What's new in perfSONAR Toolkit v3.3, and what's on the roadmap for the next year

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Internet2 Spring Member Meeting
Arlington, VA
April 22, 2013
perfSONAR-PS Toolkit 3.3-rc3

- perfSONAR-PS Toolkit 3.3-rc3 just released
- **New Features in 3.3**
  - CentOS 6 (32-bit and 64 bit support)
  - LiveUSB distribution in addition to NetInstall and LiveCD
  - Completely rewritten and re-designed lookup service
  - Centralized mesh configuration management software
  - Integration with MaDDash performance monitoring dashboard
  - Numerous other bug fixes and enhancements
  - Traceroute visualization developed by University of Wisconsin

*Final 3.3 release coming very soon!*
ESnet’s perfSONAR Involvement

Currently ~1.5 developer FTEs working on perfSONAR-PS

- Work closely with Internet2 to manage releases, address bugs, and set roadmap
- Weekly collaboration meetings Monday’s at 2:30pm ET

Deployment of 86 perfSONAR hosts on network

- 36 throughput nodes
- 34 latency nodes
- 10 combined nodes
- 6 additional host for lookup, topology and SNMP MA services
perfSONAR Dashboard:
e.g.: ps-dashboard.es.net
New Lookup Service: the sLS (Simple Lookup Service)

• Had performance and reliability problems with the old lookup service
• sLS Design Goals
  − scalable and high performance
  − simple to use REST-based API
  − general purpose: not just for perfSONAR
  − Security support
• Lead developer: Sowmya Balasubramanian, ESnet (sowmya@es.net), with lots of design help from Eric Pouyoul (lomax@es.net)
  − Design inspired/influence by discussions with Ahmed El-Hassany and Martin Swany at IU.
• Requirements and Design Documentation at:
  − http://code.google.com/p/perfsonar-ps/wiki/NewLSprojectPlan
sLS Design

- REST/JSON API
- Backend: MongoDB
- Data is stored as “record”
  - A “record” is a list of key-value pairs

Example:

```json
{
    service-type: "bwctl",
    domain: "ESnet",
    accesspoint: "http://someaccesspoint/
}
```
sLS (cont)

New sLS **100x faster** than old LS for the same queries

Try it out!

http://ps4.es.net:9095/lookup/records/?service-type=bwctl
Current Priorities

Replacing SOAP APIs with REST APIs

Enhanced owamp MA

- REST/JSON-based owamp MA, that supports rrd-like summarization
- Considering basing this on ESmond (Jon Dugan’s new SNMP DB based on Cassandra)

web10G Integration

iperf3/bwctl integration (http://code.google.com/p/iperf/)
Roadmap, Next 6 months

In addition to topics on the previous slide:

- RPM bundles for "level 1" and "level 2" installs
  - [http://fasterdata.es.net/performance-testing/perfsonar/ps-howto/](http://fasterdata.es.net/performance-testing/perfsonar/ps-howto/)
- Improved documentation, new website
- Added functionality for LS:
  - pub/sub capability, so can deploy custom caches
  - easy to use client API
- Better LS GUI that provides cut/paste bwctl and owping commands, and better "community" support
- Finish/polish Maddash/Mesh config integration, including Mesh config GUI
- Pythia Integration
Roadmap, remainder of the year

- LS security
- Email alerts from Maddash
- Traceroute visualization integrated with owamp/bwctl data
- REST/JSON APIs for all remaining services (Topology Service, SNMP MA, etc)
- Ability to do on-demand bwctl/owamp testing via the toolkit GUI
Looking for Help on

- Release Testing
- Better Visualization / Analysis tools
Links:

perfSONAR Toolkit: http://psps.perfsonar.net/


Dashboard:

• https://code.google.com/p/esnet-perfsonar/wiki/MaDDashInstall

sLS: http://code.google.com/p/perfsonar-ps/wiki/NewLSprojectPlan