



How and Why I Should Avoid Using Peer to Peer Networks?

What is a Peer to Peer Network?

Clay Shirky, the author of the article "[What is P2P ... and What Isn't?](#)" defines a **Peer to Peer** network as "a class of applications that takes advantage of resources — storage, cycles, content, human presence — available at the edges of the Internet" .¹ Examples of Peer to Peer networks are such services as Napster, Gnutella, LimeWire, Morpheus, Kaaza, Bit Torrent, and projects such as the UC Berkeley [Seti@home](#) research project. What characterizes these services or projects is the fact that they utilize available resources (i.e.: storage capacity, processor and internet connection speed) through what would normally be a client computer to process data, and share files without having to depend on a server to coordinate the whole process. There is no centralized place where data is going to, or coming from, rather there are a number of scattered machines in different locations sharing information with one another. Not one person or company owns or manages the machines and network. Shirky explains this as follows:

Another way to examine this distinction [between traditional DNS and P2P networks] is to think about ownership. It is less about "Can the nodes speak to one another?" and more about "Who owns the hardware that the service runs on?" The huge preponderance of the hardware that makes Yahoo work is owned by Yahoo and managed in Santa Clara. The huge preponderance of the hardware that makes Napster work is owned by Napster users and managed on tens of millions of individual desktops. P2P is a way of decentralizing not just features, but costs and administration as well.

Obviously, the potential for processing power and storage capacity are enormous, not to mention the cost savings to a company interested in harnessing this power. According to Shirky, P2P networks are the wave of the future.

How does Using a Peer to Peer Network Affect the Haas or Campus Network?

And if used correctly, Peer to Peer networks could be utilized for good and legitimate reasons. UC Berkeley's Seti@home project, for example, uses a Peer to Peer network of volunteer computers (and their users) to crunch pieces of data; servers then put the data back together and analyze it for signs of extraterrestrial intelligence. But the processing of this data involves the majority of the computational work needed, and it's being done on P2P client machines. Just like the Seti@home project, [Grid.org](#) also has other valid and valuable research projects being conducted with the help of P2P networks. However, in many universities around the country, as in UC Berkeley, Peer to Peer networks are also being used for illegal activities such as the sharing of copyrighted materials. These commercial materials can include: music, videos, games, software, etc... Not only is this **illegal**, but unlike the controlled Seti@home project*, these activities affect the quality of network resources because of the **high amount of internet bandwidth** required to process. Using such services also poses a **security threat** to the Haas and campus network since the same way files are shared, viruses can also be transferred from computer to computer. And worst of all, the user of such services is potentially leaving their computer open to hackers who could obtain confidential information from that user and other users on the network, and/or can open the doorway for other campus resources (such as servers) to be exploited.

* The Seti@home technical staff has also configured their servers so that the traffic generated remains below the rate limit.

University Policy on using Peer to Peer Networks

It has not been university policy or practice to look for individual users who are engaging in activities which use Peer to Peer networks. However, departments on campus and the [campus security](#) department do **monitor** the campus networks for **high bandwidth usage, machines infected with viruses, and machines displaying unusual behavior** that can affect the normal functions of the university. Therefore, any machine displaying any of the above or other unusual activity could be potentially identified – along with the owner. And a user who is found to have repeatedly engaged in illegal activities or has been found to have violated university policy is at risk of being blocked from the campus network and of losing university account privileges. If a user is indeed found to have violated university policy, including copyright violations, the student could be put on **probation, loose account privileges, be suspended, and potentially expelled from the university** --- depending on the case.² Furthermore, the university cannot offer any type of protection if a student is charged with copyright violations by the copyright owner. According Jack McCreddie, UC Berkeley's Chief Information Officer, "Under the terms of the Digital Millennium Copyright Act (DMCA), UC Berkeley is required to act expeditiously upon receipt of a copyright infringement claim from a copyright holder".³ And the university is required to identify users in response to legal documents such as subpoenas. Some university students, for example, Jeffrey Levy from the University of Oregon have already been convicted of copyright piracy.⁴

In addition to this, in January of 2005 a new California law on Internet piracy (SB 1506) was passed. This law states that **it is illegal to distribute recordings or audiovisual materials (commercial works), to more than 10 people without providing the person's e-mail address and the title of the work.** "A commercial work is defined as one whose copyright owner or other authorized representative intends to make or has made available for sale, rental, or for performance or exhibition under license. Individuals should be aware that if found to be in violation of SB 1506, they may be subject to fine, or even imprisonment".⁵

How to Protect Yourself from Legal Action and University Policy

If you are a current user of a File-Sharing program such as BitTorrent, Kazaa, Morpheus, etc... the best way you can protect yourself, your machine, and the network that you use is by completely removing such services from your machine and abstaining from using them in the future. If you are notified of possible copyright infringement, you must **stop the activity immediately to avoid the above mentioned sanctions.** Sometimes users' computers are being used to share commercial materials without the user's knowledge or consent. So if you are one of these users, or just for your own protection, you should **stop your file-sharing service(s) from illegally distributing copyrighted material from your computer.** You can do this by **disabling** file sharing options on **outbound traffic.** You can find instructions for disabling file sharing for the most commonly used peer to peer file sharing programs on the [Univeristy of Chicago's Network Services and Information Technologies](http://security.uchicago.edu/peer-to-peer/no_fileshare.shtml) website (http://security.uchicago.edu/peer-to-peer/no_fileshare.shtml).

