

perfSONAR update

November 14th, 2024 — 21st SIG-NOC - Berlin

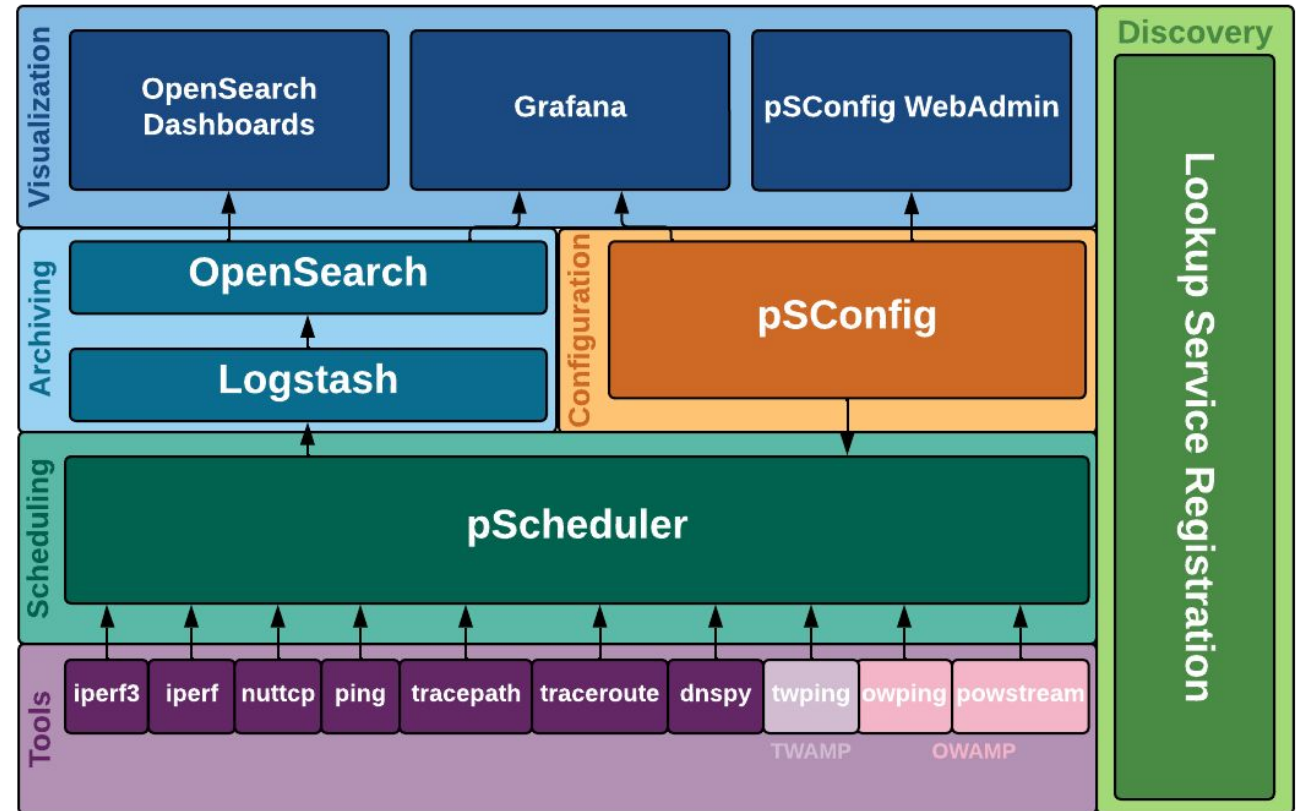
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perfSONAR is developed by a partnership of

