# EVOLUTION OF PEER TO PEER PROTOCOLS

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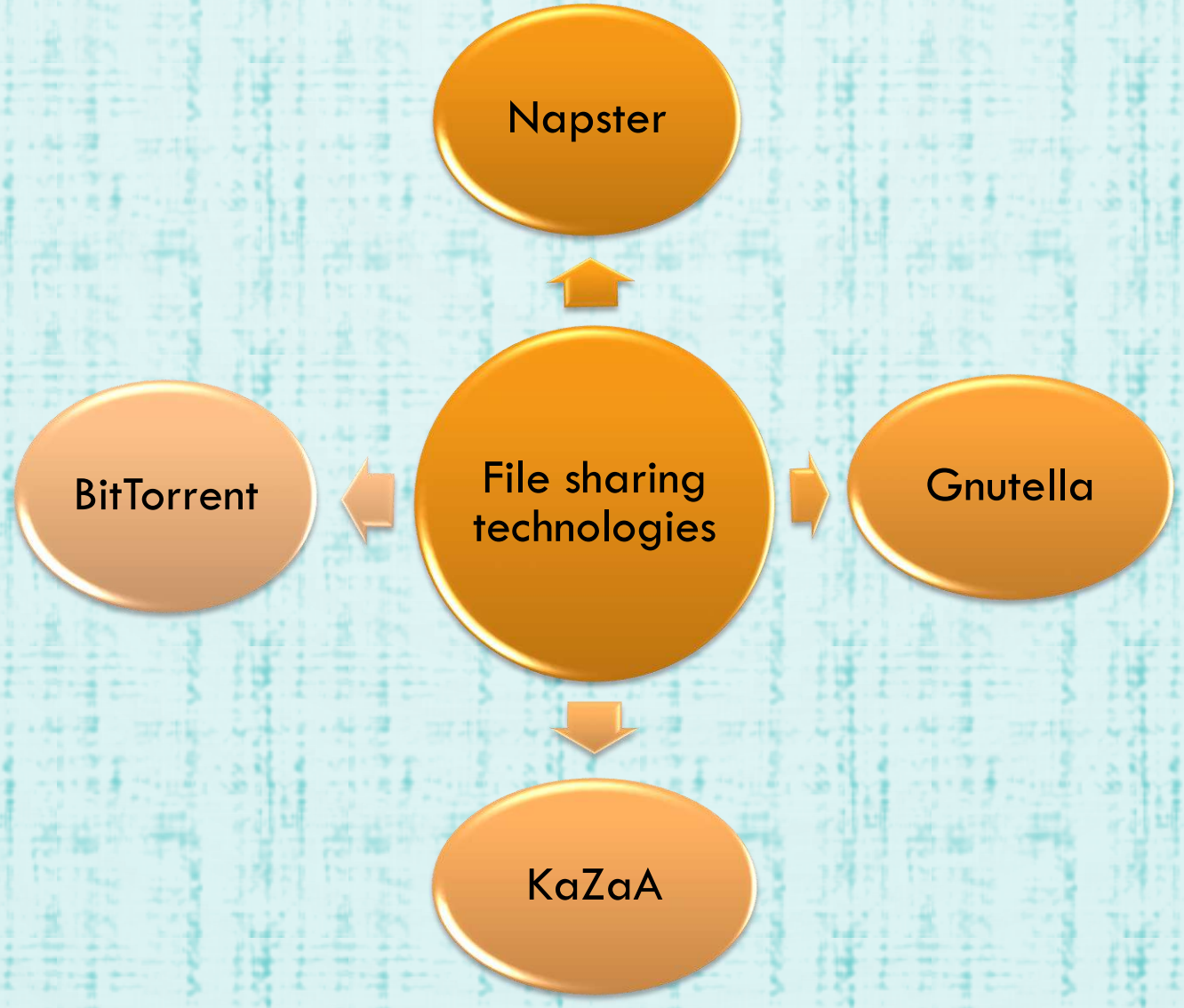
# PEER TO PEER NETWORK

- A peer to peer network is designed around  the nation of equal peer nodes unitedly as both “clients” and “servers” to the other nodes on the network.
- The primary goal of  peer to peer networks is to share resources and help computers and devices work collaboratively , provide specific services or execute specific tasks.
- The most common use case for peer to peer networks is the sharing of files on the internet.

