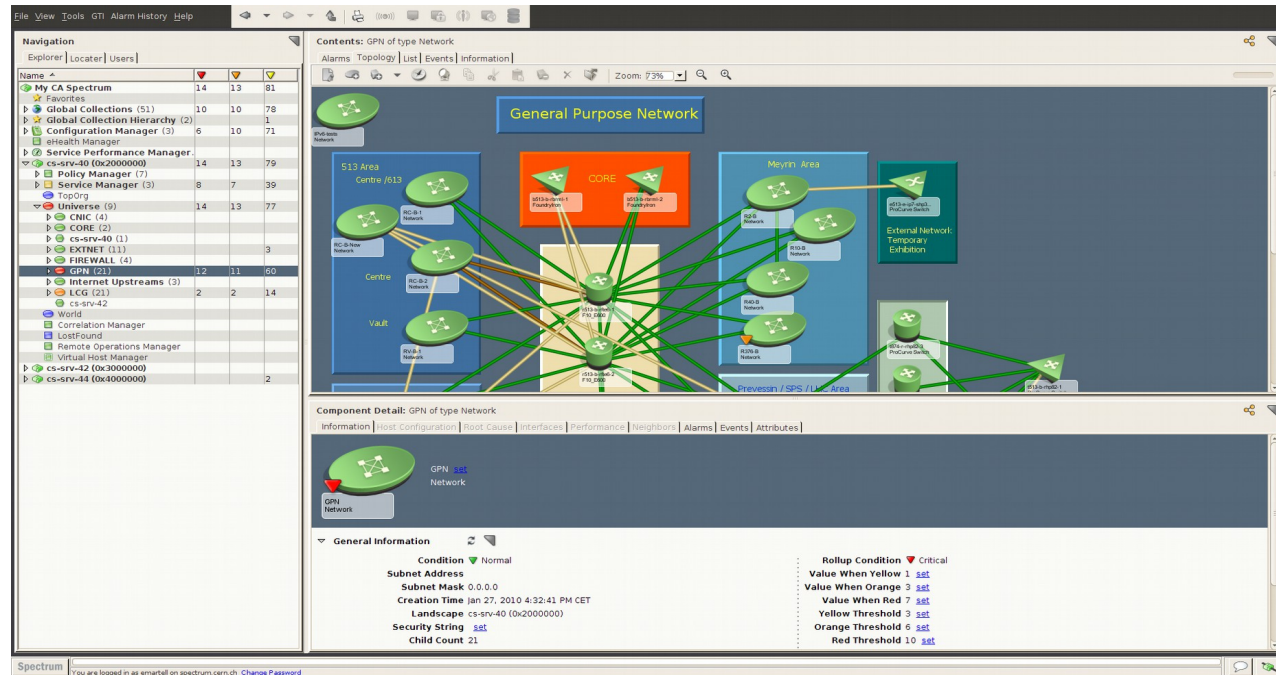
CERN Networks monitoring

Network status monitoring

CERN networks monitored by CA Spectrum

- ~7500 monitored devices
- SNMP polling and pings
- ~150 alarms treated per day
- integrated with CERN ticketing system (Service Now)
- procedures included with generated alarms