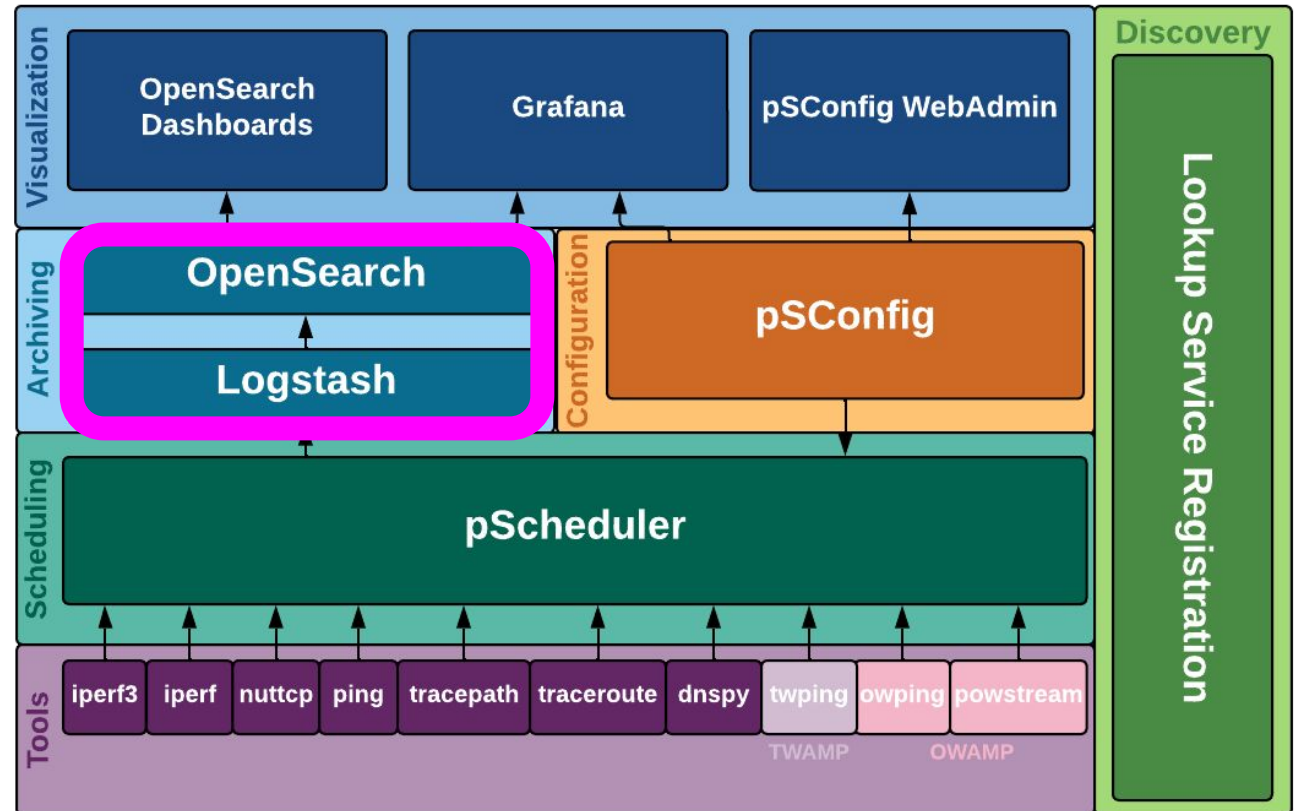
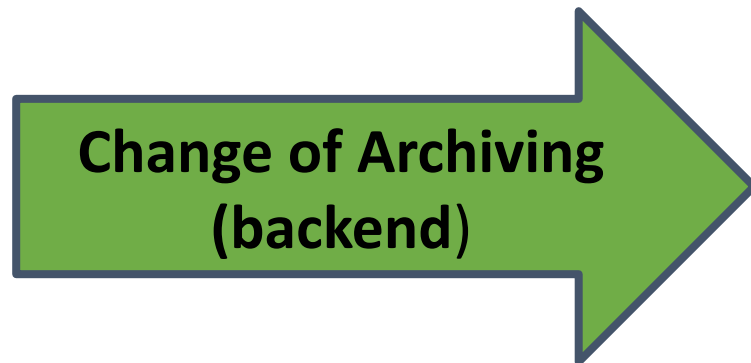


What is perfSONAR?

