

## Peer-to-Peer Network in client/server world

Computer networks are the fundamental part on which today's World Wide Web was developed. In present, there are various types of networks, such as P2P (peer-to-peer) network, client/server network which is more common, and the hybrid network of the previous two. Unlike server-based client/server networks, P2P is decentralized and all users or "peers" connected within the network, take up the role of client and server for each other at the same time. As claimed by Taylor, Ian J. and Harrison, Andrew (2005), in this kind of network, all computers share equal responsibilities and resources e.g. processor usage or storage capacity. This essay intends to explore P2P network capabilities and features, alongside the common client/server network.

P2P networks are commonly used for file sharing among network users. When a peer is downloading a file from the network, the computer does not only use one peer to gather the data but it downloads all the different parts from all peers simultaneously. This means that data is not only stored at one place like in client/server networks but is shared among all the users within the connection equally (Codrut Neagu, 2019). One of the most famous examples of such working networks is Gnutella protocol. Gnutella is one of the first protocols created for setting up P2P connection and initially it was used to share music within a small connected P2P network (Yadin, Aharon, 2016).

Although P2P network lacks security due to the absence of centralized management, it does not depend on a single user like client/server network. When everything depends on one server, the network can easily go down or data can be lost or damaged if the server is undergoing some issues. Furthermore, it is much more expensive to set up a client/server network, compared to P2P network, as the main server needs specific configuration and stronger hardware resources to run the network. On the other hand, client/server networks let the provider manage the whole network easier as there are regulations set by the main server which should be obeyed by any connected user. Furthermore, in P2P network, as each peer is the administrator of their own computer, the downloaded data may be easily deleted by them (*Difference Between Client-Server and Peer-to-Peer Network*, 2017).

To conclude, the features of P2P networks along client/server networks have shown that each of them has its drawbacks and advantages and the decision of which network type to use solely depends on the given circumstances. This means that depending on the available funds and comparing the needs and wants, one can come up with the right option for network type.

### Bibliography

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