Berkeley Alternatives to Illegal File Sharing

Another alternative to using Peer to Peer File Sharing programs is to use the legally licensed programs that are available to you as a UC Berkeley student. In August of 2004 UC Berkeley signed a deal with RealNetworks⁶ so that UCB students can use their services for only \$2.00 dollars a month! Services include unlimited listening to their extensive music collection, commercial free radio stations that can be customized, and the creation of favorite playlists. Once you sign up for the service, you are billed to your CARS account. To burn CDs is .89c per song, but this has to be paid via your credit card. For more information, and to sign up for this service, please go the UC Berkeley's [RealRapsody @ Berkeley](http://rts.berkeley.edu/rhapsody/) (<http://rts.berkeley.edu/rhapsody/>) page.

UC Berkeley has also negotiated "favorable deals" with [iTunes](#) and [Ruckus](#) as well. Please go to this website for more information: <http://rts.berkeley.edu/legaldownloads/> Ruckus offers discounts for Berkeley Faculty, Staff, and Alumni.

Additional Resources

For More Information please view the following UC Berkeley iNews articles and other official documents:

Mind your P's and Q's to avoid copyright prosecution

(<http://istpub.berkeley.edu:4201/bcc/Fall2006/962.html>), Karen Eft, September 19th, 2006

Piracy and privacy: Critical network management issues

(<http://istpub.berkeley.edu:4201/bcc/Winter2003/cio.privacy.html>), Jack McCredie, Winter 2003

Why UC Berkeley needs to manage campus network growth and usage

(http://istpub.berkeley.edu:4201/bcc/Apr_May2000/avc.network.html), Jack McCreddie

Copyright and universities in the news

(<http://istpub.berkeley.edu:4201/bcc/Spring2003/news.dmca.html>) Jacqueline Craig, March 21, 2003

What's the Policy: Q: So, can I use file-sharing programs or not?

(<http://istpub.berkeley.edu:4201/bcc/Fall2002/pol.filesharing.html>), Karen Eft, Fall 2002

California Internet Piracy Law (SB 1506) (http://www.leginfo.ca.gov/pub/03-04/bill/sen/sb_1501-1550/sb_1506_bill_20040921_chaptered.pdf)

University of California Electronic Communications Policy

(<http://www.ucop.edu/ucophome/policies/ec/>)

UCB Computer User Policy (<http://itpolicy.berkeley.edu:7015/usepolicy.html>)

The Digital Millennium Copyright Act of 1998

(<http://www.loc.gov/copyright/legislation/dmca.pdf>)

1997 No Electronic Theft (NET) Act (<http://judiciary.senate.gov/special/netact.pdf>)

What is P2P and why should you be mindful of it?

(<http://istpub.berkeley.edu:4201/bcc/Summer2001/info.p2p.html>), Raymond Yee, Summer 2001

¹ **What is P2P And What Isn't?** (<http://www.openp2p.com/pub/a/p2p/2000/11/24/shirky1-whatisp2p.html>), Clay Shirky, November 24, 2000, P2P (openp2p.com)

² **Digital Copyright Protection at the University of California**

(<http://www.ucop.edu/irc/policy/copyright.html>) UC Commitment to Copyright Law, Paragraph 4

³ **Online music, entertainment, and software copyright issues**

(<http://istpub.berkeley.edu:4201/bcc/Spring2005/digitalcopyright.html>), Jack McCredie, Chief Information Officer, October 14, 2004, UCB iNews

⁴ **Oregon student convicted of software and music piracy**

(<http://istpub.berkeley.edu:4201/bcc/News1999/gen.piracy.html>), Karen Eft, August 20, 1999, UCB iNews

Oregon student convicted under new Internet copyright theft law

(<http://www.cnn.com/TECH/computing/9908/20/internet.theft/>), CNN, August 20, 1999

⁵ **New California law on Internet piracy**

(<http://istpub.berkeley.edu:4201/bcc/Spring2005/internetpiracylaw.html>), Chris Ashley, February 8, 2005, UCB iNews

⁶ **Rhapsody online digital music service**

(<http://istpub.berkeley.edu:4201/bcc/Fall2004/rhapsodysvc.html>) Cliff Frost, August 24, 2004, UCB iNews