- An **open source software collaboration** led by ESnet, GEANT, Indiana University, Internet2, RNP and the University of Michigan.
- **Goal is to provide network measurements between organizations** to help identify and troubleshoot network issues. Most commonly these include (but are not limited to):
 - Throughput
 - Packet Loss
 - One-way latency
 - Traceroute



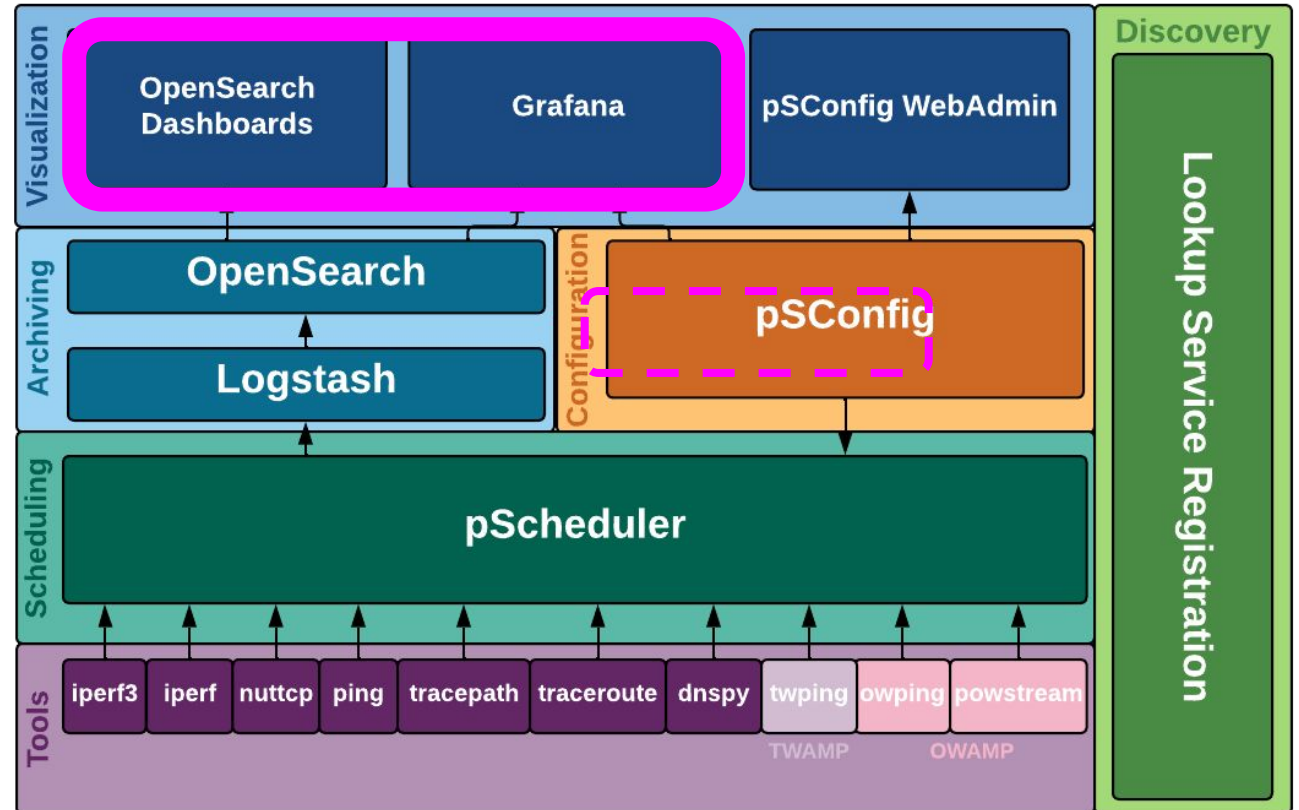
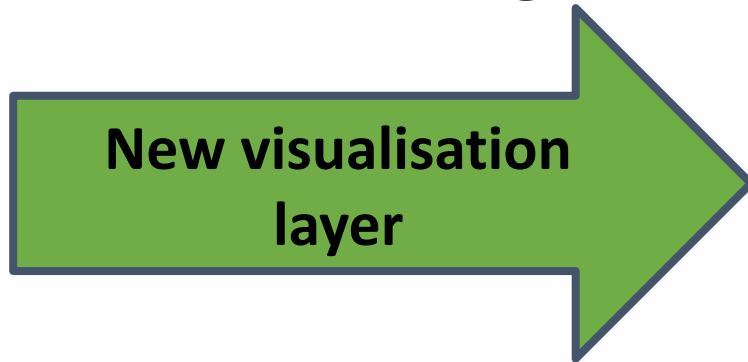
perfSONAR 5.0



