



# HINTS

Network Troubleshooting for Data-grids



- **Purpose**
- **Principles**
- **Status**
- **Future**
- **Resources**

Purpose 1/2

### Hints for *Instantaneous Network Trouble Shooting*

Grid User network diagnostic requests

Sys/Net Administrator capabilities

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Target: allowing non administrator grid users to perform:

- *On-demand*
- *Quick*
- *Easy*
- *Network diagnostics*

between two grid sites, the purpose being involving administrators only if network is really faulty.



# HINTS



## Network Troubleshooting for Data-grids

### Purpose 2/2

- **On demand?** → HINTS is not a supervision box, it makes no background checks, keeps no history, sends no alerts.
- **Quick?** → HINTS is accessed via a Web Server, it's only point and click, no command-line stuff.
- **Easy?** → Using HINTS is as easy as logging in, choosing your two probes (sorted by country/site), your type of test, and hitting the “Run!” button.
- **Network tests?** → HINTS performs classic network tests for you between two chosen probes: ping, traceroute, nslookup, nmap, iperf.



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### Logical principles

- “Probes” are deployed on sites and registered in one (or more) HINTS server,
- Typically an NGI only needs one HINTS server,
- Anyone willing to run a test must be registered in the HINTS server,
- Once authenticated (user grid certificate or u/p), one can only run tests involving probes he's allowed to use,
- One can obtain rights to use a probe via HINTS admin or via another user already having this right (rights delegation principle)
- The test is ordered on your browser, the result is also displayed here.



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Technical principles

- The probe is a fork of PerfSONAR's one (delta being stronger authentication method and access controlled services),
- Probe is available as RPM for 32b | 64b 6.\* Scientific Linux OS,
- HINTS server is only available as RPM for 32b 6.0 SL, but will soon have a 64b version,
- Neither probes nor HINTS server need a dedicated physical server, though performance results may be affected if running a probe within a VM,
- HINTS aims at being simple to install, the hardest part being getting GRID server certificates for your server and all of your probes.



# HINTS



Network Troubleshooting for Data-grids

## Status

### Sunny side of the sky

- HINTS is ready to be tested in real conditions
- We have a RPM repository, for easy installations&updates
- HINTS is for you, we are open to any improvement idea

### Still some clouds

- HINTS is IPV4 and not (yet) IPV6 compliant
- HINTS *seems* to be IPV6 tolerant :)



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Future 1/3

## *Technical improvements:*

- 64b RPM for HINTS server (if needed)
- SL5 RPM (if needed)
- IPv6
- More available options for the *ping* command
- UI improvements



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Future 2/3

*Make HINTS installation free?*

*Facts & planned improvements:*

- To use HINTS you need to install&run HINTS' server ☹️
  - ⇒ GARR (IT) and CNRS (FR) will host two HINTS servers for the EGI Community 😊
- To use HINTS you need to install&run HINTS' probes ☹️
  - ⇒ Why not using the already deployed PerfSONAR's Measurement Points ? We are currently working with the PS MDM team to make HINTS able to use PS MP 😊



Future 3/3

### *To Do list:*

- Test HINTS against a PS MDM Measurement Point
- Evaluate the amount of work
- Decide if it's a good idea (the MP lacks *ping / traceroute*)
- Decide if:
  - we keep a dual (and cross?) compatibility (Probe and MP), or
  - we abandon our private probe and go MP only.

### *Questions:*

- What about PerfSONAR PS?
- Could PS MDM implement our *ping / traceroute* in a near future?



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*Thanks for your attention.*

*Any questions?*



# HINTS



## Network Troubleshooting for Data-grids

### Resources

- HINTS is available at <https://aresu.dsi.cnrs.fr/spip.php?rubrique153>
- Have-you seen HINTS EGI Community Forum poster?  
[https://aresu.dsi.cnrs.fr/IMG/pdf/poster\\_HINTS\\_Munich.pdf](https://aresu.dsi.cnrs.fr/IMG/pdf/poster_HINTS_Munich.pdf)
- Contact: [olivier.lenormand@dsi.cnrs.fr](mailto:olivier.lenormand@dsi.cnrs.fr)

*Thank you!*