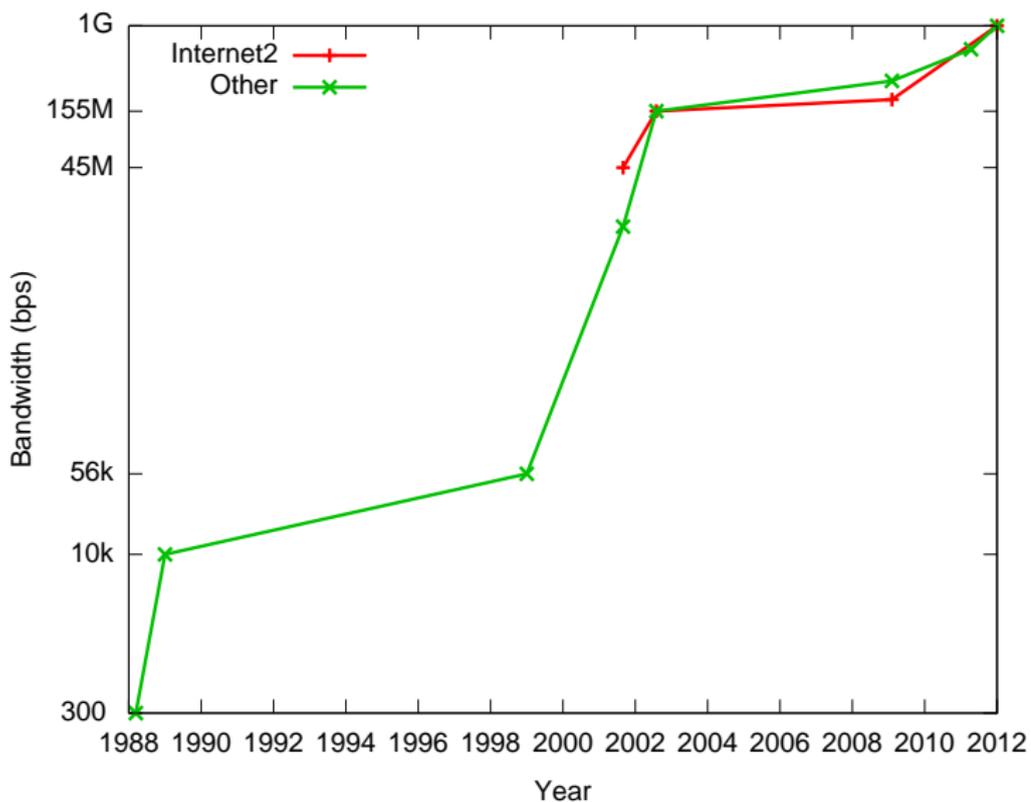# Research Networking in Puerto Rico

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and
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San Juan, PR
April 12, 2011

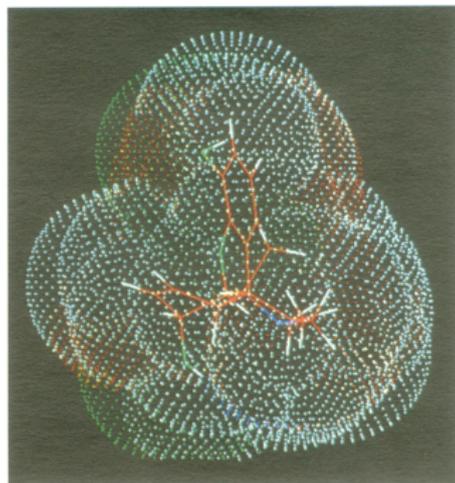Available bandwidth for research computing at UPR

BITNET

- mid 1980's
- 9600 baud (dial up?) lines
- Internet gateway (1988)
- 426 member institutions in December 1988[1].

