

## Technical Report: An Estimate of Infringing Use of the Internet – Summary

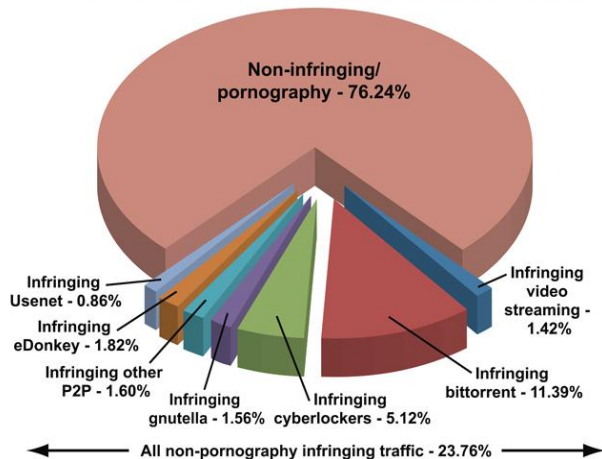
Dr. David Price, Head of Piracy Intelligence for Envisional, has authored a study that comprehensively estimates the amount of Internet traffic that is infringing. This summary outlines the main points arising from the report, the full version of which can be found at: [http://documents.envisional.com/docs/Envisional-Internet\\_Usage-Jan2011.pdf](http://documents.envisional.com/docs/Envisional-Internet_Usage-Jan2011.pdf)<sup>1</sup>

The 56-page report, commissioned by NBCUniversal, is the first study to specifically estimate the amount of infringing traffic on the Internet.

**THE BOTTOM LINE: Approximately 23.8% of global Internet traffic is infringing with bittorrent specifically accounting for almost half of that amount** (representing 11.4% of global Internet traffic). Infringing cyberlocker traffic contributed 5.1% of infringing traffic and video streaming sites (such as MegaVideo and Novamov) contributed 1.4%. Other peer-to-peer networks (e.g., eDonkey and Gnutella) and file sharing arenas such as Usenet were responsible for the rest of the infringing traffic.

**Traffic numbers for the US showed that over 17% of US Internet traffic is estimated to be infringing with bittorrent responsible for more than half of that amount** (and equaling 9% of all Internet traffic in the US). Cyberlockers, other peer-to-peer networks and file sharing venues contributed the rest of infringing traffic.

Estimate of infringing use of global internet bandwidth



### BITTORRENT

The report includes a detailed individual analysis of bittorrent traffic, the most popular file transfer system in use today. **The analysis focused on PublicBT tracker – the largest and most popular bittorrent tracker worldwide** – which holds information on over 2.7m individual torrents.

An analysis of the top 10,000 swarms (as measured by number of active downloaders or 'leechers') found that pornography (35.8%), film (35.2%), and television (12.7%) were the most popular content types. Excluding pornography, only one swarm in the top 10,000 offered

<sup>1</sup> This summary may be found at [http://documents.envisional.com/docs/Envisional-Internet\\_Usage\\_Report-Summary.pdf](http://documents.envisional.com/docs/Envisional-Internet_Usage_Report-Summary.pdf).

legitimate content and 99.24% of all material in the top 10,000 swarms was copyrighted. Including pornography, **63.68% of all content was copyrighted.**<sup>2</sup>

Envisional identified the content of all but 48 of the top 10,000 swarms and found that 85.5% were video content of some kind while software was 4.2% and computer games 6.7%.

**Approximately 60% of all peers connected to the top 10,000 swarms were sharing copyrighted film content.** Peers across all video categories (films, television, anime, sports, and pornography) represented slightly more than 88% of all peers in the top 10,000 torrents.

Extending the results of the top 10,000 torrents to all content represented by PublicBT indicates that, on the day of analysis, 11.5m peers were seeding or downloading copyrighted film content, 2.4m peers seeding or downloading copyrighted television content, and 3.2m pornography.

**Excluding pornography, Envisional project that 99.24% of all material on bittorrent was copyright infringing.**<sup>3</sup>

### **CYBERLOCKERS/FILEHOSTING SITES**

Estimating the amount of copyright infringing content stored on cyberlockers is more difficult than with Bittorrent as such sites do not usually allow stored content to be searched. Instead, users must search via a third-party indexing site such as Filestube.com or a linking site such as Warez-BB.org.

To check the representative nature of content stored on cyberlockers, Envisional collected a random sample of 2,000 cyberlocker links and determined the type of content and whether it was copyrighted. As with bittorrent, **most of the analyzed content – over 90% – was copyrighted material.**

### **VIDEO STREAMING**

In the same way that cyberlocker content is indexed by other sites, third-party portals such as MovieWatch.in or Movie2k.to offer users multiple links to the latest film or television show. For example, MovieWatch currently offers more than fifty separate working links for some popular movies.

To estimate the percentage of streaming content that infringes copyright, Envisional compared visitors to third-party index sites to visitors to bittorrent portals and multiplied that by the file size appropriate to each to yield a ratio of streaming traffic to bittorrent traffic.

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<sup>2</sup> A number of fake torrents were discarded and not counted in the analysis.

<sup>3</sup> To check its analysis, Envisional sampled five groups of 100 torrents each from various points along the long tail of PublicBT content. Excluding pornography, no non-copyrighted content was found though the amount of material that could not be identified increased slightly.

Envisional concluded that infringing traffic that comes from sites that link to pirated material is equivalent to 1.42% of all Internet traffic but noted that the figure should be taken as a “cautious estimate”.

**METHODOLOGY**

Having determined what percentage of peer-to-peer, cyberlocker, and streaming traffic is infringing, Envisional calculated the percentage of Internet traffic generated by each using data from 2009 reports from Sandvine, Cisco, Arbor Networks, and ipoque.

For example, Sandvine estimated bittorrent is responsible for 17.9% of total Internet usage and Envisional, as previously mentioned, calculated that 63.68% of all content tracked by PublicBT was infringing. Multiplying the two (17.9% x 63.68%) indicates that infringing use of bittorrent is responsible for 11.39% of the world’s Internet traffic.

**THE NUMBERS**

Components of Infringing Global Internet Traffic	
Infringing bittorrent	11.39%
Infringing other P2P	4.97%
Infringing cyberlockers	5.12%
Infringing video streaming	1.42%
Infringing usenet	0.86%
<b>Total</b>	<b>23.76%</b>

Components of Infringing US Internet Traffic	
Infringing bittorrent	9.11%
Infringing other P2P	3.77%
Infringing cyberlockers	2.19%
Infringing video streaming	1.52%
Infringing usenet	0.93%
<b>Total</b>	<b>17.53%</b>

**Piracy Intelligence**

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