



South America Television Piracy Landscape

For Alianza Contra La Piratería de Televisión Paga

January 2016



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Executive Summary



1. Introduction

This report was produced for the members of La Alianza contra la Piratería de Televisión Paga who requested that NetNames Piracy Analysis team perform an investigation into the piracy landscape and the main threats facing members from piracy and infringement, with a focus on television piracy activity in South America. NetNames has previously authored reports such as *Sizing the piracy universe* that explored the number of unique internet users across a range of internet ecosystems. This report, which is believed to be the first comprehensive review of the South American internet piracy landscape, follows a similar approach in its general methodology, providing further insight into the scale and nature of internet piracy within the South America region. It explores this area in depth and provides an overall analysis of the television piracy landscape. The report identifies those piracy ecosystems that are most important within the South America region, including an investigation into the size and shape of the primary channels by which infringing content is accessed, including via live IPTV rebroadcasting, cyberlocker sites, and peer-to-peer networks such as BitTorrent and Ares.

As well as providing a regional focus, the report explores topics at a country specific level, providing a comparative study across nine individual South American countries, including illustrative snapshots of content popularity across the region.

This report makes up the main deliverable of the project.

NetNames has provided piracy analysis and consultancy to content holders for more than a decade and is regularly requested by rights holders in the film, television, gaming, software, and music industries to provide strategic research and advice into piracy issues. As internet connectivity continues to spread worldwide, the speed of that connectivity rises, and methods of distributing content become more efficient and easier to use, piracy is an ever-present issue which any creator of television content must address on a continual basis.

Key findings

Total Piracy Universe Size

The South American Piracy universe is estimated to be made up of **110.5m individual users** across the cyberlocker, peer-to-peer and Live IPTV rebroadcasting ecosystems. In context of the wider South American internet usage, this represents around **half of the total estimated regional internet audience** of 222.3 million users¹, and demonstrates the appetite for infringing content, despite an internet infrastructure that remains underdeveloped in many regions.

Half of South American internet users engaged in piracy

46.1 million peer-to-peer users, making 66 million visits to the top BitTorrent

Peer-to-peer

In a single month South American internet users made **66.0m individual visits** to the top 20 BitTorrent portals and in total the peer-to-peer ecosystem attracted **46.1 million users**. The South American peer-to-peer landscape is shaped in part by the **widespread usage of the Ares Galaxy client**.

Cyberlockers

62.7 million South American users visited at least one cyberlocker link site in a single month, totaling **51.6 million visits** to the top 20 direct download and top 20 streaming cyberlocker link sites.

51.6 million Cyberlocker link site visits, leading to 182.8 million visits to cyberlockers themselves

In turn a subsequent **23.3 million** visitors accessed **cyberlockers** themselves, making a total of **182.8 million** visits to the top 20 direct download and top 20 streaming cyberlockers.

Live IPTV rebroadcasting

Live IPTV rebroadcasting is a growing threat within the region, with premium content channels streamable for free, on a variety of different web venues, including heavy usage of blogging platforms such as BlogSpot as a means of sharing links to Live IPTV content. Crucially, it can be distinguished from other online streaming of unlicensed content by its focus on live content. During a single month, an estimated **8.7 million users across** the ecosystem were **responsible for 28.9m** visits to the top 20 sites.

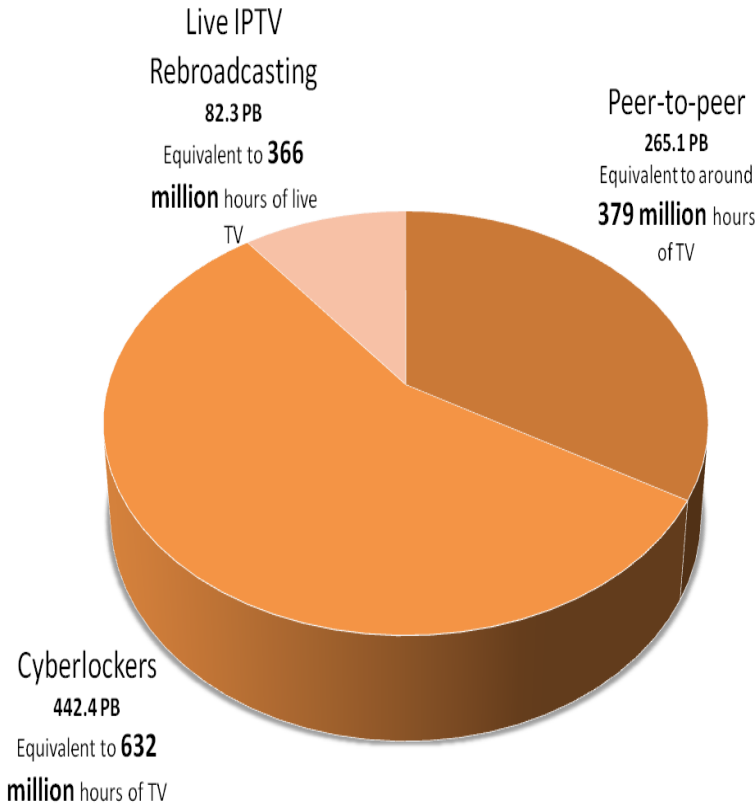
A mix of local and international

South American internet users are able to relying on a mix of both internationally popular piracy venues, and specialized local language forums, blogs and link sites to access infringing video content, typically captured from local broadcast sources, or consisting of subtitled versions of international pirated releases.

¹ This measure is smaller than the sum of the total number of users within each of the three measured ecosystem, in order to account for users who use more than one ecosystem in a single month.

Piracy Bandwidth

Estimated Annual Bandwidth dedicated to content infringement, South America



The scale of internet piracy in the region and its potentially damaging effects on legitimate rights holders and broadcasters becomes apparent when analyzing bandwidth data from the region. Cyberlocker usage is thought to account for over half of the infringing South American bandwidth usage, standing at 442.4 Petabytes annually, equivalent to **632 million hours of TV**, equivalent to roughly 14 hours of TV per South American cyberlocker user. The peer-to-peer landscape, consisting of both BitTorrent and Ares network downloads accounted for around 265.1 Petabytes, roughly the equivalent of a further **379 million hours of TV** or over 8 hours per user, while the Live IPTV rebroadcasting system is thought to account for 82.3 PB of infringing traffic, roughly equivalent to 366 million hours of live TV, or around 29 hours per user. As internet infrastructure improves across the region, infringing bandwidth usage is likely to grow significantly, absent any major technical or legal developments and present challenges not only to rights holders but to those ISPs and other network operators tasked with delivering access to this content.

- 1024 Kilobytes (KB) = 1 Megabyte (MB)
- 1024 Megabytes (MB) = 1 Gigabyte (GB)
- 1024 Gigabytes (GB) = 1 Terabyte (TB)
- 1024 Terabytes (TB) = 1 Petabyte (PB)

2. Report Structure

Overview

The landscape report provides a comprehensive analysis of the television piracy process in South America, and investigates methods by which this piracy might be addressed by rights holders. The research was primarily focused on those channels offering content sourced from Alianza member feeds, although the nature of the piracy landscape means this material often sits side by side with content from other sources, such as English language content that has been subtitled by amateurs.

South American Landscape

Section 3 of the report examines the overall South American piracy landscape, identifying and describing the main infringement ecosystems, with reference to relevant example sites where appropriated. This section of the report also provides details of the features of each piracy ecosystem that make it particularly well or ill-suited to the wider South American internet landscape as well as an investigation into the revenue generation methods employed within each ecosystem.

Section 3 also provides an estimate of the breakdown of bandwidth used within the region by the main piracy ecosystems, as well as an analysis of the most popular websites identified across the whole region within each ecosystem. These lists were produced using NetNames' extensive database of sites and networks involved in distributing infringing Alianza television content online and also draws on regional visitor and traffic data from web metric providers such as comScore and Alexa.

Sizing the South American Piracy Universe

Section 4 of the report estimates the size of the South American piracy universe, in a similar fashion to that undertaken in NetNames' 2013 report *Sizing the Piracy Universe*, taking advantage of unduplicated audience data and NetNames extensive database of infringing sites worldwide.

Regional Analysis

The final section of this report reflects upon the specific piracy landscapes of nine individual South American countries.

Methodology

In reaching its conclusions, this paper relies on data from a variety of sources, including original research carried out by NetNames, and data from third parties. NetNames has built up an extensive record of sites on which widespread infringement occurs, based on the company's experience, knowledge, and monitoring of digital piracy for more than fourteen years. These existing sites were supplemented by additional searches conducted using a variety of Spanish and Portuguese piracy related terms. These additional searches significantly broadened NetNames' site coverage in this area, and as such it is believed that this report provides the most comprehensive study of South American Piracy to date. Information from comScore and Alexa, detailing the 'unique' and 'unduplicated visitors' and local reach for sites which fall into each ecosystem were gathered, with the majority of the visitor statistics used taken from comScore and Alexa's data used as a support to fill any gaps in coverage provided by comScore. Statistics by comScore covering unduplicated visitors are one of the main sources of information which underpins this report:

Unduplicated data counts a visitor to, say, ten different BitTorrent portals, or to a BitTorrent portal and a cyberlocker once only, ensuring that a unique count of users can be made.

