perfSONAR Survey Summary

First European perfSONAR Workshop

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Agenda

- perfSONAR Survey

- perfSONAR Survey Summary

- What's next?

http://www.perfsonar.net

Requirements gathering sources

- **Surveys** to the chief stakeholders and the chief operators of campus and lab networks

- Performance-related working group **meetings** online and at various in-person meetings

- User feedback from the various perfSONAR **mailing lists**

- Direct feedback from perfSONAR **training sessions**

- Experience **assisting users** in problem solving real performance problems

2019 Survey

- Created by perfSONAR developers and leads team
- Promoted via numerous communication channels
  - mailing lists: perfsonar-user, perfsonar-developer, sig-noc, sig-ngn, sig-msp, apm, perfsonar-small-node....
  - newsletters: GÉANT project weekly updates
  - slack channels
- Run 29 Jan – 15 Feb 2019

perfSONAR Survey Summary

Many thanks to **Luke Fowler @globalnoc.iu!**

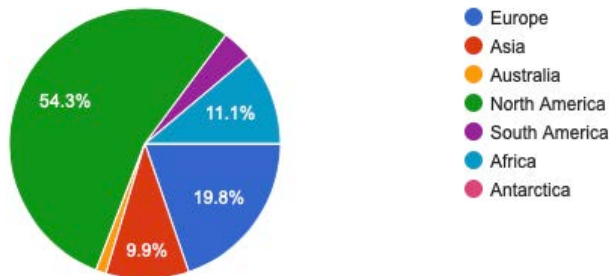http://www.perfsonar.net

perfSONAR Survey Responses Summary

- 82 responses, from all continents
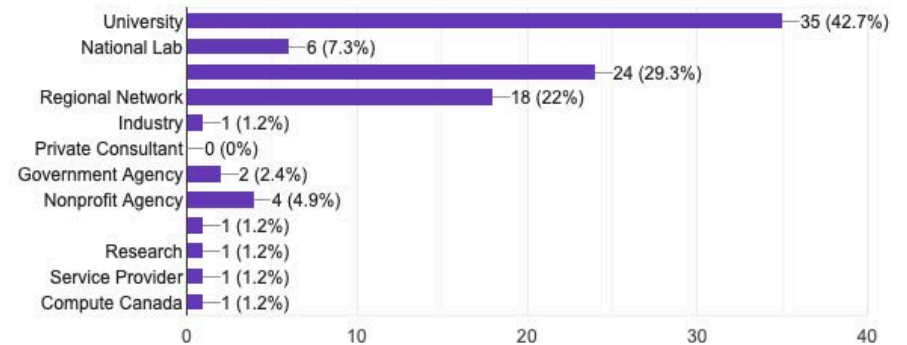
Survey participants

What is your job role?

