



**How Jisc is supporting End to end
network monitoring with**

perf5.0NAR

on the Janet network

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Jisc's network performance test facilities

Open to our members, and their collaborators, to use

- perfSONAR
 - 10G (Slough) and 100G (London)
 - Mesh and archive
- Iperf and ethtool
 - 10G - (100G on request)
- 10G data transfer node (DTN) for application-oriented disk-to-disk tests (100G coming)
- All facilities
 - IPv4/IPv6
 - Jumbo frames (MTU=9000)
 - TCP-BBRv3

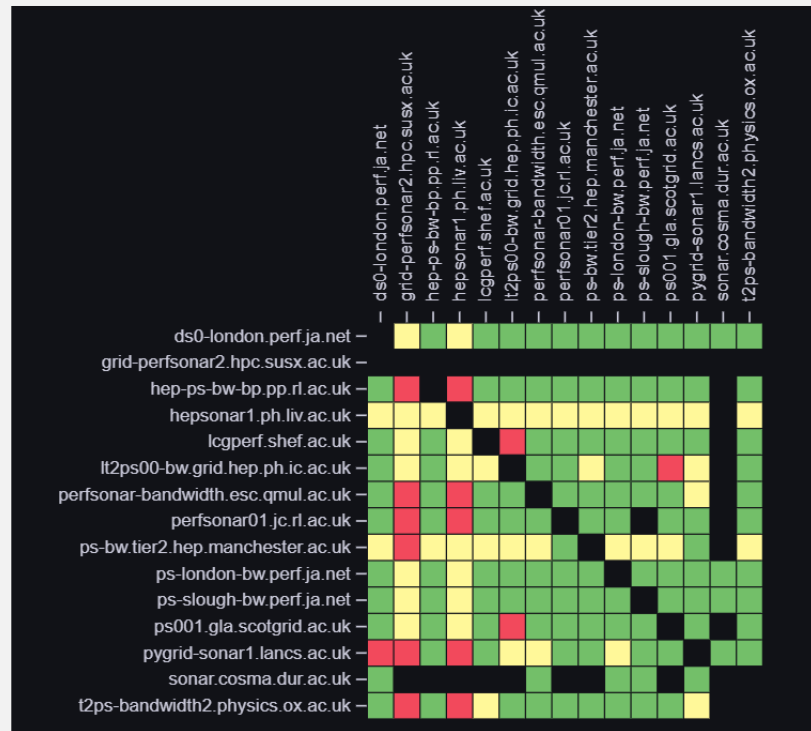
See <https://www.jisc.ac.uk/guides/using-the-janet-network-performance-test-facilities>

- Email netperf@jisc.ac.uk for any assistance or advice

perfSONAR network monitoring

Matrix of tests

- Jisc (<https://ps-mesh.perf.ja.net/grafana/>)
- [Mesh configuration](#)
- [Visualisation / archive of results](#)
- Bandwidth (automated iperf ~6hrs)
- One way Latency
- Packet loss
- Traceroute