The worldwide piracy landscape is not a static system, and sites move into and out of popularity over time and NetNames' extent of coverage of any particular ecosystem changes as new sites come online and build an audience. As such care should be taken when comparing the results of this study against those such as NetNames' 2013 report *Sizing the Piracy Universe*.

comScore

ComScore's MMX audience measurement service is drawn upon within this research to provide data on unique monthly visitors to a wide range of sites and applications of interest.²

While comScore provide a range of analytics on various aspects of the digital world, it is important to keep clear the difference between two of comScore's most important metrics:

- **Aggregate unique visitors** to a web site or set of web sites. That is, the total number of visitors to a site such as thepiratebay.se or the total number of visitors to thepiratebay.se, torrentz.com, kat.ph, and other BitTorrent portal sites. When calculating visitors to a set of sites, this figure is a simple sum of all visitors to each web site.
- **Unduplicated visitors** to a set of web sites. This extremely useful data point examines the unique universe of users who visit any number of a specific set of sites. For instance, the unduplicated audience for BitTorrent portals counts the individual users who visit any BitTorrent portal once in a month. Thus a user who visits thepiratebay.se, isohunt.com, kat.ph, and torrentino.com is counted only once in an unduplicated audience figure, not once for each web site they visit. This is in contrast to the aggregate figure which would count that user four times, once for each BitTorrent site they visit. The unduplicated data provides a shape to the overall BitTorrent universe; it gives a figure that enables understanding of the total number of individual users who turn to BitTorrent sites at least once a month to seek content.

As an example of the difference between each of the two data points, comScore estimated that the unduplicated number of visitors worldwide to the top ten most popular BitTorrent portals in a single month was 120.1 million. That is, 120.1 million Internet users visited *at least* one of the top ten most BitTorrent portal during September 2014. This compares to an aggregate figure of 185.3 million, the sum total of visitors to each of these sites.

This study also relies on previous findings by NetNames on the average levels of non-infringing use across all ecosystems studied. These estimates enable this report to provide a figure for unique and unduplicated users who engaged in infringement in during the month of monitoring within the South American region, both in each ecosystem separately and as a single South American piracy universe.

² This data is drawn from comScore's user panels of over two million individuals in 44 countries, supplemented by census-based measurement systems in 172 countries. The company's methodology has passed audits from the Media Rating Council and the IAB. ComScore is believed to be accurate in its assessment of sites which have a substantial population but its panel-based approach may be less accurate when considering sites that have a small level of visitors. The company normalizes its data according to demographics in each country but it is possible that a small piracy-focused site operating in a country where comScore does not have a dedicated panel might be missed. For this reason, only sites with a minimum of 50,000 unique visitors each month were included in this research.

Bandwidth data

Data on the use of bandwidth by different services, protocols, and sites was sourced from the network monitoring company Sandvine covering the first half of 2014. Data was gathered from a range of ISPs in which Sandvine's equipment is installed³.

Additional data to support the bandwidth analysis contained in of this report was gathered from hardware manufacturer Cisco⁴ through its Visual Networking Index⁵.

Both Sandvine and Cisco provide bandwidth data on a regional basis and as such, do not provide country level granularity. However, it is possible to use this regional bandwidth data, in concert with various other data points to provide estimates of infringing bandwidth in various geographies and internet ecosystems. However, the need to adopt this approach highlights a relative dearth of transparency when it comes to bandwidth usage data from local ISPs.

Infringement ecosystems

The sites analysed within this report site within a number of categories that reflect the different ecosystems commonly used to locate, distribute, and consume infringing video material. The methodology used to describe the size of each ecosystem is outlined below.

For the purposes of bandwidth and user analysis, in this report, the ecosystems are categorised as follows:

- **Peer-to-peer**, taken to include usage of the two most popular networks, BitTorrent and Ares. While the networks are distinct entities, with independent infrastructure of servers and nodes, they fill similar niches within the South American piracy landscape, offer opportunities to share content between users, with the need for expensive third party hosts.

Although most data in this report deals with both BitTorrent and Ares networks in this combined fashion, where appropriate, key data points may highlight variances between the two networks. For example, BitTorrent is reliant on a network of portal sites through which the torrent meta-info files that allow access to content are

³ Sandvine does not have complete coverage of every ISP in a country or region. It is possible that the company's commercial focus means that gathered data will be biased to a particular country where the company has a larger installed base. As with comScore data, variations within countries where Sandvine may not have a commercial presence will not be included in their data collection

⁴ Cisco is a hardware manufacturer focused on providing companies with equipment to enable them to better control and utilize data flows through networks. It is, of course, in Cisco's commercial interest to encourage ISPs and hosting providers to believe that internet use and data consumption is increasing as this meets their commercial goals. However, data to support the contention that bandwidth consumption is growing rapidly is available from ISPs and other Internet entities, reducing (though not removing) this concern of potential bias. For instance, TeleGeography estimated that bandwidth growth tripled⁴ between 2010 and 2012 while IDC predicted a growth⁴ of 50% year on year from 2010 to 2015.

⁵ http://www.cisco.com/en/US/netsol/ns827/networking_solutions_sub_solution.html

distributed, the report includes analysis of the number of visitors to BitTorrent portals, a measure that is not relevant to the Ares network that does not directly rely on websites to drive traffic.

Other data relevant to the overall peer-to-peer ecosystems is presented, including the amount of infringing bandwidth consumed within the region. In order to calculate the size of the peer-to-peer ecosystem, and the subsequent overall South American piracy universe size, the most suitable metric was chosen to be unduplicated South American visitors to BitTorrent portals and users of the Ares Galaxy client during a single month. Therefore a single user who accessed a BitTorrent portal *and* used the Ares Galaxy client would be accounted for just once.

- **Cyberlockers**, including an analysis of both the link sites frequently used to locate infringing content and cyberlocker host sites upon which content is stored. Content is accessed via both streaming and downloading the file directly, and while dedicated sites exist serving either streamed or downloaded content, for the purpose of this analysis, no distinction is made between the two when calculating most metrics within the report, except where doing so is particularly illuminating and instructive. In keeping with other ecosystems, the report also provides an analysis of the amount of infringing bandwidth consumed by cyberlocker operations. The most suitable metric for analysing the size of the infringing cyberlocker universe was chosen to be unduplicated South American visitors to cyberlocker link sites (of both the direct download and streaming variety) during a single month.
- **Live IPTV rebroadcasting**, including analysis of link sites frequently used to locate infringing content streams and rebroadcasting hosts used to stream the content, and analysis of the amount of bandwidth consumed by rebroadcast sites used online. The most suitable metric for analysing the size of the infringing video streaming universe was chosen to be unduplicated visitors to Live IPTV rebroadcast sites during a single month.