# FILE SHARING

- Peer to peer file sharing is based on the peer to peer application architecture.
- Shared files on the computers of other users are indexed on directory services.

# File Sharing Technologies



# NAPSTER

- Type : Media Player
- Developer(s) : Shawn Fanning
  Sean Parker
- Operating System : Cross- platform
- Initial release : June 1 , 1999 ( 23 years ago )

# NAPSTER HISTORY

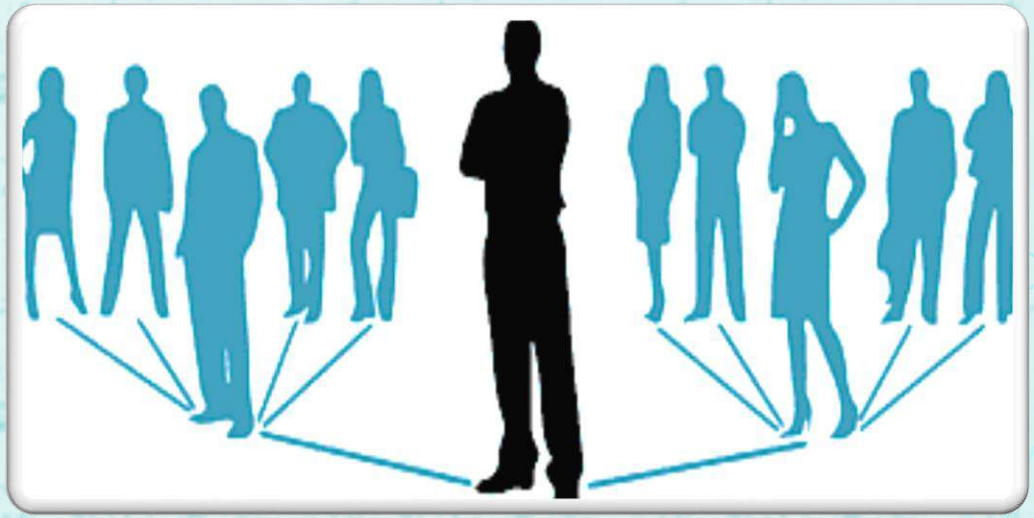
- 1999 : Sean Fanning launches Napster
- Peaked at 1.5 million simultaneous users
- Jul 2001 : Napster shuts down

## Legal Background of Napster

- ✓ That its users were directly violating the plaintiffs' copyrights.
- ✓ That Napster was responsible for contributory infringement of the plaintiffs' copyrights.
- ✓ That Napster was responsible for vicarious infringement of the plaintiffs' copyrights.

## Uses of Napster

- ✓ It was specifically designed for sharing digital music files (in the MP3 format) across a Web-connected network



# GNUTELLA

- Type : Peer-to-peer file sharing
- Developer(s) : Raphael Manfredi
  Richard Eckart
- Operating System : Cross- platform
- Initial release : 16 April 2000

