Status Update on perfSONAR

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EGI OMB
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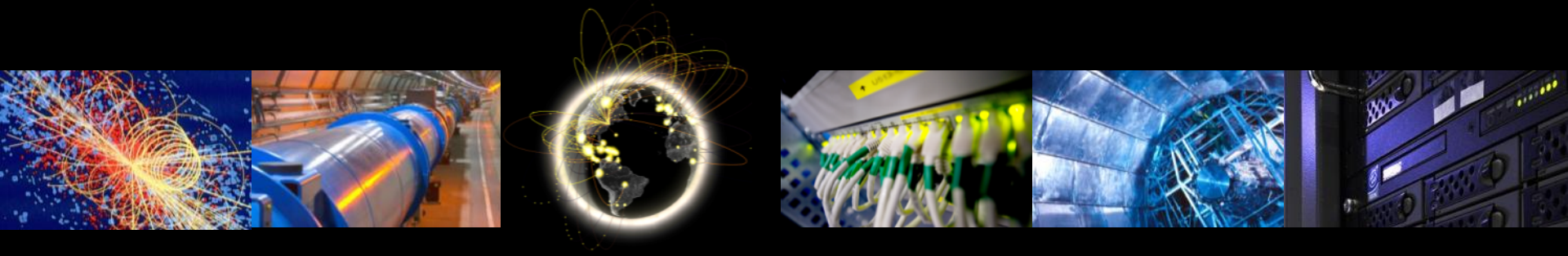


