Networking: Igniting Internet Innovation Around the World


Particle Physics has been a leader in pushing the development of Internet technology

Development of the World Wide Web at CERN in 1989
The World Wide Web was developed in 1989 to facilitate the sharing of particle physics results. SLAC and FNAL were the first US sites. Its place in World history is now a legend.

Measuring the Digital Divide
With the explosion of data being transferred around the world, and the need for global collaborations, the quality of connectivity is critical. In 1993 SLAC started the PingER project to measure worldwide connectivity. PingER measures response time and packet loss while transferring as little data as possible so that underdeveloped networks are not overloaded. Currently PingER monitors:

- From over 35 monitoring sites in 15 countries
- To about 500 remote sites in 80 countries
- The 80 countries have over 78% of the world's population and about 99% of the online users of the Internet

PingER is thought to be the largest active end-to-end active internet performance monitoring project in existence.

Internet Land Speed Records (LSR) in 2003
Objective: transfer as much data as possible over a long distance using TCP. The units are: Terabit-meters/second

- 23,888.06 Terabit-meters/second
- Team Members – California Institute of Technology (CALTECH), SLAC, CERN, Los Alamos National Laboratory
- Network Distance: 10,037 kilometers (California-Switzerland)
- Data transferred: 1.1 Terabytes in 1 hour, 2.36Gbits/s