

Video Has ISPs Anxious

By Hunter Newby



What a difference an application makes. Video over the Internet has had a profound effect on the world. It has made some content companies very successful, end users very happy and a lot of ISPs miserable. Someone always has to get stuck in the middle.

There are a few major flavors of video over the Internet and each poses its own style of problem.

Live - This is also known as streaming. Live video is almost always news,

where the public Internet struggles. Since it is a shared medium there is no way of predictably telling what service level one will get across it from end to end.

Peer to Peer - Made infamous by BitTorrent, KaaZa and others, this is the mother of all spontaneous, dynamic and uncontrollable (legally) Internet packet-jammers. Moving video files directly from machine to machine over the Internet is a very effective function, but those guys stuck in the middle don't appreciate it as much as the folks sharing files. In an effort to un-stick themselves several ISPs made an attempt to make all file sharing illegal based on the presumption that all of the files are violating copyrights – something they could have no knowledge of. Some

its own.

Uploads - We can all thank YouTube for being the shining star in this category. Remember, a video file is just like any other file, but it's a really big file. If you have the broadband access pipe at home you can send anything you want upstream to the big cloud (for now) and send it across your ISP's network to YouTube's ISP(s) and then drop it down on its servers. Voila! You have uploaded video. Again the law of large numbers comes in to play and those would be large files and increasing numbers of people performing this act. Do the math. The videos of "God only knows what" getting sent up every day causes massive congestion in the Internet arteries. Imagine drinking a gallon of Crisco

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sports and/or other events. Everything else (movies, sitcoms, reruns) isn't live or time-sensitive when it comes to delivery. Broadcasting schedules for major networks traditionally have been made based on the time of day (e.g. soap operas in the afternoon and cartoons on Saturday morning). This is all changing and going away with the advent of On-Demand video where shows can be watched any time of day that is convenient for the viewer. The exception of course is live broadcasts that the viewers wish to see as and when they happen.

Live video in the IP domain is particularly challenging as it is very intolerant of packet loss. That has a double negative as advertisers and therefore their broadcaster vendors demand the highest quality, lowest latency IP connections. This is

have even gone so far as to discriminately block certain packets that they alone determined to be unfit for routing. There are several totally legal and very useful P2P business applications that cannot be discerned from the rest, so these attempts have failed.

Just like off-shore tax shelters, P2P video wouldn't be so bad if only a few people were doing it, but now that it has become public knowledge and masses of people have figured it out it is being demonized. If you ask ISPs they will tell you it is for good reason too: Who is going to pay for their necessary network upgrades to support this video? Most people would believe that is the ISP's responsibility. After all, they are running a business, aren't they? Ah, maybe supply and demand with a dash of pricing is having a little jitter of

and eating 3 dozen doughnuts every day. How long would it be before you seized up? Another consideration would be your reliability to perform other functions or tasks. Would it be wise for someone else to rely on you being around for the long term to do heavy lifting work?

Downloads - The opposite of upload and just as deadly. YouTube ranks first in this category, but it is quickly being challenged for Top Clogger honors by the BBC. The BBC has recently officially (Dec. 07) launched iPlayer which is a free, time-shifted, web-based video download service. Sort of like a huge TiVo on the web where anyone in the UK can download and watch BBC programs as and when they wish. They have signed up 42 million people in just a few months and estimate that the application is now consuming 3%

to 5% of the local ISP's capacity. Ouch! If one application can do that I guess they wouldn't want 19 others like it or there would be nothing left for anyone else! No room for VoIP, eBay, CNN, Amazon, etc.

Therein lays the problem and major issue with the Internet and ISPs. The Internet and its collection of providers are not prepared in a network sense. They're not prepared financially either. The affected ISP's are actually demanding that the BBC pay them £831million for the necessary network upgrades. To that the BBC says "...we'll inform customers which networks to avoid". Wow, now that's quite a picture.

It is humorous in a sad way to see how this all unfolds. Napster is the perfect example of pin the tail on the bad guy in the P2P world. Since it could be singled out it could be blamed and killed. KaaZa has a differ-

ent architecture (so does Skype of course) and so there is no company per se that can be shut down. In the download business YouTube could have been singled out and traffic shaped, but Google bought them. Google owns its own network and has rock solid peering agreements, so now that traffic is blended right in - touché. The BBC is now the latest donkey that the ISPs are trying to pin their bum wrap on. It is quite possible that the BBC is guilty of negligence in that it should know better than to rely on a doughnut gorging sloth to do real heavy, serious business. Outside of that, though, it is just like every other content provider. It believes that the Internet is there and that it can use it to serve up what its viewers/customers want. Just like air and water, they will always be there, right? Ah, you wanted CLEAN air. Go and ask the people in At-

lanta, Ga., about water and proper planning. They can teach a good lesson about what not to rely on.

The bottom line is, as always, the bottom line. There is just not enough of a financial return for most ISPs to make the necessary investment at this point to support video apps like the iPlayer. Interestingly, the folks that do have the money, Verizon, have made the investment (FiOS) to carry video to the home because it has "protection" from the government (Broadband Relief), so it doesn't have to share its fiber with any competitors. So it would seem that when the next iPlayer is launched (probably NBC in the US) the only ISP that won't be crying about it will be Verizon. Stay tuned. **IP**

Hunter Newby can be reached at hunternewby@gmail.com

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