3. South American Landscape

Major Infringement Ecosystems

A note on the importance of search

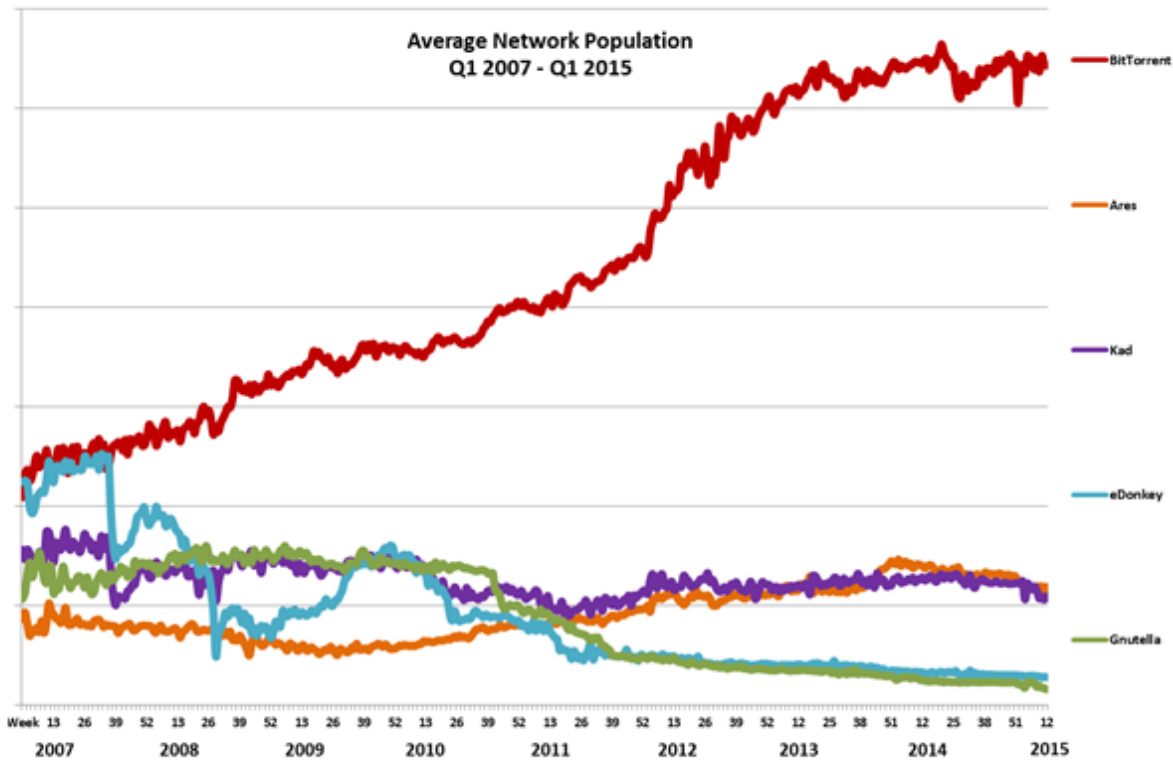
The influence of search engines to help users locate content is important to mention. Search engines such as Google frequently act as an initial gateway to pirated content. Queries to Google for searches such as ‘download Futurama BitTorrent’ or ‘watch O Negócio free’ return results where the majority are for infringing content held on piracy portals. Google in particular acts as a major funnel of traffic to piracy sites; of the top three BitTorrent portals, for instance, comScore records the percentage of incoming visitors from Google as 20.0% for KickassTorrents; 16.1% for ThePirateBay; and 18.4% for Torrentz. For cyberlockers, the figures are similar – 19.4% of visitors to Uploaded.net arrive there from Google.

Search engines are most commonly used by those new to piracy – or, at least, new to that form of piracy. For instance, a user who has heard of BitTorrent, but does not know how it works, or a BitTorrent user who wishes to try out cyberlockers, might employ Google for discovery in the same way that they would to find out about any new topic. Users find their way using a search engine for perhaps their first two or three attempts at piracy and might then typically locate a portal – like KickassTorrents or Degraçae mais gostoso.org – with which they become familiar and that is subsequently established as their piracy ‘home’. Once embedded in the piracy community, a user is then more likely to obtain further information about piracy from within this portal or from others therein than from search engines.

Despite the importance of Google to novice piracy users, for the purposes of calculating the size of the Piracy universe, its contribution can effectively be discounted. Besides very low levels of infringing content hosted on Google Drive or similar, all other piracy enabled by Google will take place on other piracy venues, and as such will be represented in any subsequent piracy universe size calculations.

Peer-to-peer

A comprehensive history of peer-to-peer file sharing would tell of the numerous rises and falls of individual clients and networks, whether through legal challenge, or technical obsolescence, many once popular peer-to-peer networks have seen their worldwide popularity fade. The below chart shows that even since 2007, networks such as Gnutella and eDonkey have failed to retain their respective user bases, in the face of pressure from the courts and the rise of alternative file sharing applications. Most obvious is the concurrent rise of the BitTorrent network as the globally dominant peer-to-peer file sharing application. Even in the face of sustained criminal investigations and civil actions, the network has largely continued to grow.



But in South America, BitTorrent’s rise has sat alongside the continued popularity of the Ares network. This alternative file sharing network continues to attract tens of millions of monthly users, the majority of which can be traced to South America. While both networks were developed separately as detailed below, they fill similar niches within the South American piracy landscape, enabling users to share infringing content without reliance of potentially costly third party storage. As such this report has chosen to combine the users of both the BitTorrent network and Ares network into a single measure for both number of users and infringing bandwidth estimations.

Technical briefing

BitTorrent was created in 2001, initially intended as an efficient method to share large non-infringing files such as distributions of Linux. Quickly co-opted for infringement, the protocol is now recognised as one of the fastest and simplest ways to transfer data between many users across the internet. Use of the protocol is heavy worldwide; for instance, data from Sandvine estimates that BitTorrent comprised more than 21.7% of all internet traffic in Europe in the first half of 2012 (downstream and upstream), and more in Asia-Pacific.

The use of BitTorrent by internet users tends to require two factors:

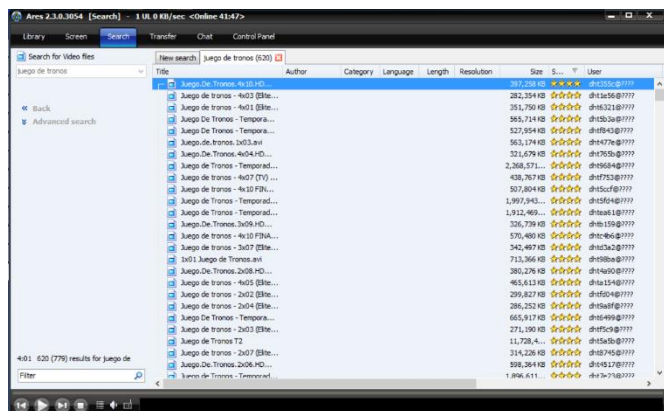
- a web site or portal such as ThePirateBay (see screenshot) or IsoHunt that offers links to content such as films or music that can be downloaded using a BitTorrent client
- a ‘swarm’ of BitTorrent users sharing a particular piece of content to which the BitTorrent client can connect

The typical BitTorrent download generally proceeds along the following lines: a user interested in an infringing copy of, say, *Game of Thrones* visits a BitTorrent portal site such as ThePirateBay. The user searches for the film title, and then chooses and clicks a link to download a version of the film. This link launches the user’s BitTorrent client which

then enters the 'swarm' or network of BitTorrent users actively sharing that film, and begins to download. As soon as the user's client has downloaded any part of the film, it can then share that part with others in the same swarm.

In contrast the Ares Galaxy client connects to the Ares network, having originally designed as a Gnutella client. The applications developer Alberto Teves launched his own network a short while later and eventually released an open source version of the client. The application allows users to search a large catalogue of music, films television episodes and other content, and with most of the clients users located in South America, the network has become a reliable source of Spanish or Brazilian Portuguese language content that attracts South American users, who in turn share more of their own content.

Downloads of the client increased gradually from that point that the client was open sourced and rose to almost ten million during January 2007 when version 2 of Ares Galaxy was released. The client's popularity has dropped steadily, as other piracy ecosystems have continued to mature, there has been relatively little development of the Ares Galaxy client. However the downloads of the client still sit at a round two million downloads per month during October 2014.



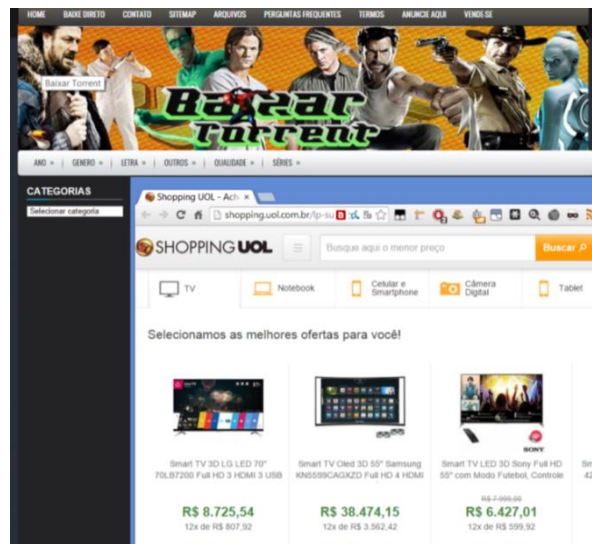
As the data in this section demonstrates, tens of millions of South American internet users employ peer-to-peer technologies each month to share content and the vast majority of that usage is infringing, downloading pirated films, television episodes, games, software, books, and music.

