

BitTorrent gaining more acceptance

In the world of the Internet, a new idea can be either an asset or a threat. It depends on your perspective. BitTorrent, the popular peer-to-peer file sharing technology, poses exactly this conundrum to Internet service providers and entertainment firms alike.

The technology, which allows computer users to easily share and distribute files without occupying much of their Internet connection bandwidth, is also responsible for almost one-third of the Internet's traffic flow, according to recent estimates.

Conversely, it's this feature that makes the technology perfect for content distribution, especially in an era when file sizes have become much larger. Video files, having become extremely popular due to increased quality and more widespread prevalence of broadband technologies, can be easily shared without bogging down a single computer, as seen in a traditional Internet server model.

Similar to standard peer to peer sharing programs, BitTorrent allows users to search through trackers to see which files are available on the shared spaces of other computers, and then download them to your shared space. Where the technology becomes different is in the idea of contributed bandwidth.

Once a file has been downloaded, the BitTorrent program shares it out to other users working to download the file by contributing a small part of the computer's bandwidth to help others download the file. A larger number of users downloading the same file will allow for faster speeds given that each user contributes part of their bandwidth to the overall distribution effort.

Despite sharing both legal and illegal files over current Internet connections, BitTorrent has been eyed as an ideal distribution model for the entertainment industry. Peter Jackson's "King Kong," recently released to DVD, has also been offered as a legal online download in the United Kingdom. Other studios have looked into online downloads as a means of increasing retail sales. Once downloaded, digital versions of a movie can be copied to a restricted number of computers depending on the rules of the file's DRM (digital rights management) protocol.

"I think peer-to-peer technologies are starting to become more accepted," said Tim Bajarin, an analyst for Creative Strategies. "Video is a very important part of the Internet and with Internet distribution, they're definitely on the right path. The important factor is to get the content out there, which helps to curb piracy."

Although BitTorrent and online video content distribution may be en route to more widespread acceptance, the data traffic it generates still needs to be managed. In light of the increased network traffic, network managers have had to craft new ways to control, or "shape", the data flow running through their systems. For this task, specially designed software can be programmed to identify the characteristics of outgoing data, which can be grouped into segments called "buckets."

Each bucket, once created, is assigned a priority. The software manages each bucket per the network manager's instructions. Specific data can then be restricted so the network devotes only a certain amount of its bandwidth to each bucket, according to Laura Bowser, a security engineer.

For the home user, popular BitTorrent clients can be controlled via the application's preferences. Simple adjustments such as capping the amount uploaded to a certain percentage of the computer's available bandwidth can make all the difference as well as decrease the amount BitTorrent of data an Internet service provider has to manage on their end.

Once considered the nemesis of the entertainment industry, peer-to-peer file sharing has come a long way

since the infamous days of Napster. Now a bona fide content distribution tool, BitTorrent can help push large files across the Internet through a shared effort.

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