Replace in-house development by common and versatile open-source components.
(was Esmond)



perfSONAR 5.1



Replace in-house development by common and versatile open-source components.
(was pS Graphs)



perfSONAR 5.1.4 (17/10/24)

- **New Grafana Interface**
 - Customizable visualization, better integration with other data
- **Threaded iperf3 Support**
 - Ability to test at 100Gbps+
- **Python pSConfig**
 - Better maintainability of more modern codebase
- **Better Instrumentation and Troubleshooting Tools**
 - Makes it easier to identify issues when perfSONAR misbehaves
- **More recent OS Support**
 - Debian 11, Debian 12 and Ubuntu 22 support. On top of EL9 (Alma, Rocky) and Ubuntu 20.



Image: New default Grafana UI

New UI: Focus on Measurements

The dashboard displays the following key metrics:

- Throughput (Max):** 7.98 Gb/s
- Packet Loss (Max):** 0.167%
- Jitter (Max):** 3.29 ms

Number of Tests Run: A bar chart showing test frequency from 06:00 to 04:00. The legend includes trace (green), throughput (yellow), latencybg (blue), and dns (orange).

Test Result Summary:

Source	Destination	IP Version	Packet Loss (Max)	Throughput (Min)	Latency (Min)	RTT (Min)
ps-dev-staging-el...	ps-dev-staging-u...	4	0%	7.95 Gb/s	0.01000 ms	-
ps-dev-staging-el...	ps-dev-staging-el...	4	0.167%	7.85 Gb/s	-0.420 ms	-
ps-dev-staging-el...	ps-dev-staging-el...	4	0.167%	7.94 Gb/s	-0.350 ms	-

Interfaces:

Interface	Speed
eth0	n/a

Tests Configured by Ty...:

Type	#
trace	8
throughput	3
latencybg	3

Host Info: ps-dev-staging-el9-tk-1.c.esnet-perfsonar.internal

External Dashboards: ps-dev-staging-u20-tk-1.c.esnet-perfsonar.internal

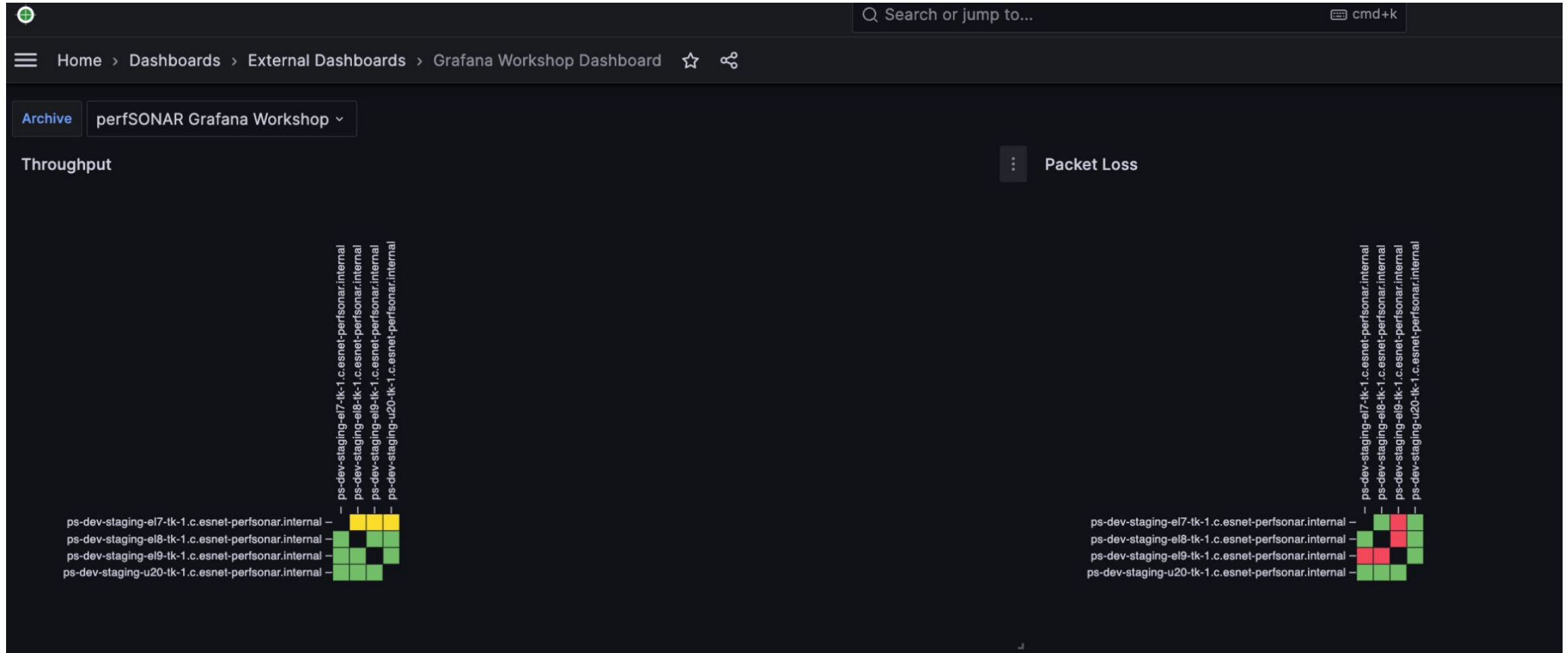
My Dashboards: ps-dev-staging-el9-tk-1.c.esnet-perfsonar.internal

Retransmits: A line chart showing retransmit counts over time for various test paths.

Latency (Reverse): A line chart showing latency in milliseconds for reverse paths.

95th Percentile: A line chart showing the 95th percentile of latency for specific test paths.