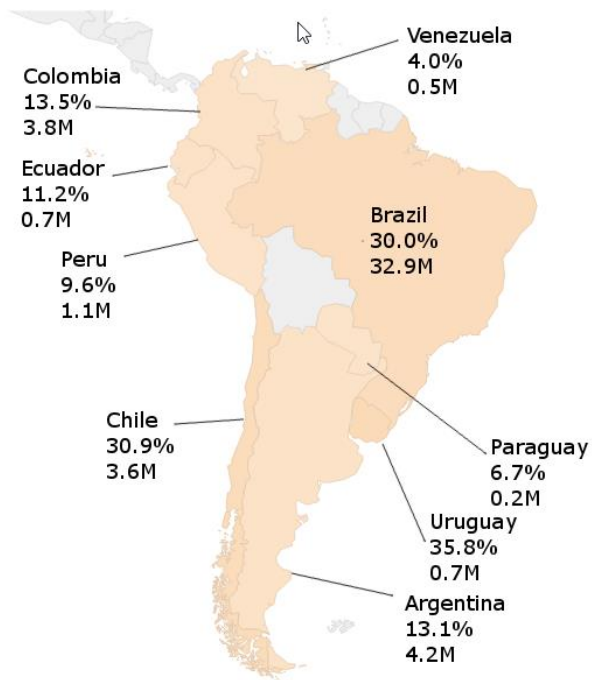
Revenue Generation

BitTorrent portal operators typically rely on pop-up and banner advertising in order to generate revenue to support their operations. For example Brazilian torrent site **Baixartorrent.net** includes popups to UOL.com as shown in the screenshot to the right.

The same site also offers users the ability to upgrade to a VIP membership, and this is a common feature of many BitTorrent portals. Baixartorrent charge around R\$10 a month for VIP access. Typically these premium membership schemes grant additional benefits to the member, who may receive preferential access to new pirated releases, expedited trouble shooting, or direct downloads from a dedicated client.

The Ares Galaxy client, distributed on the application's homepage on Sourceforge.net comes bundled with software from Offercast. Such applications typically install adware, malware or other potentially unwanted programs and pay commission to those distributing their software for every successful installation. With millions of installations of the client every month, it is likely that





such activity generates significant revenue for the Ares Galaxy developers.

Regional usage breakdown

The heat map shown below of the South American region illustrates relative popularity of the peer-to-peer ecosystem across each of the monitored countries. For each country both the percentage of its internet users and the absolute number of users are shown. It should be noted that the percentage figure indicates the relative popularity of the peer-to-peer ecosystem within each country, *not* across countries, in that that it is a measure of those estimated users of the peer-to-peer ecosystem, as a percentage of each countries total internet user base.

This approach offers some advantages over a simple country by country comparison, which would always be skewed towards those countries with the largest

internet audiences. In this fashion it is possible to compare the popularity of an ecosystem across countries of varying internet audience sizes and identify instances of particularly high or low usage.

It should also be noted that the last two years have seen the launch of a number of new BitTorrent applications, such as PopcornTime and CuevanaStorm, and that due to the way these applications function, they are not trackable using the same techniques used for traditional BitTorrent or Ares network clients. As such, the estimate of South American peer-to-peer users does not include any those using applications such as PopcornTime.

Similarly it is possible that despite efforts to exhaustively catalogue those BitTorrent sites popular with South American audiences, some sites, such as private BitTorrent trackers were either not discovered during the period of local language searching upon which this report is based, or were not included in comScore's index of sites. Similarly it is possible that other locally popular BitTorrent portals are not included in comScore's analysis, but there is no reason why locally popular torrent sites should be preferentially missing from comScore's data set over locally popular direct download cyberlocker link sites or streaming cyberlocker link sites.

The map overlaid is based upon a weighted mix of both the estimated South American BitTorrent users based on comScore data and additional monitoring of the Ares network. Over a period of a week, incoming and outgoing connections to the Ares Galaxy client were monitored, while a random assortment of content was accessed using the application. These were traced to the originating country using MaxMind's GeoIP database. These results were collated and the used in conjunction with World Metrix data from comScore to calculate Ares network usage estimates for each country. This in turn was compared against the overall internet user base to provide an estimate of proportional usage in each country.

The usage of peer-to-peer file sharing software across the South American region shows a great deal of variability from one nation to the next. On average **20.7% of the South American internet user base engaged with peer-to-peer ecosystems**, compared to a global rate of 16.3% estimated by NetNames in 2013.

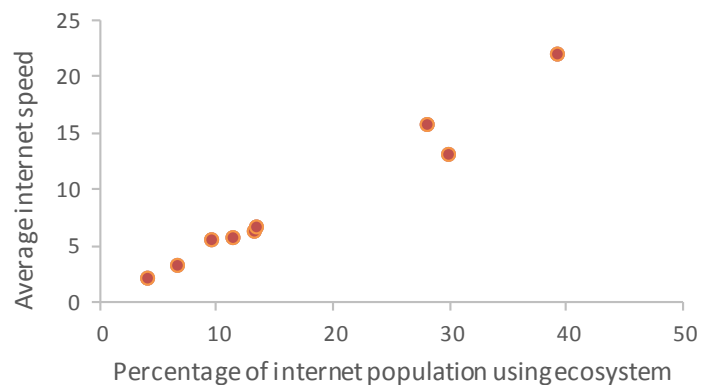
While certain populous nations such as Brazil predictably contribute a greater absolute number of users to the ecosystem, certain smaller countries also shows relatively high levels peer-to-peer usage. For example, Uruguay, with a total internet population of just 1.9m, shows peer-to-peer usage of a round 35.8%, (0.7m) the highest relative level of peer-to-peer usage across the region, significantly above the 16.3% global usage level estimated by NetNames in 2013.

Interestingly, the next highest relative levels of BitTorrent usage are found in Chile and Brazil, and together with Uruguay, these countries benefit from the highest average broadband levels within the South American region. Just 4.0% of Venezuela’s 12.9m internet users are estimated to use peer-to-peer file sharing, and as the chart right demonstrates, internet users in those countries with the lowest Broadband speed are far less likely to engage with the peer-to-peer ecosystem.

Protocols such as BitTorrent and Ares provide the biggest benefit to users when operating on high speed connections, taking advantage of the large distributed swarms of users sharing content on the network. As broadband speeds improve across the region, greater numbers of users will be drawn towards using peer-to-peer technologies. What’s more, infringing users are likely to grow quickly within these areas, as new internet subscribers can take advantage of preexisting structures of specialist Spanish or Portuguese language torrent portals and the significantly libraries of South American content on the Ares network.

The Ares network in particular has retain significant popularity within the South American region, despite the growth of alternative means of accessing infringing content. The protocol retains a considerable degree of inertial popularity, built upon the local language content contributed by millions of South American users and delivered through a protocol that is well suited to the network conditions found in many parts of the region.

Rate of use of peer-to-peer against average internet speed in South America



Bandwidth Usage

NetNames’ estimation of the bandwidth consumed in the pursuit of piracy activities is built upon data from a variety of sources, including Network traffic data from Sandvine and Cisco, visitor data from comScore, and NetNames own monitoring and experience.

Across the South American Region, peer-to-peer file sharing was estimated to account for around 265.1 Petabytes of infringing bandwidth each year, around 33.6% of total infringing South American bandwidth, but just 4.0% of the combined total of 6,692PB of data for BitTorrent only in Europe, North America and Asia Pacific reported by NetNames in 2013.

While directly converting infringing bandwidth into potential lost legitimate sales is fraught with difficulty (how many of those downloading content would actually pay for content were infringing copies not available), it is possible to provide illustrative examples of exactly how much infringing content this equates to. A typical hour long TV episode, ripped from a retail disc such as DVD or directly from a broadcast source, may vary in size anywhere from 400mb to 1.5GB dependent on the quality and encoding method used. Assuming a TV rip size of 700mb, the annual infringing bandwidth equates to roughly the equivalent of **379 million hours of pirated TV content**. Based on the number of

unduplicated South American users within the peer-to-peer ecosystem (discussed below), this equates to over **8 hours of infringing content delivered via peer-to-peer ecosystems per user per month.**

Visitor Analysis:

NetNames conducted a survey of the entire South American peer-to-peer landscape, looking at the most popular sites across the ecosystem based on visitor data from comScore. Given that the South American peer-to-peer landscape is dominated by the Ares and BitTorrent networks, and that the Ares network is not web based in the same way as BitTorrent, the survey results are dominated by BitTorrent portals. The results are discussed below and provided in full in the appendix

In total South American users **made 270.6 million visits** in a single month to sites within the peer-to-peer ecosystem, out of a global total of 1.7 billion visits over the same period. The importance of South American visitors to particular sites varies significantly, for example just 8.5% (17.6m) of visits to the popular international torrent portal KickassTorrents were sourced from South American visitors, while over 99.6% (3.1m) of Thepiratefilmes' visitors were sourced from the region. This variance is indicative of a pattern found across multiple piracy ecosystems in the region, South American piracy site users are ready and willing to embrace both dedicated local-language sites, and more widely popular international portals with sites such as KickassTorrents featuring massive amounts of original, or subtitled or dubbed Spanish and Portuguese language content.

270.6 million Visits to peer-to-peer sites in a single month

1.5 billion peer-to-peer sites in a single month

The 270.6 million South American visits to peer-to-peer sites ultimately produced **1.5 billion page views across the entire ecosystem**, against a worldwide total of 6.6 billion views and these views were undertaken by 46.1 million (4.3%) unduplicated South American users out of a total worldwide unduplicated base of 186.2

million. (It should be noted that a significant number of these users are made up those who exclusively use Ares Galaxy and as such, nearly all of these visits stemmed from the activities of a core of BitTorrent users.