82 responses

Job Role	Count (Percentage)
Network Engineer	42 (51.2%)
Systems Administrator	29 (35.4%)
Manager	15 (18.3%)
CIO/CTO/similiar	7 (8.5%)
	0 (0%)
Student	2 (2.4%)
Helpdesk	3 (3.7%)
Network Researcher	7 (8.5%)
Software Developer	4 (4.9%)
	1 (1.2%)
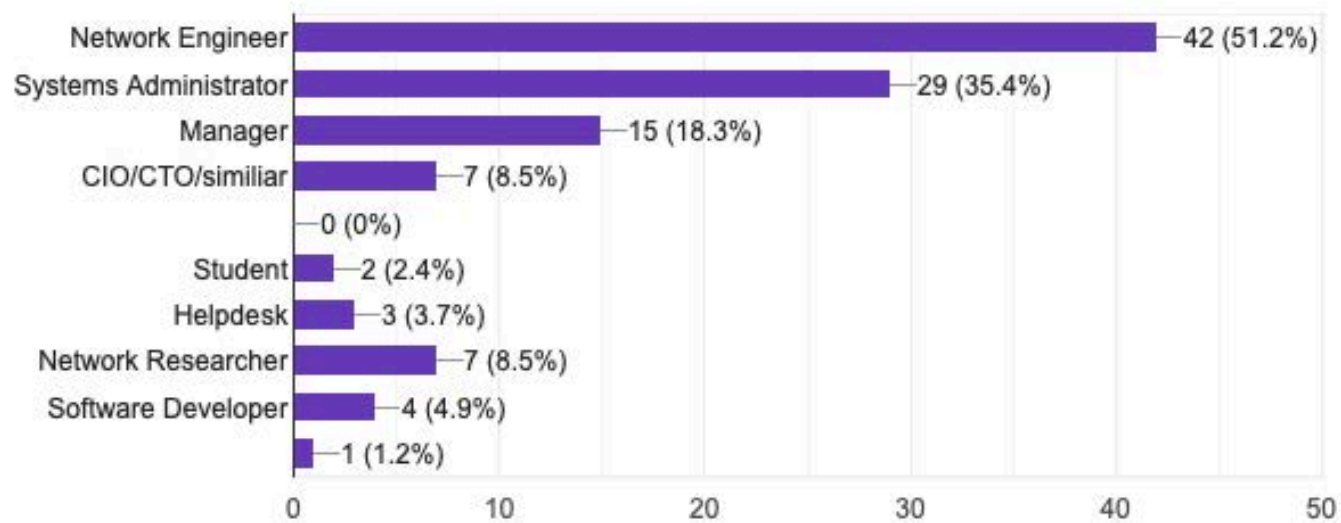
Number of managed nodes

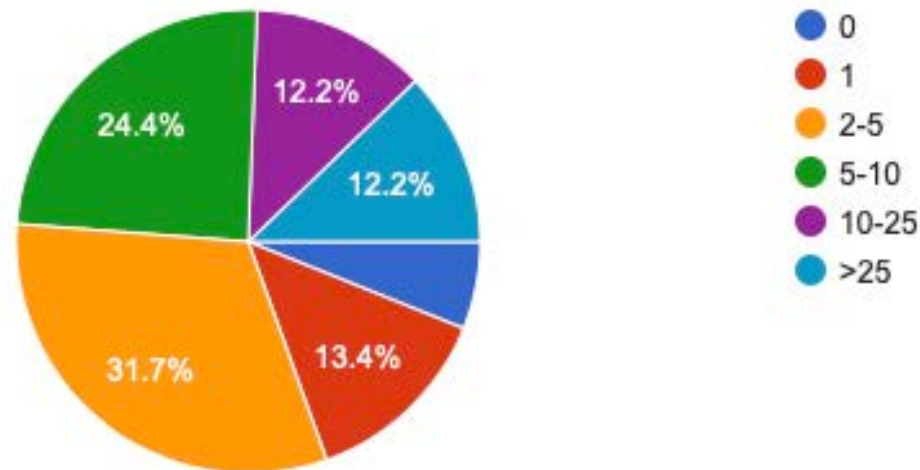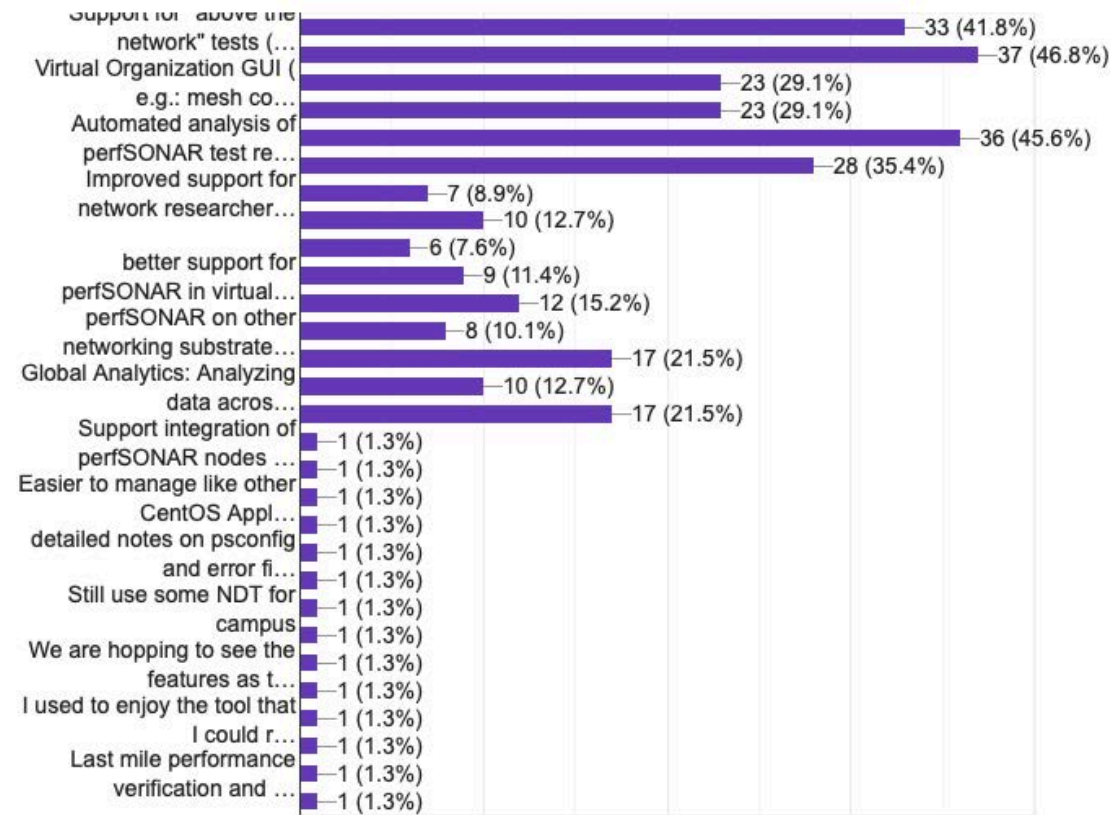How many perfSONAR nodes do you/your organization operate?