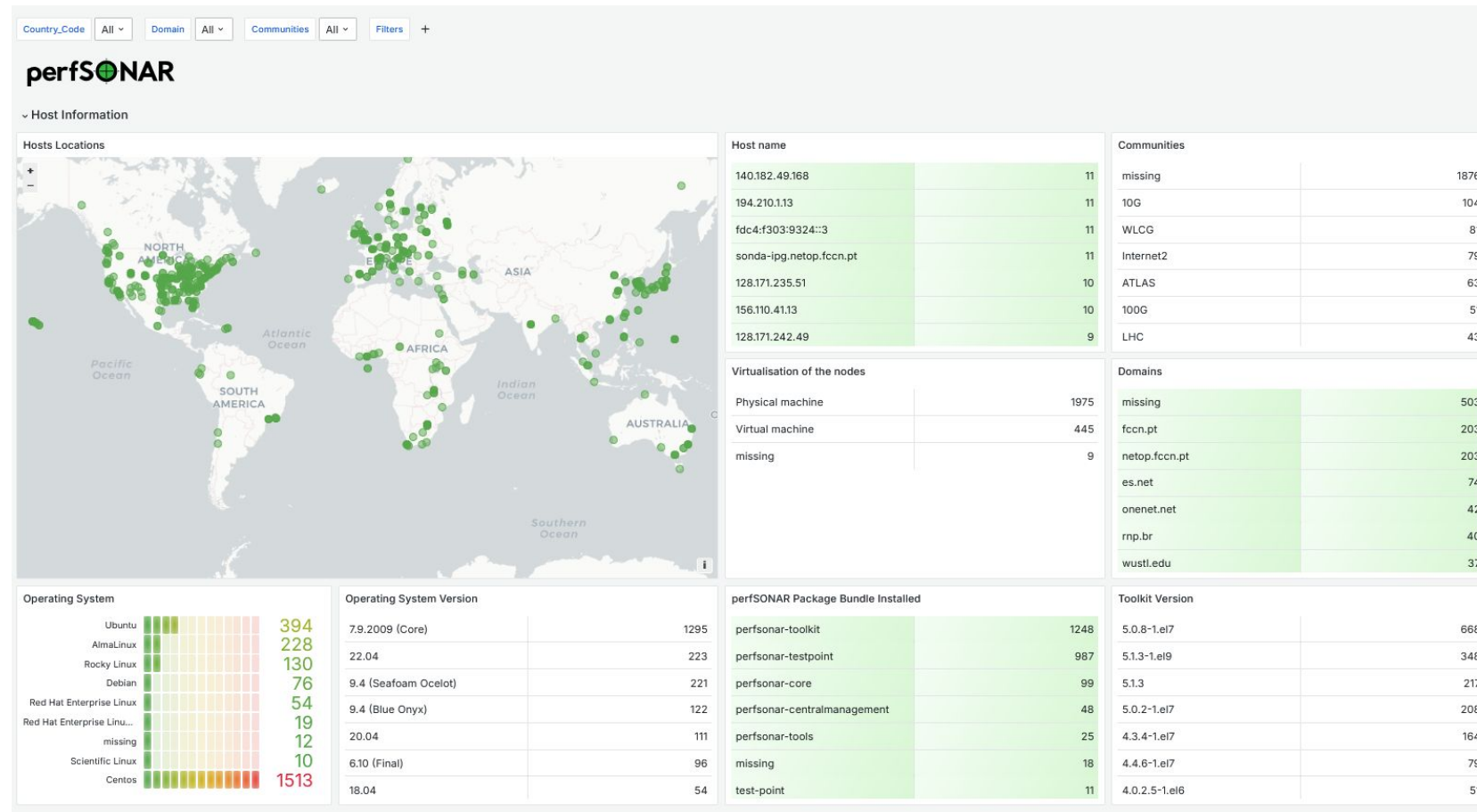
New UI: MaDDash Integration



psarchive troubleshoot

```
[root@ps-dev-staging-el9-tk1 andy]# psarchive troubleshoot
OpenSearch running ..... OK
Logstash running ..... OK
OpenSearch API (Localhost) ..... OK
Logstash Endpoint (Localhost) ..... OK
OpenSearch API (HTTPS Proxy) ..... OK
Logstash Proxy Credentials ..... OK
Logstash Endpoint (HTTPS Proxy) ..... OK
Logstash->OpenSearch Credentials ..... OK
Logstash->OpenSearch Authentication ..... OK
OpenSearch Data Exists ..... OK
```