User base of 46.1 million individuals

Looking more closely at the number of visits to just the top twenty most popular sites in the peer-to-peer ecosystem, South American users account for 6.2 million (6.4%) of the 98.2 million unduplicated visitors suggesting that south American peer-to-peer users are particularly likely to visit the most popular sites in the ecosystem.

In aggregate the total number of visitors to sites across the entire peer-to-peer ecosystem stands at 17.6 million monthly visitors, and this represents just 10.6% of the world wide aggregate total of 166.9 million visitors. However it should be remembered that this measure (unlike the 46.1 million unduplicated users) does not account for the effects of a user visiting more than one peer-to-peer site.

With South America thought to make up 7.9% of the world's 2.8 billion internet users⁶ it would seem on first glance that the peer-to-peer ecosystem is actually lightly used in South America compared to the rest of world, however,

⁶ <http://www.internetworldstats.com/stats15.htm>

this superficial assessment does not account for a number of contextual elements that suggest a more complicated picture.

Broadband adoption rates across the region lag some way behind many other regions, for example, according to the Inter-American Development Bank's 'Broadband Development Index', which looks at 37 indicators of Broadband Adoption, the wider Latin American and Caribbean region posted a score of just 4.37, compared with an OECD average of 6.14. With the region relatively underserved by high speed networks, it is likely that a large proportion of the region's peer-to-peer users stem from those countries with high internet speeds.

Further, as speeds increase across the region, more peer-to-peer users are likely to come quickly online. It is also important to remember that this measure does not include app-based BitTorrent applications such as CuevanaStorm or PopcornTime. Reliable usage statistics of these applications are difficult to source, but a recent study by a UK ISP found PopcornTime traffic peaking at 18Mbps, versus a peak of 44Mbps for the popular traditional BitTorrent client, uTorrent. While this does not directly relate to South American usage, it is enlightening that a single fork of the PopcornTime client (of which there are many) was able to account for a significant proportion of the throughput of an application as widely used as uTorrent.

It should also be noted that traffic to the top three BitTorrent sites account for over 66% of aggregate South American visitors to the Top 20 sites, compared to just 54% for globally. This suggests that BitTorrent traffic to the region is heavily weighted in favor of these sites, which all happen to be major international piracy destinations, and thanks to their huge range of content, have become popular destinations worldwide, featuring content across multiple different languages.

Cyberlockers

This report uses the designation cyberlockers to refer to sites which are primarily used to store infringing content. As discussed in the reports introduction, no distinction is drawn between those cyberlockers that deliver streamed content and those that allow direct download. While sites have traditionally been delineated based on this distinction, the line between streaming cyberlockers and direct download cyberlockers is becoming increasingly blurred, with many traditional streaming video hosts allowing download of content and vice versa. Regardless, from a user's point of view the experience of using either class of site is broadly analogous and for this reason, the report aggregates the two classes of cyberlockers (and associated link sites) into a single categorization.

Cyberlocker do not typically feature the capability to *live stream* content such as sporting events. This kind of activity, classified as Live IPTV rebroadcasting in this report is dealt with as a separate ecosystem, by virtue of the distinct network of link sites and stream providers used to enable that activity.

Technical briefing

Cyberlockers (frequently referred to as Cyberlocker host sites throughout this report to distinguish from the cyberlocker link sites) act as web based storage sites on which large amounts of infringing content is stored. Cyberlockers themselves typically do not allow users to directly search for content and links are instead posted or aggregated on third party cyberlocker link sites, facilitating access across a wider community (or the entire internet). From a typical downloader's point of view cyberlockers are relatively simple to use, entirely browser-based, and attract users who may seek an easier piracy arena than BitTorrent or other file sharing networks.

Generally no limits are placed on who can download or stream a file hosting on a cyberlocker. While such services bear some superficial similarities to legitimate cloud storage providers such as Dropbox or Microsoft OneDrive, they do not generally charge those who store content on their site, often encouraging sharing by paying rewards to those who share popular content and instead offering premium services to those accessing the content.

Cyberlocker link sites typically feature links to a great range of film and TV content. Often, multiple links from the same show are shared on a single forum post, with new content added as and when the episode is aired.

For example, Brazilian linking site **tvserieshd.net** is primarily focused on television content. Different seasons of each show are collected in a single post on the site with links to download each episode available for a range of different cyberlockers, as well as limited streaming and torrent download links.

While much video content is released initially with an English audio track, alongside amateur subtitles, content on such sites is also often fully dubbed in the local language, suggesting that a proportion of video content is captured from local broadcast sources. While many users may feel more comfortable with a full audio dub in their native language, others enjoy the chance to improve their understanding of English by watching the subtitled version of the show, often some weeks or months before a fully dubbed version of a show might become available.

Cyberlocker link sites are well suited to instances where download speeds and reliability are limited. Large files are often split into multipart archives and mirrored across a number of different file hosts. As a result, users with a poor connection speed can manage the download process over an extended period to ensure file transfers complete, in a way that is not possible with other methods such as direct downloading from a web server. Streaming cyberlocker users can also choose to pre-buffer video content before beginning playback enabling limited usage in areas with poor internet connectivity.

Most cyberlockers are at least ostensibly compliant with DMCA style takedown procedures and users of cyberlockers will frequently come across dead links to content however replacement links are usually plentiful thanks to cyberlockers typically rewarding those who upload and share



Família Moderna	AVI XviD	Play Video	AVI 480p
Episódio 1	MINHATECA 1FICHER MEGA	ASSISTIR	TORRENT
Episódio 2	MINHATECA 1FICHER MEGA	ASSISTIR	
Episódio 3	MINHATECA 1FICHER MEGA	ASSISTIR	
Episódio 4	MINHATECA 1FICHER MEGA	ASSISTIR	
Episódio 5	MINHATECA 1FICHER MEGA	ASSISTIR	

content on link sites with commission payments.

The chart overlaid illustrates the typical process for those seeking to video content from a cyberlocker. As cyberlockers do not typically provide a search facility for content held on the site, access might begin through the use of a search engine, by searching for the film or television series title along with a cyberlocker's name, such as

'Turbobit,' or 'tumi.tv' or a typical piracy search modifier such as 'download' or search. The results of such a search may lead a user directly to a cyberlocker, or, as shown, may lead to a cyberlocker link site. Experienced users might directly access their favorite cyberlocker link site, instead of relying on search engine results.

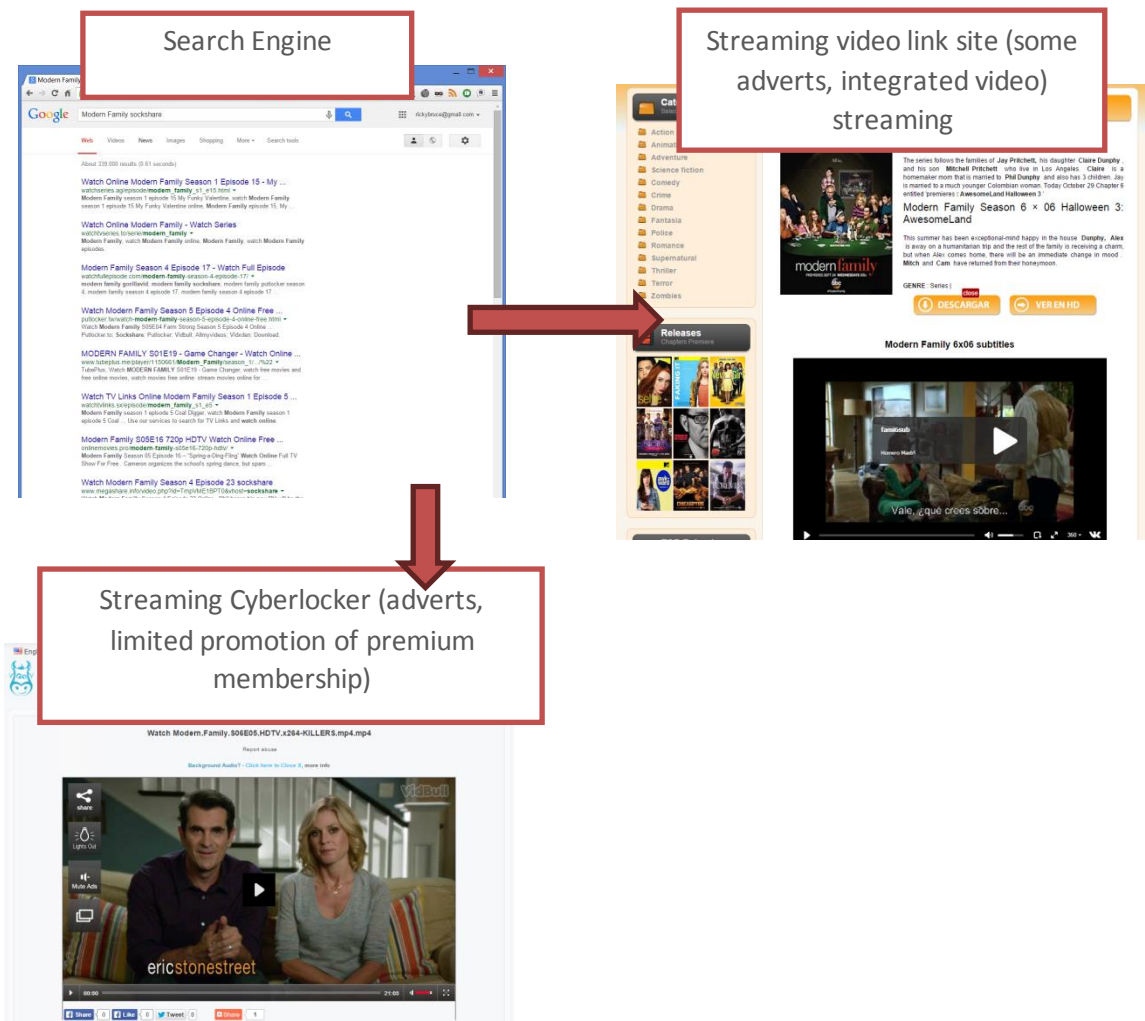
Cyberlockers provide hosting of a variety of different content types, including video, but typically do not allow direct linking to content, except when viewing video streams (discussed in the next paragraph). Therefore when a user follows a download link to a video that is held upon a cyberlocker, he or she must first navigate through an interstitial page. These typically feature advertisements, captchas or download countdowns that often promote a site's premium membership scheme. Such premium memberships may allow users unrestricted access to content held on the site's servers, higher speeds or larger upload limits.