# GNUTELLA HISTORY

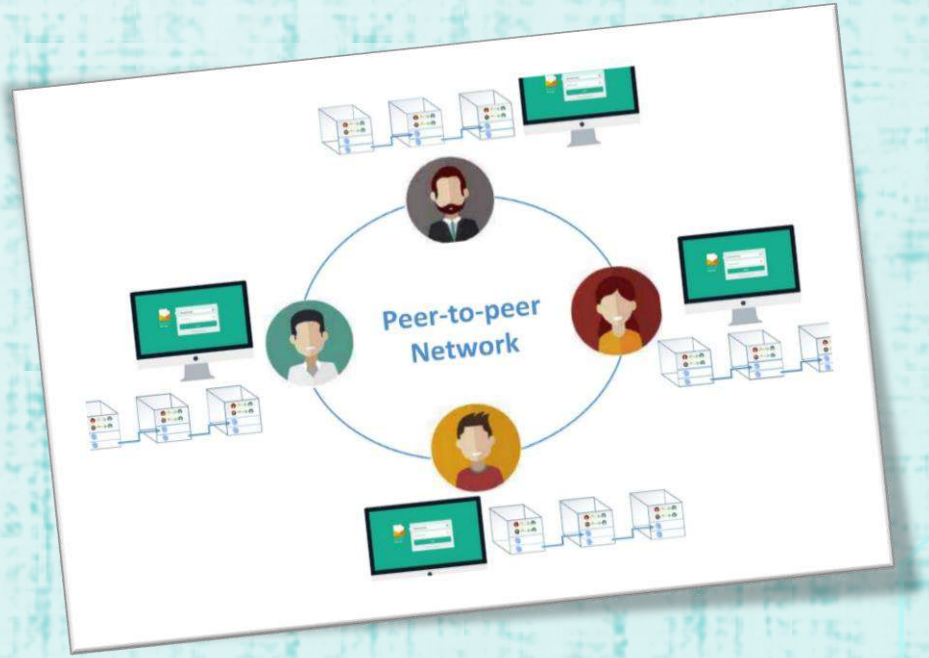
- Originally conceived of by Justin Frankel , 21 year old founder of Nullsoft .
- Software released under the Lesser Gnu Public License ( LGPL ).
- The Gnutella protocol was widely analyzed.

## Legal Background of Gnutella

- ✓ When people use Gnutella to distribute, that it's use becomes illegal
- ✓ Since there's no central server or portal, RIAA doesn't have ability to shut down Gnutella .

## Uses of Gnutella

- ✓ Used to share music files
- ✓ Can be used to share any file type



# KAZAA

- Type : Peer-to-peer
- Developer(s) : Sharman Networks
- Operating System : Microsoft Windows
- Initial release : 3.2.7/ 26 November 2006 ( 15 years ago )

# KAZAA HISTORY

- In 2001 , KaZaA created by Dutch company Kazaa BV
- Single network called FastTrack used by other clients as well : Morpheus , giFT , etc.
- Eventually protocol changed so other clients could no longer talk to it.
- Most popular file sharing network today with > 10 million users

  ( number varies )

## Legal background of KaZaA

- ✓ Under license as a legal music subscription service by Atrinsic
- ✓ KaZaa Media Desktop is once stylized as “KaZaA” , but later usually written as “Kazaa”

## Uses of KaZaA

- ✓ To exchange MP3 music files and other file types, such as videos, applications, and documents over the internet
- ✓ Used for the development of Skype and as a file sharing application

# BITTORRENT

- Type : Peer-to-peer file sharing
- Developer(s) : Rainberry , Inc.
- Operating System : Windows , macOS , Android
- Initial release : 2001 (21 years ago)

# BITTORRENT HISTORY

- The BitTorrent peer - to - peer file transfer protocol was created and introduced in 2001 by BitTorrent Inc. co - founder Bram Cohen.
- Bram began his mission to solve a problem experienced by the online community since the birth of the Internet .
- While it wasn't clear it could be done , Bram wanted to enable effective swarming distribution - - transferring massive files from server to client with the efficiency of peer - to - peer - reliably , quickly and efficiently.
- Bram Cohen's only income vas voluntary donations from satisfied and kind BitTorrent users.

## Legal background of BitTorrent

- ✓ BitTorrent in connection with copyrighted materials.
- ✓ BitTorrent let users to share illegal materials.
- ✓ Court decisions have deemed some BitTorrent files illegal.

## Uses of BitTorrent

- ✓ It use to download large files like game setup, mp4 files, mp4 files and documents.
- ✓ BitTorrent protocol allows users to join a “swarm” of hosts to upload and download from each other simultaneously.

**Presentation recording video**

https://drive.google.com/file/d/1wmlH5x1WLzelXsYqJCqBMSGGsvOWsbXs/view?usp=sharing

THE END
THANKS FOR WATCHING!