Network Tuning at the UPR for Transmission of Multispectral Images in Support of Relief Efforts in Haiti

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University of Puerto Rico High Performance Computing facility

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Acknowledgements

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- Puerto Rico participants: Pablo Rebollo Sosa, Ramon Sierra Perez, Jose Conde, Jose Marrero Diaz, Naji Khouri, Arun Venkataraman, Felix Ramos, Martin Melendez, Victor Asencio, Miguel Velez Reyes, Antonio Rovira, Raúl Sanchez.
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2010-01-19 11:00 First contact

Internet2 Infrastructure in PR

- 300 Mbps Ethernet connections to UPR research campuses
- UPR core routers, Arecibo Radio Observatory connected at Gigabit Ethernet

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- 200 Mbps available for Internet2
- Raised to 512 Mbps for this project

Network Diagram



Pablo Rebollo-Sosa, Andrew Elble

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- 2010-01-19 11:00 First contact
- 2010-01-19 23:19 First problem (4.8 Mbps)

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- 2010-01-19 23:33 Humberto Ortiz suggests parallel TCP or UDP

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eVLBI experiments

- electronic Very Long Baseline Interferometry
- collaboration between UPR, AMPATH, NAIC, JIVE, Atlantic Wave, Centennial.
- Layer 2 VLAN



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Tsunami-udp



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- 2010-01-20 13:30 39.2 Mbps parallel TCP w/ iperf
- 2010-01-20 22:10 File truncation reported by Paul Mezzanini
- 2010-01-21 12:58 RIT bandwidth caps raised by NYSERNET

- 2010-01-19 11:00 First contact
- 2010-01-21 Overnight transfer with rsync

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- 2010-01-22 18:05 Achieved 389 Mbps using tsunami (UDP)

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- 2010-01-23 21:54 Martin Melendez removes "Monitoring" packeteer from path
- 2010-01-24 00:40 Transferred 100 GB in 45 minutes; max rate 394 Mbps

2010-01-25 00:41 Transferred 112 GB in 40 minutes

Mayagüez network



Pablo Rebollo

Traffic graphs



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Ramon Sierra