In the example above, 'free download' redirects users to an interstitial page that again advertises the site's faster downloads available through the premium membership, as well as requiring users to complete a captcha and view a number of different advertisements before granting access to the file. Those choosing the premium download are instead sent to a subscription page offering various payment methods, including Visa or MasterCard, or via SMS,



before initiating a high speed connection.

In contrast streamed content can often be smoothly integrated into a variety of streaming link sites and communities, creating user-friendly repositories of pirated video content. In the example below a user can view the episode of *Modern Family*, within a player embedded into the page, without leaving the streaming link site. If any particular link has been removed or deleted by rights holder action, a range of other links will be available. Clicking on any of these alternatives, loads the new content link within the existing page with no requirement to visit an external link, or even refresh other elements of the page. Users can also view the next episode in a series simply by clicking the 'next' button.



This creates a consistent, dependable and repeatable experience for streaming video site users, as users are able to consume content in a largely passive process that requires little management or intervention to run smoothly.

Revenue Generation

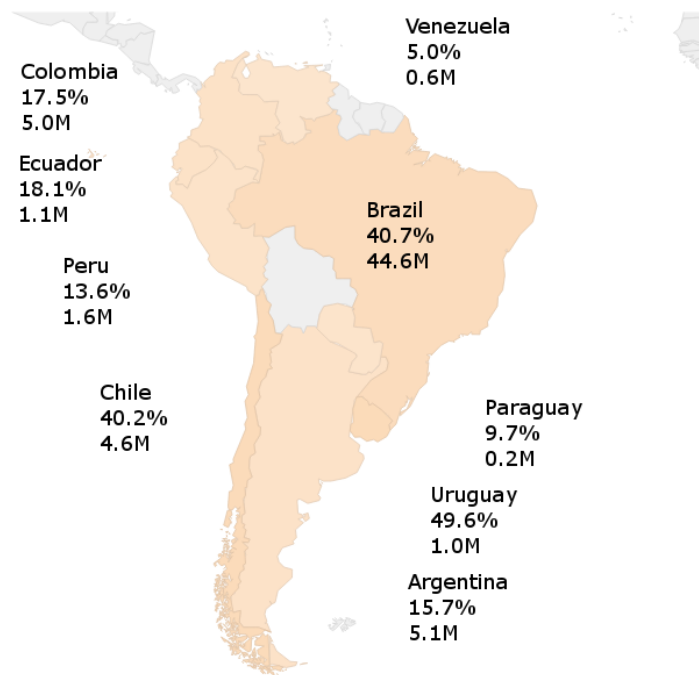
Cyberlocker predominantly rely on a mix of premium membership fees, advertising revenue from pop ups and banner ads or the use of malware-laden third party download tools, to fund their operations. Given the popularity of such sites in South America, it is likely that a significant proportion of this revenue is sourced from the activity of users within that region.

Regional usage breakdown

On average **28.2% of the South American internet user base engaged with the cyberlocker ecosystem**, compared to a global rate of 17.1% estimated by NetNames in 2013. It is clear that the cyberlocker world presents an attractive venue for South American internet users, who are able to take advantage of many features of the ecosystem that make it well suited to local network conditions.

28.2% of South American internet users using

South American users are able to draw upon a broad swathe of supporting link sites, blogs and forums, many presented in Spanish or Portuguese and providing **content designed for the South American audience**. Video content is frequently offered in sizes and or via bitrates that are lower than that at a typical internationally popular link site, making it suitable for use in areas with lower internet speeds. Additionally, the design of cyberlockers means content can be downloaded in segments, before being recombined for playback, a useful feature when connections may be unreliable. Additionally the legal and enforcement landscape of the region may contribute to the ecosystems popularity. The availability of English language content on many cyberlockers is often heavily impacted

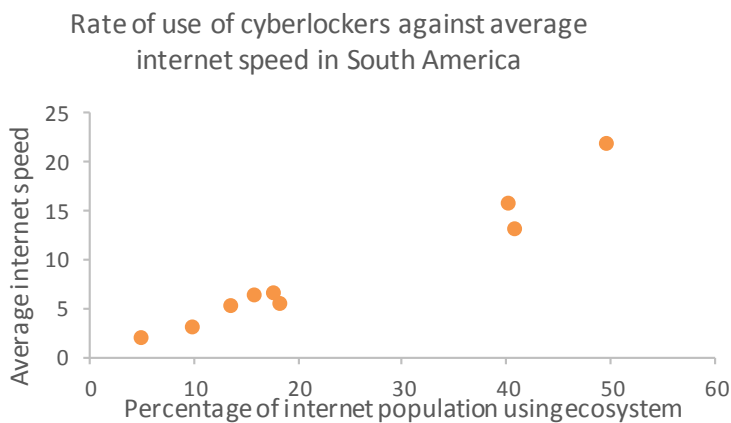


by rigorous takedown and notification programs backed by the strictures of the Digital Millennium Copyright Act (DMCA). As a result, users of link sites in Europe and North America often find their experience disrupted by broken links. The same is unlikely to be true to the same extent in South America, and cyberlockers in the region are likely to benefit as a result.

The below heat map of the South American region shows relative popularity of the cyberlocker ecosystem by tracking the visitors to major link sites across each of the monitored countries.

For each country both the percentage of its internet users and the absolute number of users are shown. It should be noted that the percentage figure indicates the relative popularity of the cyberlocker ecosystem within each country, *not* across countries, in that that it is a measure of those estimated users of the cyberlocker ecosystem, as a percentage of each countries total internet user base.

The **heaviest concentration of cyberlocker usage was found to be in Uruguay** where 49.6% (5.1m) of the countries internet users were estimated to have engaged with the ecosystem. This is certainly a high level of usage, some way



above the global rate of 17.1% but is based on reported traffic levels to sites within the ecosystem according to comScore. It is possible that the measure of Uruguay’s internet user base upon which this estimate was based⁷ undercounts current level of internet connectivity within the country, but in the absence of more current statistics, it can at least be stated with confidence that Uruguayan web users show a strong appetite for content sourced from cyberlockers.

Chile also shows high levels of usage within the ecosystem with 40.2% of the countries internet users estimated to have engaged with cyberlocker sites, again it is possible that the level of Chilean internet adoption on which this estimate is based undercounts the current internet user base significantly and as a result, the subsequent cyberlocker engagement level could be somewhat exaggerated.

In common with peer-to-peer activity, **a strong positive correlation** is seen between a countries average internet speed and the level of percentage of internet users using the ecosystem.

Cyberlocker usage in Venezuela and Paraguay sit at just 5.0% and 9.7% respectively and suggests that even though cyberlockers are by design well suited to usage in in areas with lower internet speeds, there remain some **systemic benefits to increased internet speed** that encourages higher cyberlocker usage as a whole.