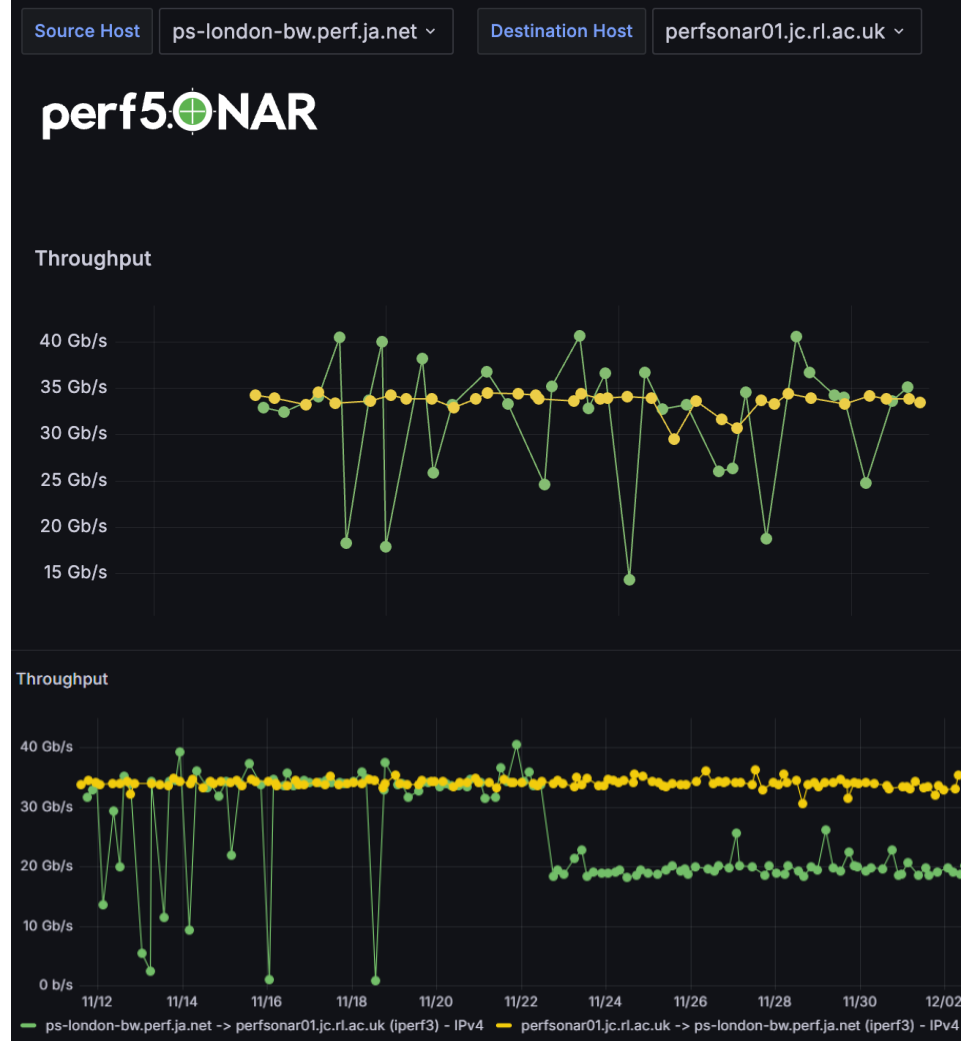


Performance Example 1

ps-london (100G) to a RAL
Jasmin/SKA node

See [here](#).

- Excellent single stream performance (Top)
 - RAL -> London steady
 - London -> RAL less stable
- Performance testing (Bottom)
 - Drop due to testing
 - Net.core.optmem_max= 1M