Network Performance monitoring

Monitoring of
- RTT variation
- Packet loss
- Bandwidth utilization

to:
- detect link partial failures
- do capacity planning

Flows monitoring

Netflow and sflow data collected from all the border routers

Only for post analyses

WLCG Network monitoring

LHCOPN and LHCONE perfSONAR

LHCOPN/ONE Network monitoring infrastructure

Probes installed at:
- Network operators interconnecting points
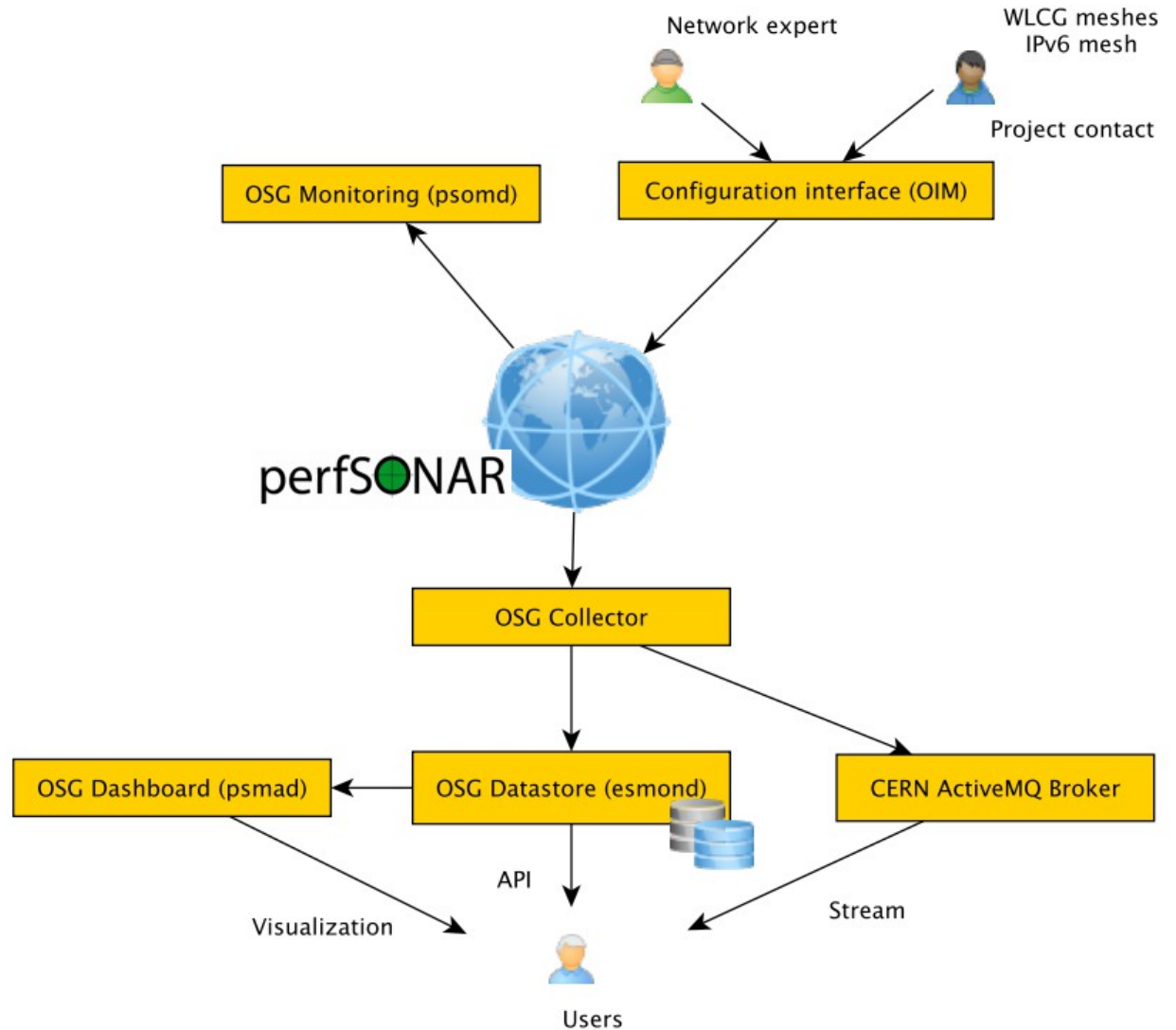- Sites

Intrusive and not intrusive monitoring:
- available bandwidth
- path changes (one way delay, trace path)

Historical data

Information Technology Department

LHCONE perfSONAR MaDDash

PerfSONAR pipeline

The diagram on the right provides a high-level view of how WLCG/OSG is managing the perfSONAR deployments, gathering metrics and making them available for use.

End users can get monitor the data via the OSG MaDDash instance, grab the data directly from the OSG datastore or subscribe to the ActiveMQ bus at CERN

References

Deployment:
https://twiki.opensciencegrid.org/bin/view/Documentation/DeployperfSONAR

MaDDash
https://maddash.aglt2.org/maddash-webui/index.cgi?dashboard=LHCONE%20Mesh%20Config

perfSONAR
http://www.perfsonar.net/

Credits for perfSONAR slides: Shawn McKee
https://indico.cern.ch/event/461511/contribution/0/attachments/1242565/1828189/LHCONE_perfSONAR_update-Taiwan-2016.pptx

Questions