There seems little sign of the kind of downward pressure placed on cyberlocker traffic from the twin threats of site blocking and takedown programs in certain other regions of the world. As internet speeds improve across the region, users in South America of cyberlockers are likely to find even greater benefit from the high speed servers on which content is stored and as set top boxes and similar hardware that is able to interface with the cyberlocker ecosystems becomes more common place In users homes there is the potential for even greater growth.

Bandwidth Usage

Across the South American region, the cyberlocker ecosystem, including link sites and host sites was estimated to account for 442.4PB of content that is 56.0% of the estimated annual infringing bandwidth per year and 66% higher than the 265.1PB of content estimated for the peer-to-peer ecosystems. The South American cyberlocker bandwidth of 442.4PB is 23.7% of the 1,865PB estimated for the combined regions of Europe, North America and Asia-Pacific reported by NetNames in 2013 and clearly illustrates the significant popularity of the ecosystem in the region.

Assuming a TV rip size of 700mb, the annual infringing bandwidth equates to roughly the equivalent of **632 million hours of pirated TV content, or to roughly 14.2 hours of infringing video content per individual South American cyberlocker link site user.**

Cyberlockers responsible for 632 million hours of pirated TV

⁷ <http://www.internetworldstats.com/sa/uy.htm>

Visitor Analysis

NetNames conducted a survey of both the cyberlocker link site ecosystem, and the cyberlocker host site ecosystem, measuring the number of visitors to each class of sites. While it could be expected that the audience of both types of sites would be similar in size, treating each separately may provide additional insight into the ecosystem as a whole, providing clues as to the typical journey a user takes from one type of site to another. The results are discussed below and provided in full in the appendix Cyberlocker link sites

In total South American users **made 438.6 million visits** in a single month to sites within the cyberlocker link site ecosystem, out of a global total of 1.2 billion visits over the same period. South American cyberlocker link site users show a strong preference for local language link sites, generally eschewing internationally popular sites in favor of dedicated Spanish and Portuguese blogs, forums and directories. For example, while over **99.2% (2.9m) of Yesfilmes.org's** visitors were sourced from the region and of the top 20 most popular cyberlocker link sites in South America, only two, **Portalnet.cl** and **Seriespepito.com** sourced less than 70% of their visitors from the region with 52.9% and 43.9% respectively.

**438.6 million
Cyberlocker link site
visits in a single
month**

This preference for localized link sites extends quite deeply into the long tail of cyberlocker link sites, and those international sites that do appear generally source a lower percentage of their visits from the region when compared to dedicated local language link sites. For example, internationally popular link site addic7ed.com, sees 13.7% of its visits from the region, however it should be remembered that the region as a whole makes up just 7.9% of the world's internet users and as such is still contributing a comparatively significant proportion of the visits to the site.

South American users of Spanish or Portuguese language cyberlocker link sites are able to locate links to relevant local or subtitled/dubbed international content, on sites that are architected for their particular needs. Such sites can directly target South American users, providing communities built around the provision of infringing links on internationally popular cyberlockers. This same preference for local language link sites is common to many non-English web users, and these networks of local language link sites feed significant numbers of visitors to popular direct download cyberlocker hosts. For example, according to tracking data from comScore, in a single month, just one of these link sites, Argentinawarez.com referred 161,000 of its visitors to popular cyberlocker Depositfiles.org and 100,000 to Uploaded.net. As such this link sites are important revenue drivers for direct download cyberlockers, which rely on a stream of fresh users willing to sign up for Premium membership, or view popup adverts.

**1.7 billion Page views
in the cyberlocker link
site ecosystem**

The 438.6 million visits by South American web users, lead to a total of **1.7 billion page views across the entire ecosystem** in a single month (0.1 billion fewer visits than generated across the entire peer-to-peer ecosystem) against a total worldwide of 4.4 billion views. The total number of unduplicated users generating these visits and page views across the South American region stands at **62.7 million individuals** out of a global unduplicated base of 166.7 million

users. The South American cyberlocker link site is therefore, 36.0% larger than the unduplicated peer-to-peer user base of 46.1 million users and in aggregate the total number of South American visitors to sites across all the sites in the cyberlocker link ecosystem stands at 126.0 million users, a significant chunk of the of 335.1 million users recorded worldwide. The 62.7 million cyberlocker link site users, accounts for

**62.7 million
Individual
cyberlocker link
site users.**

28.2% of the total South American internet base, significantly higher than the 5.9% equivalent measure globally.

Across a number of measures it is clear that, South American internet users are enthusiastic members of the cyberlocker link site ecosystem, but that unlike peer-to-peer users they prefer accessing link sites that provide a Spanish or Portuguese interface to users. This is understandable when comparing the two ecosystems, internationally popular torrent sites tend to follow a very standardised design, featuring the same elements regardless of the particular site, and are likely relatively easy to navigate, even with just limited grasp of English. Link sites on the other hand are often far more varied in design, whether set up as a blog, a forum, or other form of directory, and a user must often be able to read instructions regarding how to access links, use the correct password to access a file, or separately download a subtitle file.



The widespread usage of cyberlocker link sites across the region likely results from a number of elements, with takedown regimes less of a threat to South American content than much English language content, cyberlocker link sites are able to retain working links for a greater period than internationally popular link sites. Additionally, content from these internationally popular sites can be easily repurposed and repacked along with a separate Spanish or Portuguese subtitle file, further increasing the supply of content to these sites.

Cyberlocker link sites, especially those focused on streaming, also require a far lower level of technical understanding from their users, meaning that there are fewer barriers to entry to new and inexperienced infringing users. With fewer legitimate viewing options available to many South American web users when compared to Europe or North America, the decision to move towards infringing content, may be morally easier to justify, especially in areas that may have a long history of street vendors selling unlicensed DVD's or widespread broadcast piracy via FTA devices. Any new infringing users are likely to migrate primarily to the simplest methods of accessing content online, which will often be cyberlocker content, via link sites. As connectivity in the region increases, further growth in the cyberlocker link site ecosystem can be expected absent significant improvement of legitimate content provision, or legal development such as site blocking.

Cyberlocker Hosts

In total South American users **made 145.1 million visits** in a single month to sites within the cyberlocker host ecosystem, out of a global total of 1.2 billion visits over the same period. The importance of South American visitors to particular sites varies significantly, for example just 8.2% (0.8m) of visits to LetitBit.net were sourced from South American visitors, while over 95.8% (3.1m) of Minhateca.com visitors were sourced from the region. However, of the top 20 cyberlocker host sites around 25.5% of all visits were source from South American users. While this may seem a relatively modest contribution to visits on first glance, placing it in context of the size of the South American internet user base demonstrates the significant appetite for cyberlocker content in the region. South American internet users account for just 7.9% of the world's internet population, and it is clear that they represent a disproportionate element of the total visits to the most popular sites. This effect is less noticeable, but not absent, over the wider ecosystem, where South American users account for 11.8% of the visits to cyberlocker hosts.

South American users were responsible for over 655.9 million page views in a single month to cyberlocker host sites compared to a 5.5 billion page views worldwide, undertaken by 23.5 million unduplicated South American users, out of a total 199.1 million worldwide. This is 49.0% smaller than the 46.1 million peer-to-peer users and 62.5% smaller than the 62.7million cyberlocker link site users. Measuring aggregate visitors to each site within the ecosystem (that is a simple sum of all visitors to each site) reveals South American users make up 15.0% (54.8m) of the total 364.8m visitors.

It is possible that this level of visitors, visits and page views is partially undercounted, by virtue of the way in which streamed content is embedded within the page of many link sites. Tracking services such as comScore may not accurately track such streams and as such, the levels of usage shown in this report should be seen as a lower bound of usage. Actual cyberlocker host usage is potentially closer to that seen in the cyberlocker link world. A proportion of the visitors to cyberlockers will also be sourced from direct referrals from search engines, rather than from cyberlocker link sites. It is not possible to break out regional or country specific referral data from comScore, but for example 3.6% of incoming traffic to cyberlocker host site flashx.tv came from Google according to data from comScore, of which an unknown percentage will have come from South American users.

Reviewing such referral data suggests that Cyberlocker link sites remain the primary driver of visitors to cyberlocker host sites and these local language sites deliver large numbers of South American visitors to cyberlocker hosts that are typically the same sites popular with international audiences. While some sites, such as Minhateca, offer hosting specifically designed for South American audiences, this is the exception rather than the rule. Cyberlocker host sites are structurally simple, and while some effort is required to avoid clicking on the fake ad supported download buttons found on many hosts, understanding a few words of English such as 'Download', or 'Click Here' are likely to suffice.

As new internet users come online across the region, increases in the use of simple to navigate, local language cyberlocker link sites will naturally lead to subsequent increases in the use of cyberlocker host sites. The simplicity of the ecosystem as a whole, combined with the high speed servers provided by internationally popular hosting sites presents an attractive venue for piracy for new and experienced pirates alike.