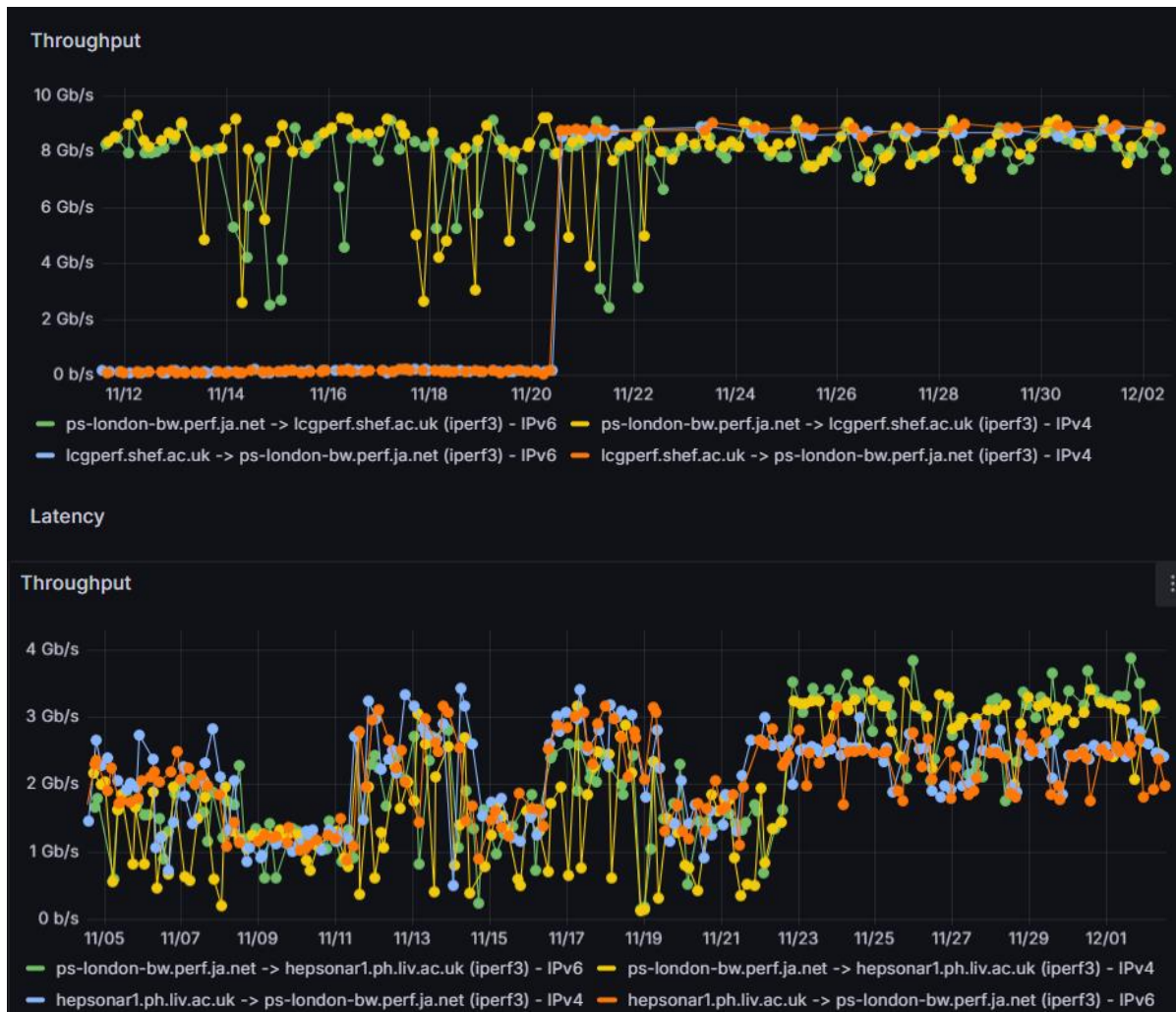
Performance Examples 2

Sheffield

- To: 9Gb/s
- From: 0.1Gb/s
 - Issue: Asymm routing

Liverpool

- ~1-2Gb/s
 - Issue: Asymm routing



Performance Examples 3

Glasgow

- To: good
- From bad
 - Routing

Durham

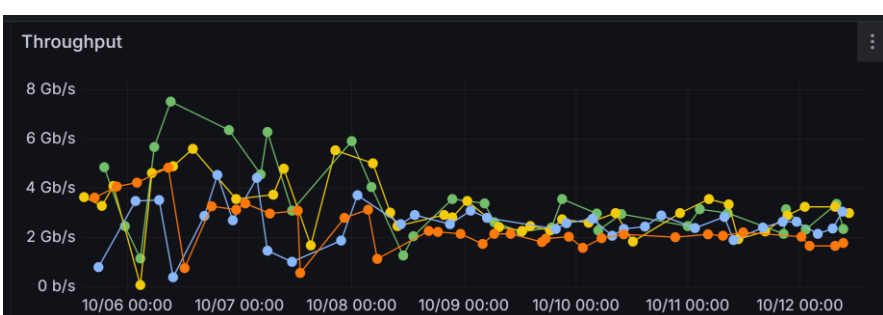
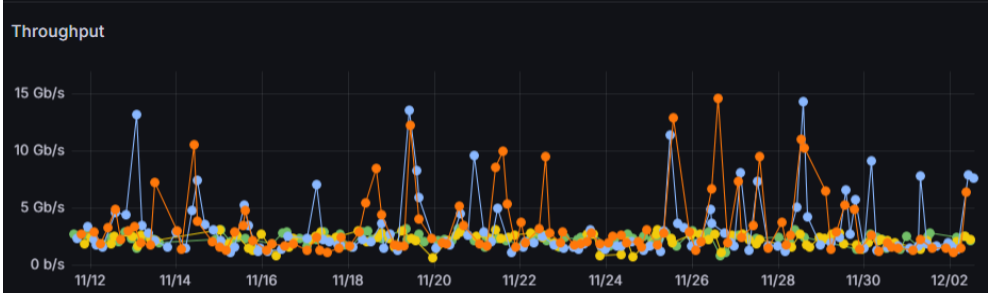
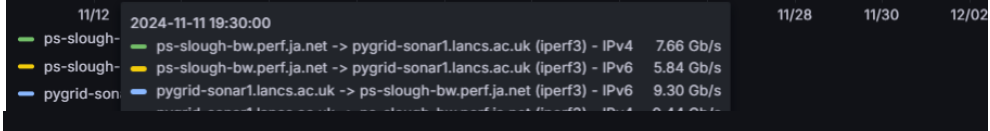
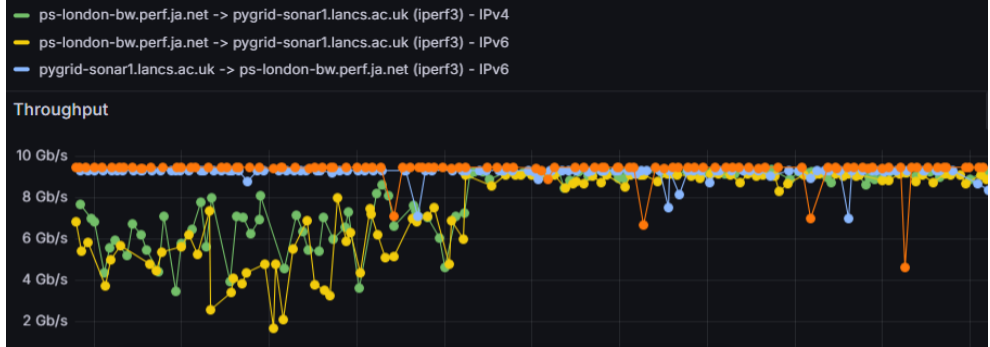
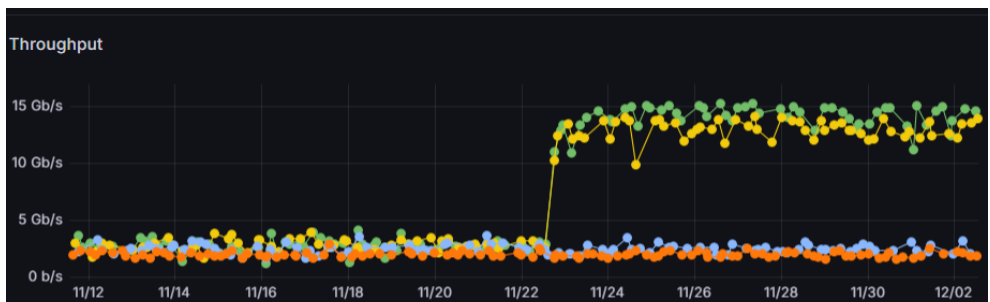
- ~10Gb/s
- Improvement to with *detuning* of 100Gbit transmission



Performance 4

Lancaster

- 100G link causes performance decrease (below L) but why?
 - 100G Jisc node detuned (Top R) increase 3->15 Gb/s (Top R)
 - 10G Jisc node ~10Gb/s (Mid R)
 - 100G QMUL ~3Gb/s (Bottom R)



Joining the Jisc Mesh

- How?
 - e-mail netperf@jisc.ac.uk and ask
 - psconfig remote add <https://ds2-london.perf.ja.net/psconfig/ds2-psconfig.json>
- Why?
 - Measure network performance end to end.
 - Facilitates debugging
 - Found and fixed various issues
 - Jisc has helped to correct
 - Asymmetric routing
 - TCP tuning
 - IPv6 config, DNS config



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