IEPM.

Warren Matthews (SLAC)
Presented at the ESCC Meeting
Overview

• Internet End-to-end Performance Monitoring (IEPM)
  – PingER
  – IEPM-BW
  – MAGGIE

• Web Site

  http://www-iepm.slac.stanford.edu
PingER

- Ping End-to-end Reporting
- 10x100 Byte pkts, 10x1000 Byte pkts
- Started in 1995
- Currently 36 monitoring sites in 14 countries
- Long term trends and short term glitches
- Continues to prove useful
  - Project with ICTP/eJDS on Digital Divide

Transatlantic link was 2Mbps in 1995. Now Multiple OC12.

Traffic on ESnet doubles every year
Packet Loss Between SLAC and Hosts in Latin America for the Last 120 Days.

- Argentina, Brazil, Chile
- Costa Rica, Uruguay, Venezuela
- Colombia, Guatemala, Peru
Direct Monitoring
Currently 10 monitoring sites
  – North America, Europe and Asia
1-6 target sites each (40 at SLAC)
Iperf, bbftp, bbcp, gridftp, udpmon …
  – Network and applications
Available B/width Estimator

• Tests impact the network
  – Can cause problems for “real” traffic
  – Can trip over each other

• Prefer low-impact tools
  – Can also be run more often

• ABwE
  – INCITE (SLAC/RICE/LANL)
  – Results comparable to high impact tools
Weighted Average Available Bandwidth Between SLAC and ANL in January 2003.
MAGGIE

• Measurement and Analysis for the Global Grid and Internet End-to-end Performance
  – A secure, scalable measurement infrastructure providing measurement, analysis and access to data.
Features

• IEPM-BW + SCIDAC + Other tools
• Security
  – Akenti/Shibboleth
• Access to Data
  – MDS, Web Services
  – Troubleshooting tools survey other sources
• Deploy in DoE Science Community
• Work closely with PIPES (Internet2)
The Need

- A need for a ubiquitous monitoring infrastructure?
  - DOE Science Community
  - SCIDAC testbed
  - Large Scale Networking
  - Grid (especially resource brokers)
  - Troubleshooting / E2Epi
Toward a Monitoring Infrastructure

- The pieces are coming together
  - Many monitoring projects
  - Internet2 NG with built-in monitoring
  - E2e PIPES

- Join in!
SLAC team led by Les Cottrell
Warren Matthews
Connie Logg
Jiri Navratil
Jerrod Williams
Fabrizio Coccelletti (INFN)
Frank Nagy, Maxim Grigoriev (FNAL)
And all the local administrators/supporters.
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