82 responses

What new features are most important to you?

79 responses

- Support for "above the network" tests (... — 33 (41.8%), 37 (46.8%)
- Virtual Organization GUI (e.g.: mesh co... — 23 (29.1%), 23 (29.1%)
- Automated analysis of perfSONAR test re... — 36 (45.6%), 28 (35.4%)
- Improved support for network researcher... — 7 (8.9%), 10 (12.7%)
- better support for perfSONAR in virtual... — 6 (7.6%), 9 (11.4%), 12 (15.2%)
- perfSONAR on other networking substrate... — 8 (10.1%), 17 (21.5%)
- Global Analytics: Analyzing data acros... — 10 (12.7%), 17 (21.5%)
- Support integration of perfSONAR nodes ... — 1 (1.3%)
- Easier to manage like other CentOS Appl... — 1 (1.3%)
- detailed notes on psconfig and error fi... — 1 (1.3%)
- Still use some NDT for campus — 1 (1.3%)
- We are hopping to see the features as t... — 1 (1.3%)
- I used to enjoy the tool that I could r... — 1 (1.3%)
- Last mile performance verification and ... — 1 (1.3%)

What are the operational gaps for perfSONAR in your environment?

57 responses

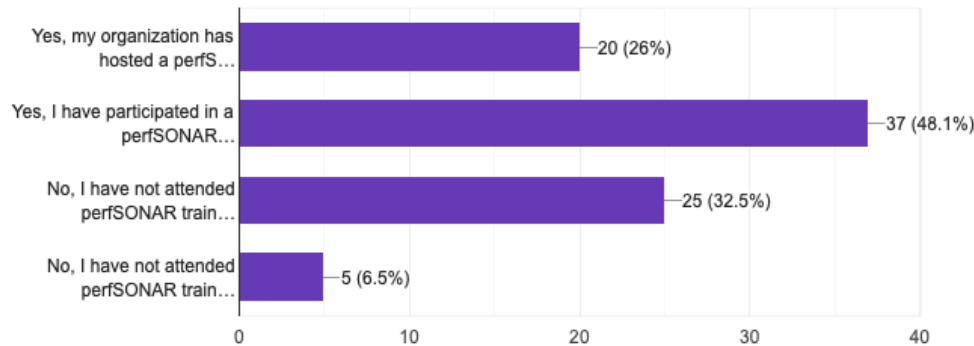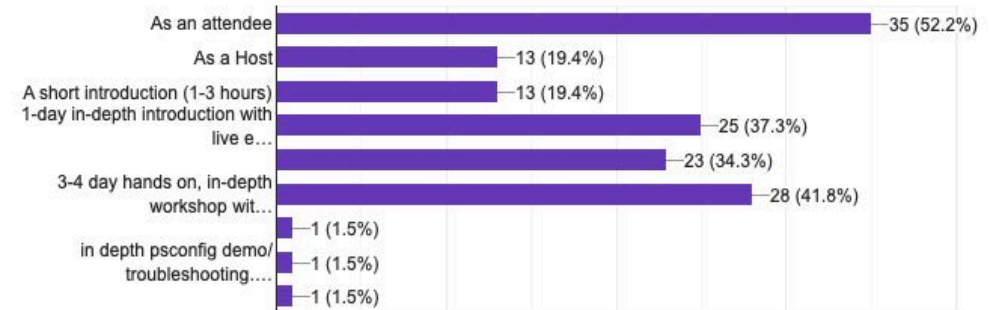| Category	Value
lack of OS support for my preferred OS	7 (12.3%)
	21 (36.8%)
lack of documentation	18 (31.6%)
	12 (21.1%)
no desire to learn new tools	2 (3.5%)
	17 (29.8%)
no use case/user that is requesting thi…	9 (15.8%)
additional access control	6 (10.5%)
options requi…	10 (17.5%)
provisioning and config	1 (1.8%)
management	1 (1.8%)
"Lack" = "Unable to locate *	1 (1.8%)
CORRECT* ve…	1 (1.8%)
they don't know how to	1 (1.8%)
troubleshoot wit…	1 (1.8%)
Access control to the tests	1 (1.8%)
	1 (1.8%)
Lack of people resources to	1 (1.8%)
help utiliz…	1 (1.8%)
	1 (1.8%)

Trainings

Have you participated in or hosted perfSONAR training?

77 responses

What types of training about perfSONAR would you be interested in attending or would be of interest for your organization to host?
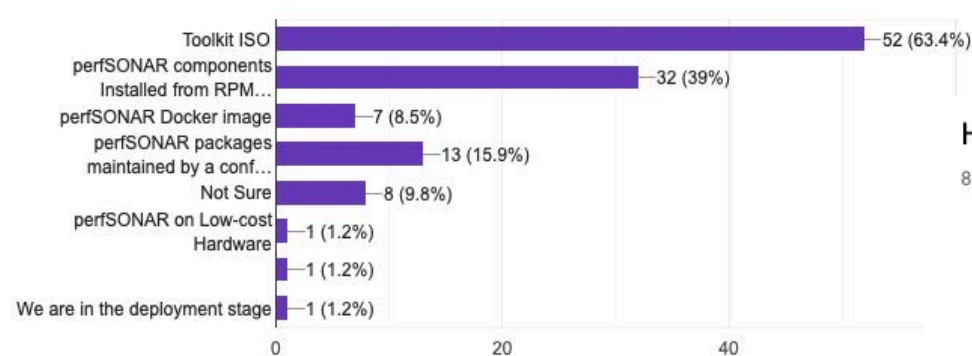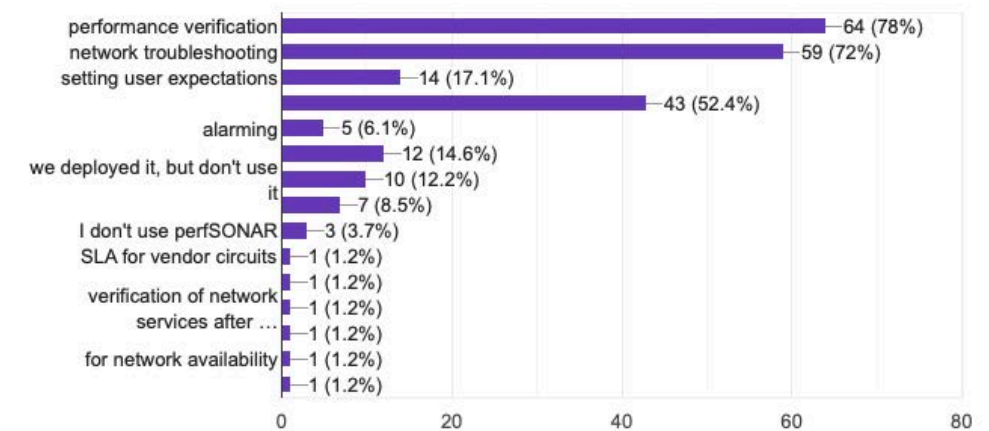
67 responses

