

What is Peer-to-Peer file transfer?

A peer-to-peer, or “P2P,” file transfer service allows the user to share computer files through the Internet. Examples of P2P services include KaZaA, Grokster, Gnutella, Morpheus, and BearShare.

These services are set up to allow users to search for and download files to their computers, and to enable users to make files available for others to download from their computers.

How do these services function?

Peer to peer file transfer services are highly decentralized, creating a network of linked users. This allows a user to search through the files of all of the linked computers to find the desired file.

In order to use one of these services, a user must download the appropriate software from the Internet and install and configure it.

What happens when P2P software is installed?

We will use KaZaA as an example. The KaZaA program is free, downloads and installs very rapidly, and automatically configures your computer to run the P2P software continuously whenever your computer is on. The default settings also provide for your computer to participate in unlimited file

sharing, with no cap on the amount of bandwidth it can use. Thus, a single NSF PC connected to NSF’s LAN with a standard 100Mbps network card could, with KaZaA’s default settings, conceivably saturate NSF’s T3 (45Mbps) internet connection.

The KaZaA software assesses the quality of the PC’s internet connection and designates computers with high-speed connections as “Supernodes,” meaning that they provide a hub between various users, a source of information about files available on other users’ PCs. This uses much more of the computer’s resources, including bandwidth and processing capability.

The free version of KaZaA is supported by advertising, which appears on the user interface of the program and also causes pop-up advertisements to appear at irregular intervals on the PC. KaZaA also initiates the installation of spyware / adware, which can disseminate information about your computer usage, cause additional pop-ups, and cause your computer to slow down and/or become unstable. The spyware / adware persists on the PC even after KaZaA is uninstalled.

What is traded over these services?

P2P file transfer services have been crafted to be independent of the content transferred over them, in order to skirt the legal liability that brought down Napster. Nevertheless, it is generally recognized that the services are most

commonly used to trade copyrighted music and software.

The Recording Industry Association of America tracks users of this software and has begun initiating lawsuits against individuals who use P2P systems to steal copyrighted material or to provide copyrighted software to others to download freely.

How does use of these services create security issues at NSF?

When configuring these services, it is possible to designate as “shared” not only the one folder KaZaA sets up by default, but also the entire contents of the user’s computer as well as any NSF network drives to which the user has access, to be searchable and downloadable by other users.

Downloaded software and other files may contain viruses, spyware / adware, or hacks such as trojan horses or DDoS drones, potentially harming NSF computers or allowing outside users access to secure NSF systems.

What is NSF policy on the use of P2P file transfer services?

Generally (per NSF Bulletin 98-13), NSF employees’ personal use of IT resources is authorized under the following criteria:

- Reasonable duration
- During personal time as much as possible

- No interference with official business
- No additional cost to the government
- Not offensive to coworkers or the public
- Not for illegal activities

With regard to file sharing (per NSF Bulletin 03-21), NSF employees are to

evaluate the purpose of the share, and the sensitivity of the data to be stored, and apply the appropriate permissions [to the folder being shared]. A good strategy to use is “need to know,” limiting access to only those users who have a specific and immediate requirement to view or modify the data.

To enforce this, NSF will periodically scan the network for shares with overly-broad permissions, and take appropriate action when overly-broad shares are found.

Thus, NSF’s file sharing policy focuses on NSF employees making files available for upload from their PCs—with regard to employees’ use of P2P services to download files, NSF’s overall policy on IT resources applies.

Should I use P2P file transfer services on my NSF PC?

Downloading copyrighted works is illegal, opening you up to civil and even criminal liability. It is also contrary to NSF policy for NSF employees to use NSF IT resources for

illegal activities, with the result of possible adverse personnel action.

If you want to download non-copyrighted material, you should do so only in moderation, during personal time as much as possible so there is no interference with official business. Extensive use of these services that compromises your ability to perform your job may result in adverse personnel action.

There is no legitimate purpose for the use of P2P file transfer services at NSF to make files available for upload except as part of your official duties. Any such use should comply strictly with NSF’s file sharing policy.

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Peer to peer file transfer by NSF employees