OSG Area Coordinators

Network Monitoring Update: **July 16, 2014**

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Key Initiatives in Network Area

- OSG modular dashboard service / OSG network service
  - Partial migration. Have example dashboard in place
  - Need "Datastore" (targeting MA from v3.4)
- Improving perfSONAR-PS toolkit for OSG
  - New version 3.4 in beta testing…release "soon"
  - Still need to get ALL OSG(non-WLCG) sites to install
- Documentation updates: network tools & troubleshooting
  - No major updates since internal review
- Outreach and community interaction
  - New "Networking and Transfer Metrics WG" in WLCG spinning up.
  - LHCONE using OSG MaDDash+OMD

Top Concerns

- OSG Network Service into "production" and fully functional
  - Further away than anticipated. Need "testing" version first
  - Discussions ongoing between Soichi, Marian, Andy and Shawn
  - **Bottom line: Need a way to store the data.**
- Automate creation of the mesh-config from OIM/GOCDB
  - Ongoing discussion with Soichi and Marian Babik/WLCG
  - Close to being possible but some issues about how best to organize data being decided.
- Vacations and levels of effort impacting the speed of getting things in place
  - Soichi has two days designated per month to work on OSG networking issues.

Recent Accomplishments

- Spun up WLCG Network and Transfer Metrics Working Group
  - Most membership confirmed. Shawn and Marian Co-chairs.
  - Kick-off meeting in ~month
  - See WG page at: https://twiki.cern.ch/twiki/bin/view/LCG/NetworkTransferMetrics
- Had detailed meeting + follow-on email threads with Rob/Soichi/Marian/Andy on OSG networking service and OSG/WLCG integration.
- Created copies of prototype services in OSG
  - Replica of http://maddash.aglt2.org/maddash-webui for MaDDash implementation at http://perfsonar-itb.grid.iu.edu/maddash-webui
  - Replica https://maddash.aglt2.org/WLCGperfSONAR/check_mk of OMD at https://perfsonar-itb.grid.iu.edu/WLCGperfSONAR/check_mk (Not working yet)\
  - Assigned OSG subnet for monitoring as 129.79.53.0/24
- LHCONE community adopted OSG Maddash + OMD tools to monitor and diagnose LHCONE network links.

OSG Network Service Datastore

- To me this is still the biggest issue
- We can collect perfSONAR data now using MaDDash
- But…No place to keep it?
  - We need to have a way to store:
    - **Traceroute** (taken 1/hour between all sites)
      - Kept for 45 days or longer
    - **Latency/packet-loss** (continuous)
      - Save results each minute? Keep for 45 days?
    - **Bandwidth** (1/6-hours within clouds, 1/week WLCG-wide)
      - Keep for 3 months?
- **Realistic option for "now" is perfSONAR MA from v3.4 called Esmond**
  - Need to get example installed/running on OSG
    - Uses Casandra as the underlying DB
    - Install details http://antg-dev.es.net/esmond-docs/rpm_install.html
  - Andy Lake has outlined what additional steps are needed to "Wrap" Esmond to identify, collect and store the perfSONAR data
  - Soichi has already built an implementation of the step's Andy outlined but it was his test framework for using MongoDB

Details on Completing Network Datastore

- Besides installing Esmond Andy noted we need a standalone data aggregator that does the following loop:
  1. Retrieves the mesh configuration and builds a list of site MAs to contact
  2. Queries each MA in the list for data updated since last run.
  3. Registers the retrieved data in the central MA
  4. Stores the timestamp of the most recent data point saved (to be used the next time it queries the MA
- Soichi implemented a very similar framework to test things at the beginning of the year. We have to see if this could be adapted to fill Esmond.

Near/Mid term items

- Working Network Datastore using Esmond
  - Needs "framework" wrapping Esmond install Re: Andy email
  - May NOT be the suitable long-term choice but need to learn
- Expand automated creation of "mesh-configs"
  - Prototype and test creation of WLCG meshes.
  - Needs some details fixed but no major issues foreseen

==========Mid Term==========

- Continue upgrades for sites with perfSONAR-PS versions prior to 3.3.2 (33 sites); ensure mesh-config use
  - Identify and lobby non WLCG OSG sites to install
- Using and improving the OSG network service
  - As sites upgrade and use the mesh, verify data, displays
  - Begin testing "clients" of OSG network metrics
    - Will require some API changes to get certain typical queries
- Continued documentation updates and additions
  - Maintain/update documented procedures

URLs of Relevance

- Network Documentation https://www.opensciencegrid.org/bin/view/Documentation/NetworkingInOSG
- perfSONAR-PS OSG Installation Instructions
  https://twiki.opensciencegrid.org/bin/view/Documentation/PerfSONARToolKit
- New 3.4 MA guide https://code.google.com/p/perfsonar-ps/wiki/MeasurementArchiveClientGuide
- Modular Dashboard Replacement Prototypes
  - http://maddash.aglt2.org/maddash-webui
    https://maddash.aglt2.org/WLCGperfSONAR/check_mk
- perfSONAR-PS Installation Motivation:
  https://twiki.grid.iu.edu/bin/view/Networking/WhyPerfSNOAR
- Initial OSG mesh details http://confluence.grid.iu.edu/display/CENTRAL/Perfsonar+Mesh+Configs
- Esmond install info http://antg-dev.es.net/esmond-docs/rpm_install.html

Questions or Comments?

Thanks!