Performance Analysis Comparison between Academic and Commercial Networks



/) **Workgroup & Time Plan** 1 (¢® 2018 2019 Sep - Oct May - Aug Nov - Feb Mar - Apr May-Jun **ANALYSIS** PREPARATION TESTS ANALYSIS TESTS COORDINATOR CESGA -**ZIRIS** VNIVERSITAT ID VALÈNCIA

Previous work:

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REANNZ: Research grade dataset transfer from New Zealand to Europe.



Previous work: GEANT: Research grade dataset transfer from London to Sidney.



Commercial ISP1:

- Transfer rate reached 0.9 Gbps (200MB buffer size).
- Transfer rate reached 1.72 Gbps (300MB buffer size) (after 40s it dropped to 0).

Commercial ISP2:

 Transfer rate reached 110 Mbps (after 15s dropped to 0). GEANT: Data transfer rate reached **9.27Gbps**.

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Our Methodology and Test Scenario:

- Conduct continuous short bandwidth tests for several days. Obtain Latency and hops.
- Two scenarios: Commercial vs Academic Routing
- Test infrastructure: Perfsonar & BWCTL
 - Traffic Source: 152 BWCTL servers located worldwide
 - Traffic Destination: 2 optimized/tuned BWCTL servers located at RedIRIS



Testbed servers selection^(*).

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Testbed figures.

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Results. Number of hops.

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Testbed Results. Average Bandwidth.





PERFSONAR list

Avg & Max





Avg & Max ESNET list









Conclusions....

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Some tips...

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And some questions...

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Are these results good enough?

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How can we improve the e2e service with reasonable time/resources spending?

Is it easy to move data among institutions? Do all users benefit from our high capacity nets or only the "superusers"?.

 What about transport providers and exchange points? Many resources are located in commercial nets.

Thank you!

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