Status of the Internet2/P2P working group and present activities

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A little bit of history-1960/70s

1969:
- ARPANET
  - Stanford Research Inst. (SRI), UCLA, UCSB, U. Of Utah
  - October 29, 1969-first transmission UCLA->SRI
  - Peer computing status among independent computing sites

1970s:
- 61 nodes on ARPANET (1975)
- ARPANET completed (1978)
- Usenet (1979)
  - Post and read messages
  - No central control
A little bit of history-1980/90s

1980s:
- DNS created to manage host names (1983)
  - Previously a file (hosts.txt) had to be transferred
- 2000 TCP/IP connected Internet hosts/networks (1985)
- 56kbps connections between NFS sites (1986)
- T1 connections provide international access (1988)

1990s:
- ARPANET shuts down (1990)
- Expansion of Internet access
A little bit of history-1999/2000

1999:
- May: Napster is born
- December: RIAA files suit against Napster

2000:
- Jan-Feb: Some universities begin blocking Napster access
- May: Metallica suit
- June: RIAA seeks injunction
August:

- Judge stays Napster injunction
- CANARIE/NLANR/Internet2 Techs meeting (Aug. 24):
  “Punishing the traffic of one application, using the rough technology we currently have available, accelerates users migrating to new apps more difficult to identify.” Steve Wallace, Indiana University
- Indiana University - one of the first served in Metallica lawsuit
  - Napster blocked on a well known port basis
  - ‘Students against Censorship’ started by IU students
- Discussions on ResNet listserv appear
  - Control and traffic monitoring/shaping
  - LISTSERV.ND.EDU/archives/resnet-l.html
2000 continued

- **September:**
  - “Blocking Napster is like standing before hundreds of hungry jackals and shouting “Shoo!” to keep them from 400 pounds of raw hamburger.” (*Chronicle, 9/21/00*) Discussions on Educause’s
  - Discussions on CIO listserv (policy)

- **October:**
  - Internet2 Member Meeting (Atlanta, GA) BoF: *Taming the bandwidth hogs...how can your campus do it.* Ana Preston and Linda Roos. Attended by over 90
  - Creation of list to further discuss issues brought up at Internet2 BoF
  - listserv.utk.edu/archives/p2p.html

APAN 2003 Conference
2000: What did universities do?

- Block access to Napster because:
  - Liability for being a content provider
  - Network performance
- Not block access and wait...
- News.com: a third of U.S. colleges and universities are blocking Napster
- Napster remained very much alive
- Something appears to be coming over the horizon...
2001

- Feb. 14 : 9th Circuit Ruling (Federal appeals court sends injunction down to district court)
- Feb. 14-16: O’Reilly P2P Conference
  - Over 900 participants, but less than ten from universities. Application developers, venture capitalists, and lots of established companies as well as start ups
  - *To explore the technical and business dimensions of the P2P space...*
March:

By March 11, Napster “shall use reasonable measures in identifying variations of the filename(s), or of the spelling of the titles or artists’ names, of the works identified by plaintiffs.”

Spring Internet2 Member Meeting:
- P2P thunderdome: The Impact of p2p apps on campuses
- The Old is New Again: or is it, i.e., good uses of P2P in other areas other than file sharing: folding@home
- educommons project - file sharing for education/NFS funding (educommons.org)
- Pig-latin encoders (e.g. Aimster) changing song titles, new and better implementations of Gnutella and so on...
2001 continued

April:

- **April 10-11: Networking 2001**
  *The future of P2P applications*
  - What policy (including legal) steps will be necessary to ensure campus bandwidth is used for its primary purposes - research, teaching and learning.
  - How will this be accomplished? Still reactive overtones

May:

- **8th NLANR/I2 Joint Techs**
  - P2P in the research and education community
  - Proactive approach to the P2P environment
2001 continued

- **September:**
  - The Chronicle of Higher Education hosts a live discussion on “Managing Students Insatiable Demand for Bandwidth.” September 27, 2001
  - “In this new round of bandwidth battles, Napster is a distant memory.” (The Chronicle, September 28, 2001)
  - Digital video/movie files of 200-800MB downloaded with KaZaA or similar P2P file sharing applications
  - Universities opting for user education and cooperation, bandwidth limiting, adding capacity, additional fees to cover bandwidth costs
2002 Events

- Internet2/P2P workshop, January
  - Collaborative Computing in Higher Education: Peer to Peer and beyond
  - An opportunity to demonstrate the many sides of peer to peer

- Internet2/P2P working group formed
  - A response to the I2 community needs
  - Follow up session at Spring and Fall member meeting
The mission of the P2P working group is to provide an open, collaborative environment in which all aspects of computing related to peer-to-peer may be discussed, researched and explored. The collaboration will include investigation of innovative uses of peer-to-peer in higher education as well as with corporate entities.
Working Group Goals

1. To provide a forum for reporting on recent occurrences and future trends within the peer-to-peer and distributed computing space. The forum may occur at the regular member meetings, at Joint Techs meetings or at specific workshops designated for the topic.

2. To be a clearinghouse for collaborative opportunities within the higher education community and between that community and corporate entities as new peer-to-peer and distributed computing applications and tools are investigated.

3. To provide best practices documents for both resource management as well as innovative uses of peer-to-peer technologies.

4. To provide a central repository for resources and documents related to all aspects of peer-to-peer computing.
Present Initiatives

- Seeking forum venue
- Collaboration with vendors and I2 sub groups on projects
- Content management for the P2P web site
Working group information

- **Co-chairs**
  - David Futey (dfutey@stanford.edu)
  - Linda Roos (lroos@oar.net)

- **Peer to peer working group**
  - p2p.internet2.edu

- **P2P list**
  - listserv.utk.edu/p2p/archives.html