WLCG
Worldwide LHC Computing Grid

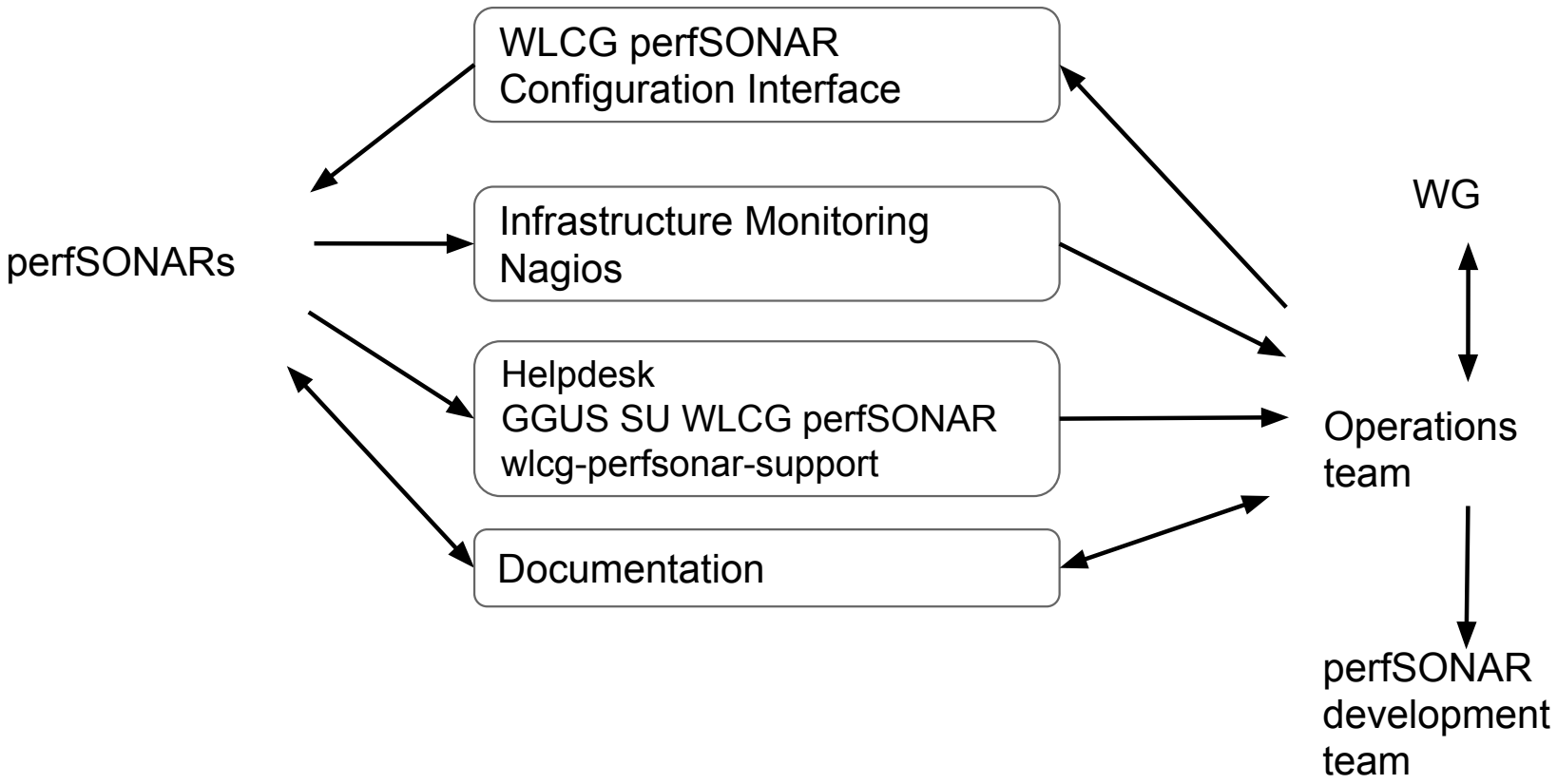
Key Initiatives

- WLCG Network and Transfer Metrics WG
  - Ensure sites and experiments can better understand and fix networking issues
  - Ensure all relevant network and transfer metrics are identified, collected and published
- WLCG-wide deployment of perfSONAR-PS
  - Network performance testing – network path, bandwidth and latency tests
  - Based on perfSONAR 3.4.1
- In collaboration with OSG, ANSE, PuNDIT

Recent achievements

- perfSONAR 3.4 released Oct 14th
- Restructuring support and operations
  - Introduced site-level support via GGUS (WLCG perfSONAR support)
- Rewritten documentation
  - https://twiki.opensciencegrid.org/bin/view/Documentation/DeployperfSONAR
- Responded to ShellShock and Poodle
  - Sites advised to terminated their instances
  - Performed security audit and established security procedures
- Testing and validation of the new perfSONAR central configuration service
- perfSONAR 3.4 update campaign
  - Includes migration to the new configuration system
  - Security considerations documented
  - Progressing well (116 sonars updated out of 214)
  - Deadline 8th January

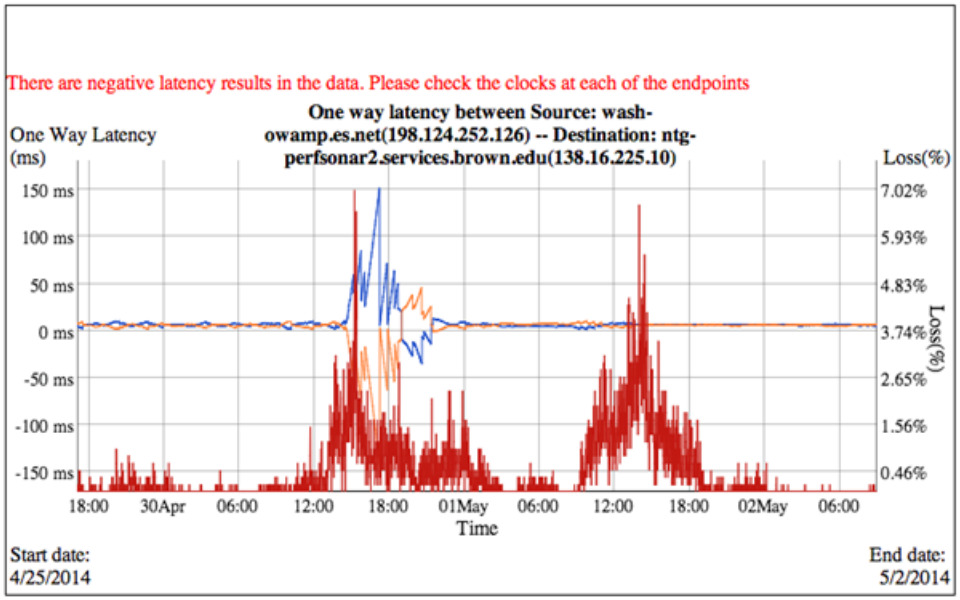
perfSONAR ops structure



Metrics

- Network Path
  - Traceroute to track the network path between sites (once an hour)
- Bandwidth
  - iperf tool measures useable bandwidth
- Latency
  - sending 10Hz of one-way delay measurement packets between all sites. Packet statistics are summarized every minute (one-way delay, packet loss, TCP retransmits)
- ESnet has some nice pages on using perfSONAR to identify problems
  - http://fasterdata.es.net/performance-testing/evaluating-network-performance/

Drastic BW Change



- Spikes of packet loss, almost always during business hours
- Function of the load on the line/time of day
- This was traced to **regional network**

ShellSock remediation

- Updating all sites to perfSONAR 3.4
- Focus on having just one campaign to reinstall, upgrade to 3.4 and move to new mesh configurations
- Steps done
  - Review current configuration wrt. firewall rules – perform security audit with perfSONAR developers
  - Wrote new installation and configuration guide for 3.4
    - Clear instructions on both central/local firewall configuration
  - Establishing wlcg-perfsonar-security list and communicating it to the infrastructure security teams
  - Enabling auto-update for all installations
  - Updating all sonar to the new auto-configuration URL
- Sent WLCG and EGI broadcast with the (re)installation instructions to ALL sites
  - Report at WLCG operations coordination, EGI OMB