February 2 2010, Winter 2010 ESCC/Internet2 Joint Techs

Jason Zurawski, Network Software Engineer, Internet2

Internet2 Performance WG Update

Recent News

- Software Releases

- Product Adoption

- Standardization

- SC09

- We're Hiring!

INTERNET2

Software Releases

- perfSONAR-PS 3.1 (Sept 2010)

- pS Performance Toolkit

    – 3.1 – Oct 2010

    – 3.1.1 – Nov 2010

    – 3.1.2 – Expected Feb 17th

- Partial Roadmap for 2010:

    – perfSONAR 3.2 (Summer 2010)

        • Stability upgrades

        • New Analysis tools and GUIs

        • New services (Traceroute, Circuit monitoring)

    – pS Performance Toolkit 3.2 (Late Summer 2010)

        • Conversion to RHEL as the Linux distribution

        • NAGIOS integration

        • Stability and usability enhancements

INTERNET2

Software Releases

- Longer Term Projects
  - AA Integration into pS tools
  - Configuration Management
    - Control configuration on multiple systems
    - Control configuration for multiple services on a single system
  - NDT
    - GUI improvements
    - Regular testing capability (BWCTL integration)
  - BWCTL
    - support for iperf3
    - Support for testing with other tools (traceroute, owamp)
    - Experimenting with use of other TCP congestion algorithms (other than reno)

INTERNET

Product Adoption

- USATLAS continues to utilize pSPT
  - Most bugfixes in 3.1.1 and 3.1.2 are a direct result of ATLAS testing and suggestion
  - Preparing recommendations for Tier3s regarding the use of the pSPT
- USCMS has no official stance on performance measurement
  - Presented pSPT overview to USCMS operations to outline use cases and benefits in Fall 2009
  - As of Nov 2009, several Tier2s were using the pSPT on an ad-hoc basis.
  - Could offer similar support arrangement as with USATLAS
- OSG has included some performance tools in the VDT distribution
  - Clients for OWAMP, BWCTL, NDT
  - Inquiring about the inclusion of other (pS) tools
  - Deployment is common on cluster and data storage devices

INTERNET2

Product Adoption

- Working with other Science communities and VOs
  - Telescopes, Other non-LHC physics
  - Isolating performance problems
  - Validating SLAs
- GLIF (Oct 2009)
  - Demonstration on perfSONAR and dynamic circuit interplay.
  - Presentation on the MANLAN exchange point
- Google MLAB
  - Deployment continues
  - Features NDT currently (as well as other tools)
  - NDT development being driven by experiences on MLAB
    - Addition of a programmatic API
    - Support for extreme use case e.g. how to handle being 'slashdoted'

INTERNET 2

Standardization

- Continued OGF participation.
  - NM – Defining the representation of network measurements
  - NMC – perfSONAR control protocol
  - NML – Topology Description
  - NSI – IDC control protocol
- Attended OGF 27 (Banff BC Ca) and several will attend OGF 28 in March
- Hoping to push NM work into standards track by this fall, some NMC work by late 2010.

INTERNET

SC09

- ION and Internet2 Network connections to Portland (20G total)

- perfSONAR measurement infrastructure in SCinet

  - See Aaron's talk at 2:20pm, "**Creating the SC09 Measurement Infractructure**"

  - Archived data to be made available soon

- Internet2 assisted REDDnet (Vanderbilt, UTK, ORNL, UDel) with a Bandwidth Challenge Entry

  - Sustained 12.5 Gbps out of a possible 17 Gbps

  - Used ION infrastructure, Internet2 and NLR backbones.

  - See Martin/Ezra's talk "**Improving Network Data Logistics for Scientific Applications with REDDnet**" Weds at 9:50am.

INTERNET2

SC09

- Technical paper featuring Phoebus
  - "Improving GridFTP Performance Using the Phoebus Session Layer"
- Internet2 booth demonstrations
  - pSPT
  - GRNOC Touch-screen Weathermap
  - ION infrastructure
- Internet2 Staff on Measurement, WAN, Communications, and IT teams.
- Matt Zekauskas is Measurement Chair at SC10 (New Orleans)
  - Always looking for new volunteers

INTERNET
2

We're Hiring!

- Looking for some new R&D Team members
  - http://www.internet2.edu/about/staff/careers#nse
- Primary duties would be working on performance and networking software
- Please spread the word!

INTERNET
2

Internet2 Performance WG Update

February 2 2010, Winter 2010 ESCC/Internet2 Joint Techs

Jason Zurawski, Network Software Engineer, Internet2

For more information, visit www.internet2.edu/performance