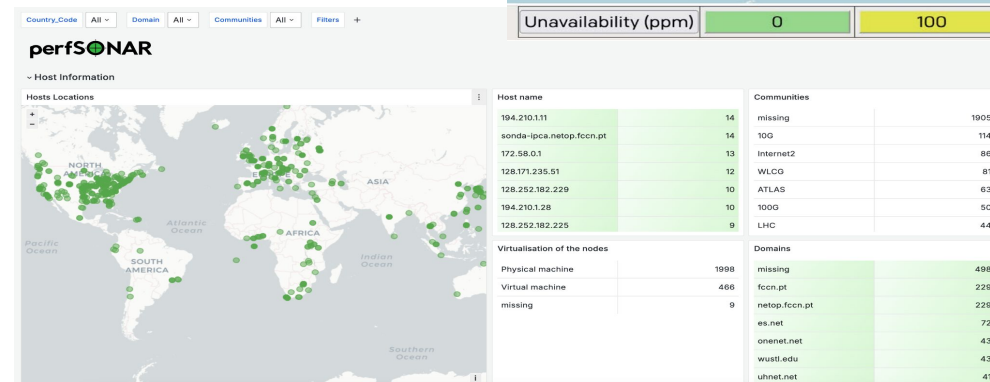
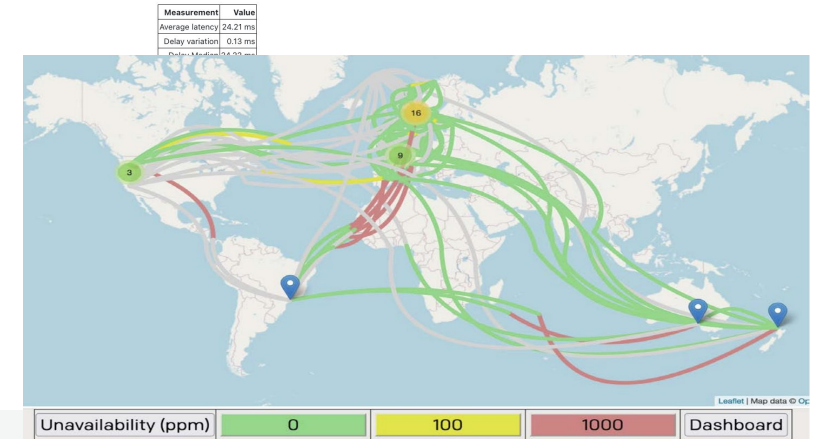
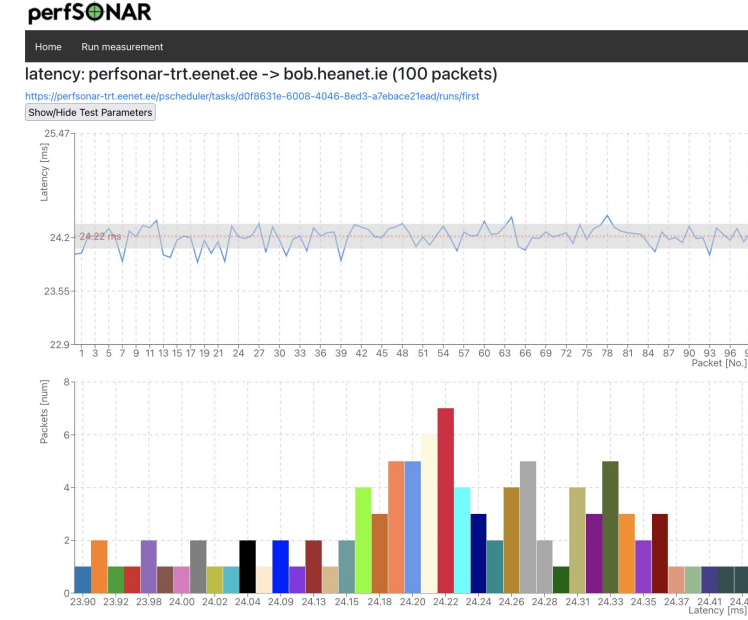

LS dashboard refreshment



<https://stats.perfsonar.net/>

Actively working on 5.2 and 5.3

- 5.2: upgrade of dependencies (Grafana, OpenSearch)
 - Ubuntu 24 support
 - Beta should be out soon
- New features for 5.3 (planned for 2025):
 - **psCompose**: Improving test configuration experience
 - On-demand measurement UI
 - Micro-dependency analysis
 - Lookup service enhancements
 - Exploring PTP support



How do I get perfSONAR 5.1.4 ?

- perfSONAR 5.1.4 is the latest production release
- Install instructions are [here](#)
- New install script (to run as root):

```
curl -s  
https://downloads.perfsonar.net/install |  
sh -s - toolkit
```

- Is being deployed on PMP nodes and GÉANT hosts.

Install Instructions



https://docs.perfsonar.net/install_quick_start