Can We Survive an Internet Blackout?

During the last ten years, we have become accustomed to using the Internet every day for email, scheduling, web access, and IP-Phone. However, the advent of a new application called P2P (peer-to-peer) file sharing, has changed the Internet traffic jam. According to recent studies [1], as of 2006, P2P file sharing is responsible for more than 60% of all Internet traffic as shown in Fig. 1. P2P users have been downloading movie and music files 24 hours a day, 365 days a year. And P2P file sharing continues to grow in the world. Another new super traffic jam may occur soon, possibly caused by quantum streaming, including net video and net audio - for example, YouTube and iPod, respectively, in addition to P2P file sharing [2], [3], [4].

However, many Internet service providers (ISPs) are not interested in regulating the P2P protocol since they think that many customers may switch to the unregulated ISPs. It is also very difficult to determine, based on current technology, what stream should be permitted or not.

As we know, without the Internet, our society may not be able to function. We may have to prepare for our life without the Internet. Or, we will have to do something to deal with P2P, quantum stream, and other network choking problems including DOS (denial of service) attacks. Can we survive an Internet blackout?

References

[1] D. Ferguson, "Trends and statistics in peer-to-peer," presented at Workshop on Technical and Legal Aspects of Peer-to-Peer Television, 2006.
[2] P. Kerpen, "Information super traffic jam," *Forbes*, Jan. 31, 2007.
[3] A. Madhukar and C. Williamson, "A longitudinal study of P2P traffic classification," in *Proc. 14th IEEE Int. Symp. on Modeling, Analysis, and Simulation*, 2006, pp. 179–188.
[4] J. Borland, "Net video explosion triggers traffic jam worries," Feb. 23, 2006; http://news.com.com/2100-1025_3-6042300.html.

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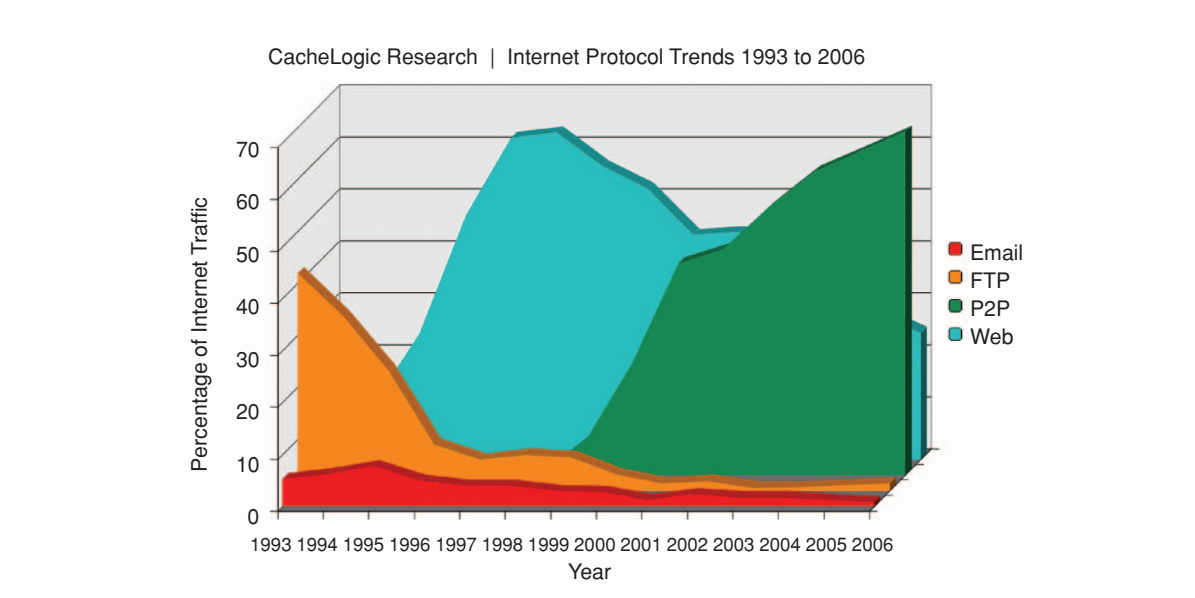

Fig. 1. Internet protocol trends, 1993 to 2006. Graphic courtesy CacheLogic, all rights reserved ©.