[1] Phrack Volume 2 Issue 23 File 6.
http://www.phrack.org/issues.html?issue=23&id=6

PROPHET

van der Waals dot surface representation of morphine in the NIH Prophet[1] system. Workstations connected to BBN server via 300 baud(?) acoustically coupled modems.

[1] Hollister, C., PROPHET–a national computing resource for life science research. *Nucleic Acids Research*, 16(5):1873–1875, 1988.

NSFNET

- 1989, Puerto Rico connects to NSFNET, (O. Moreno)
- 56,000 bps leased line?

RFC 2235: `http://www.apps.ietf.org/rfc/rfc2235.html`

HPCf

- High Performance Computing facility
- Created in 1997, (G. Cormier)
- Operates Internet2 network for UPR
- Combines research networking and research computing

Internet2

- UPR Member – 1998
- NSF Connection Award – 1999 (O. Moreno & G. Cormier)
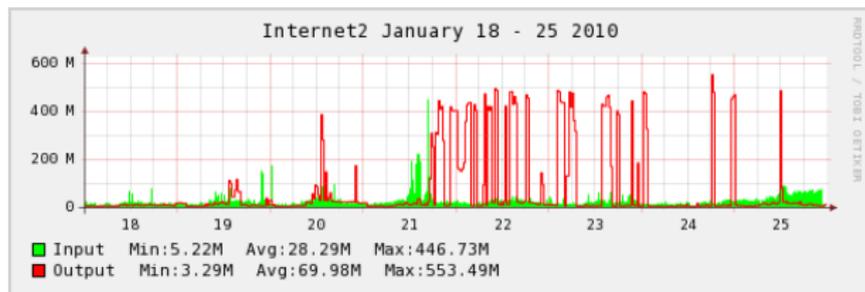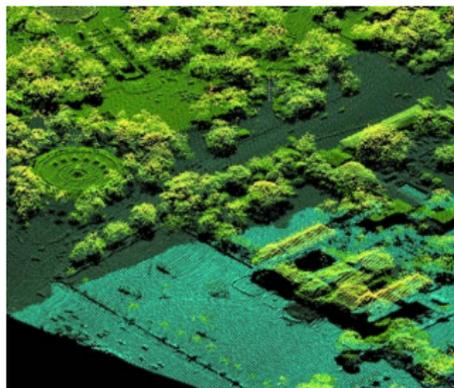- Operational network – 2001

Internet2 services
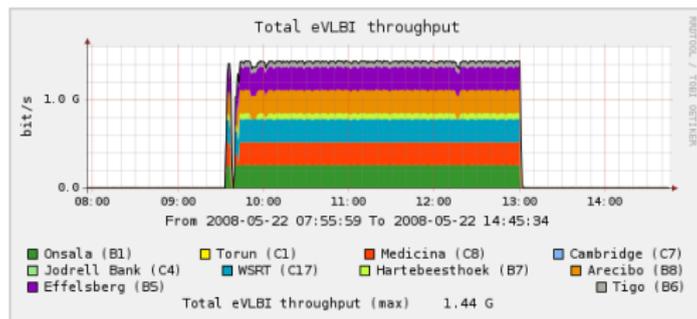
- IPv6
- Multicast
- Low latency network (video, audio)

http://rcmi.rcm.upr.edu/rcminews/news0809/endo08/

Network Tuning for Haiti

http://ipler.cis.rit.edu/projects/haiti
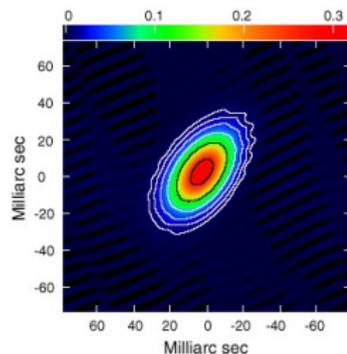
- Image of the nuclear region of the radio galaxy 3C166
- Layer 2 connection from PR to JIVE (nl) via Atlantic Wave

Tuesday