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The real reason Skype isn't as good as it was

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NetEvents Have you been a Skype user for ages? Noticed that it isn't as good as it was? Silent moments, repeated sounds, buzzes? Here's the good news: it's almost certainly fixable. The bad news? You have to lobby your cable company to fix it.

It turns out that a company called [Sandvine](http://www.sandvine.com/) (<http://www.sandvine.com/>) is now boasting of its ability to "manage" peer to peer traffic over the internet. What this means, simply, is that if your ISP doesn't like what you're doing with your internet connection, it can slow you down.

Sandvine told delegates to this week's NetEvents Summit here in Garmisch, Germany, that peer to peer services like BitTorrent and eDonkey - and Skype - were now forcing internet service providers to increase capacity.

"From our survey, we can tell that out of all the traffic coming into the network, 60 per cent is peer to peer; and 70 per cent of the upstream traffic is also peer to peer," said the company today.

The number of file sharers has risen dramatically, says Sandvine. "Users are moving from sharing three meg songs to uploading and downloading 600 gig movies. That means that service providers have had to apply a lot of traffic assistance for this increased traffic."

Traffic assistance? "Reducing the number of sessions that are allowed. Nobody wants to control customers and say what they can and cannot do... but ISPs want some control to reduce the cost."

This "control" and "traffic assistance" started in the cable sector: cable companies are designed to transmit data out, not receive it in. It was set up to send TV signals from a central broadcast station, out to all subscribers.

But today's broadband users want to upload as much as they download. BitTorrent sends data, not from a central supplier, but from one user to another. And when the second user

has the data, they become a supplier: they start uploading to the next downloader - doubling the capacity; and soon after, there will be six uploaders.

Peer to peer file sharing is categorised by many ISPs and copyright owners as "wicked" but in fact, it will be used for software distribution - Microsoft itself is trying to set up a peer to peer technology, to take the heavy download work off its expensive servers when releasing new versions. And Linux releases like Slackware have been freely available since BitTorrent, when they were almost totally unreachable from private servers.

"Filesharing means the narrowband upstream is being consumed by peer to peer; other people on the fibre node are being compromised, said a Sandvine official today. "The traditional way for ISPs to cope, was to add extra CMTS or cable ports, or pulling more fibre or reduce the contention - the sharing of nodes; so, if they had 1000 homes per node, they'd change that to 500 or even 250 homes per node."

Sandvine can take that expensive option, and make it cheap for the ISP. "We can make this a \$2 per household cost by building our product just north of the access network," said a company spokesman.

It's done by inspecting the packets as they are transmitted through the network. Voice calls can be detected by their "signature" and when too many people are doing Skype or Vonage or Free World dialup calls, the ISP can set limits.

After (say) 100 sessions are started, "we can disconnect, or block new ones, or even slow down the rate they are transmitted," said Sandvine. "With customers who use this technology, we've got the traffic from 70 per cent to 20 per cent," he boasted.

One reason ISPs like doing this, is to encourage their customers to use the company's own VoIP system, rather than a rival's. If the packet is void, and is detected as from the cable company's own product, it is optimised - sent through faster than normal. Other packets are allowed to take their place in what's left of the queue.

He said: "A year ago, 90 per cent of VoIP was Skype; today is more like 50 per cent as the service provider favours their own service. So they prioritise their own branded VoIP services when the network is congested. "They don't manage Skype or Vonage down. They just do 'best efforts' for them, but generate superior quality for their own."

That's clearly one way of looking at it. When you actually block sessions from starting on peer to peer networks, it would be quite easy to persuade some users that you're managing it down.

This isn't a secret. Sandvine's ability to manage VoIP packets has been [published](http://www.lightreading.com/document.asp?doc_id=75833&site=lightreading&WT.svl=news2_2) (http://www.lightreading.com/document.asp?doc_id=75833&site=lightreading&WT.svl=news2_2) before. What wasn't realised was just how big an impact this sort of traffic management was having on users. ®

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