perfSONAR usage

Which type of perfSONAR installation do you use?

82 responses

Toolkit ISO	52 (63.4%)
perfSONAR components Installed from RPM…	32 (39%)
perfSONAR Docker image	7 (8.5%)
perfSONAR packages maintained by a conf…	13 (15.9%)
Not Sure	8 (9.8%)
perfSONAR on Low-cost Hardware	1 (1.2%)
	1 (1.2%)
We are in the deployment stage	1 (1.2%)

How do you currently use perfSONAR?

82 responses

performance verification	64 (78%)
network troubleshooting	59 (72%)
setting user expectations	14 (17.1%)
	43 (52.4%)
alarming	5 (6.1%)
	12 (14.6%)
we deployed it, but don't use it	10 (12.2%)
	7 (8.5%)
I don't use perfSONAR	3 (3.7%)
SLA for vendor circuits	1 (1.2%)
	1 (1.2%)
verification of network services after …	1 (1.2%)
	1 (1.2%)
for network availability	1 (1.2%)
	1 (1.2%)

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Additional suggestions

received through the free-text questions

New Features

- Easier management of meshes is important
- Running perfSONAR directly on router/switches
- Better data visualization
- More analysis / guided troubleshooting / troubleshooting tips
- Integration with 3rd party data analysis tools (e.g. Grafana)
- Thresholds for results (presumably for alarming purposes)
- Auto-discovery of test configuration
- Cloud deployment

Other Enhancements

- Fewer ports used (firewall configuration ease)
- Support for TWAMP and other OA&M protocols common on CPE devices
- Better support for "non-expert" / "non-network-engineer" users
- Integration with external monitoring systems
- Better support for NAT (cloud use case)
- More precise timing for short links should be investigated (latency?)
- Regression testing before releases are important

Gaps

- Documentation improvement is important
  - Demo use cases / POC examples
  - Video training is desired
- Configuration / maintenance automation could be improved
- More web-based setup (less Linux knowledge needed)
- Better debugging when tests are not working as desired

High level evolution

- Visualization improvements - Integration with existing vis. frameworks
- Easier for non-expert users (configuration, use, analysis)
- Broaden the focus to include LAN performance
- Cloud is important! Make sure pS works well for cloud use cases
- Simplifying configuration
- Stability improvements
- Global analysis (my mesh AND the pS tests results around the globe)
- Better training / documentation is desired

What's next

Addressing the feedback

- Might depend on some additional requirements:
    - Info about a specific use-case
    - Manpower / skills needed vs. available
- Collating the existing work from the community
    - Measurements in the cloud and for cloud services
    - Alarming – notification and triggering

Addressing the feedback (2)

- Some of the topics are work in progress already:

  - Measurement results visualisation

  - Improving the documentation

  - Integration with other / external tools
    (e.g. Grafana / Elasticsearch / API support /…)

  - Integration with vendors

perfS⊕NAR

Thank you!

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