Live IPTV rebroadcast

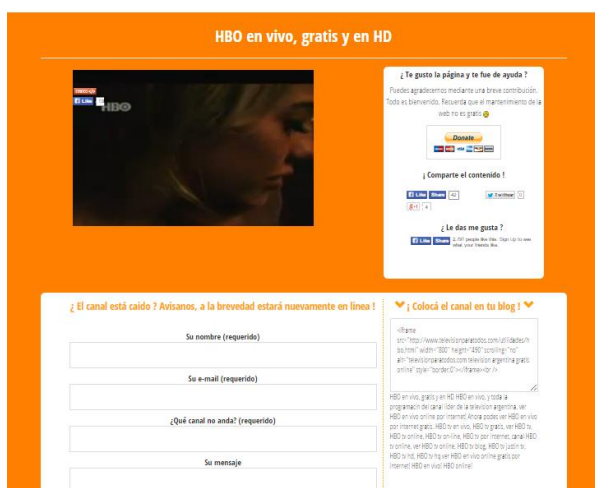
This report has clearly demonstrated the threat posed to rights holders and broadcaster by those sites and services in the peer-to-peer and cyberlocker world, enabling unlicensed sharing of Film and TV content. However, another class of site poses another potential problem to those hoping to secure the value of their creative content. Live TV content, such as sporting events, including football matches, and premium content channels, such as HBO or similar are also subject to infringement. Rather than record the event and make it available for download or streaming at a later date, Live IPTV rebroadcast sites take advantage of specific capturing and streaming technologies that allow immediate re-streaming of captured content.

Technical Briefing

In a region where FTA based broadcast piracy is a growing concern, Live IPTV rebroadcasting presents an additional web based threat to the abilities of rights holders and broadcasters to legitimately distribute content across the region.

The sites operate worldwide, but due to regional popularity variations for many types of content, most sites tend to focus on channels from a particular region. Within those sites popular in the South American region, these are primarily premium Spanish or Brazilian Portuguese-language movies, sports and entertainment channels, that are traditionally broadcast over such as Satellite or Cable, and protected by hardware based protections. The streams themselves may be sourced from these broadcast television sources, or legitimate online simulcasts of certain channels. These are typically captured using ‘lossy’ techniques that take advantage of the ‘analogue hole’, such as screen capture, or through lossless techniques such as utilising an HDMI capture device.

The captured content is then rebroadcasted around the web, either by taking advantage of RTMP casting sites such as **jjcast.com**, which provides an embeddable player and acts to lessen the load on those rebroadcasting content, or through other web based live streaming sites such as **veetle.com** which are more commonly used for legitimate user generated content.



The streams are then embedded in a variety of different web pages and blogs that typically feature rebroadcast versions of various popular content channels. For example on **televisionparatodos.com** users can choose between a host of different channels, including DirecTV Sport and HBO. The site offers standard definition streaming to free users and this performs as promised with little sign of buffering. The site also claims to offer an additional HD tier of service for those who sign up for a premium membership, but this ultimately leads users to a scam video service that fails to deliver the content promised.

Revenue generation

In order to generate revenue, Live IPTV rebroadcast sites rely on traditional web advertising relationships, serving popups and banners ads to their users as well video overlays that play before streaming begins. Additionally, some sites will claim users must install a specific codec or software in order to enable playback. Such applications typically also install unwanted adware or malware, much like that found within other piracy ecosystems. Previous experience with the providers of such applications suggests they are willing to pay website owners thousands of dollars in order to install their software.

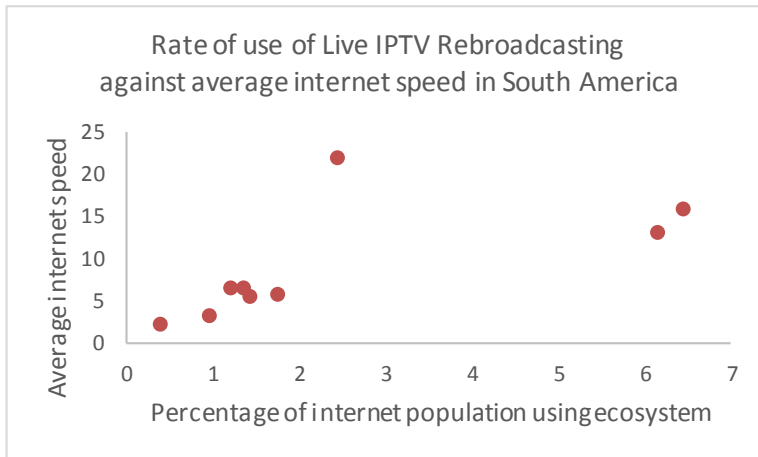
Regional usage breakdown

The below heat map of the South American region shows relative popularity of the Live IPTV rebroadcasting ecosystem, across each of the monitored countries.

For each country both the percentage of its internet users and the absolute number of users are shown.

It should be noted that the percentage figure indicates the relative popularity of the Live IPTV rebroadcasting ecosystem within each country, *not* across countries, in that that it is a measure of those estimated users of the Live IPTV rebroadcasting ecosystem, as a percentage of each countries total internet user base.

This approach offers some advantages over a simple country by country comparison, which would always be skewed towards those countries with the largest internet audiences. In this fashion it is possible to compare the popularity of an ecosystem across countries of varying internet audience sizes.



In order to calculate ecosystem size in each country, a measure was calculated of the overall ecosystem size across the entire South American Ecosystem, based upon World Metrix data from comScore. Against this, the country specific audience to a range of sites in the Live IPTV rebroadcasting ecosystem was measured using data from comScore. In this way it was possible to make an estimate of the overall ecosystem size in each country, which in turn could be compared to each countries total internet population.

In total 3.9% of the total South American internet user base was estimated to engage with the Live IPTV rebroadcast ecosystem. This is the first time that NetNames have estimated the size of this element of the piracy universe and as such no comparative figures are available from previous years.

The nature of the rebroadcasting world makes it difficult to track certain sites and services. Content, such as live streams of football matches frequently appears on link sites for short periods, before being removed from the site by its operator. As such, it is possible that NetNames’ survey of the Live IPTV rebroadcasting landscape did not capture every single popular link or host site. As monitoring capabilities improve, it is likely that measured levels of engagement with the ecosystem will be seen.

The heaviest concentration of Live TV usage was found to be in Chile where 6.5% (0.7m) of the countries internet users were estimated to have engaged with the ecosystem, followed by 6.2% (6.8m) if Brazil’s internet audience. While levels are generally lower outside of these areas, there remain a sizeable minority of users who watch content on Live IPTV rebroadcasting sites, and this proportion could grow significantly if improvements to web infrastructure are not also met by improved access to legitimate only content providers.



The chart to the right demonstrates the largely positive correlation between a countries average internet speed and engagement with the Live IPTV rebroadcasting ecosystem. While not as clear a correlation as either the cyberlocker or peer-to-peer ecosystems, the evidence suggests that those countries with higher average internet speed also contribute a greater percentage of their internet audience to the rebroadcasting world. Venezuela, Paraguay and Peru, the three countries with the lowest internet speeds in the region, contributed just 0.4%, 1.0% and 1.4% of their total internet user base respectively.

Bandwidth Usage

Across the South American region, the Live IPTV rebroadcasting ecosystem was estimated to account for 82.3PB of content that is 10.2% of the estimated annual infringing bandwidth across the region per year and 69.0% lower than the 265.1PB of content estimated for the peer-to-peer ecosystems and 81.4% lower than the 442.4PB of content estimated to be shared for the cyberlocker ecosystem. No previous estimation of the rebroadcasting ecosystem's bandwidth consumption has been undertaken and as such, historical comparisons are not possible in the same way as they are for peer-to-peer and cyberlocker ecosystems.

Assuming a typical streaming speed of 500 kilobits per second, then in an hour then the total size of a single broadcast would be roughly 1,800,000 kilobits.

On this basis, the annual infringing bandwidth equates to roughly the equivalent of **366 million hours of pirated TV content, equating to roughly 29.0 hours of infringing video content per individual South American Live IPTV rebroadcast link site user.**

**366 million
hours of
pirated live TV**

Visitor Analysis

NetNames conducted a survey measuring the number of visitors to the Live IPTV rebroadcasting ecosystem. The results are explored below and summarised in the appendix.

The makeup of the top 20 Live IPTV rebroadcast sites in South America shows a heavy preference for local language sites with 12.1 million of the 15.0 million visitors to the top 20 Live IPTV rebroadcast sites sourced from the South America region. This is to be expected given that the majority of internationally popular Live IPTV rebroadcast sites do not feature a great deal of content attractive to South American users.

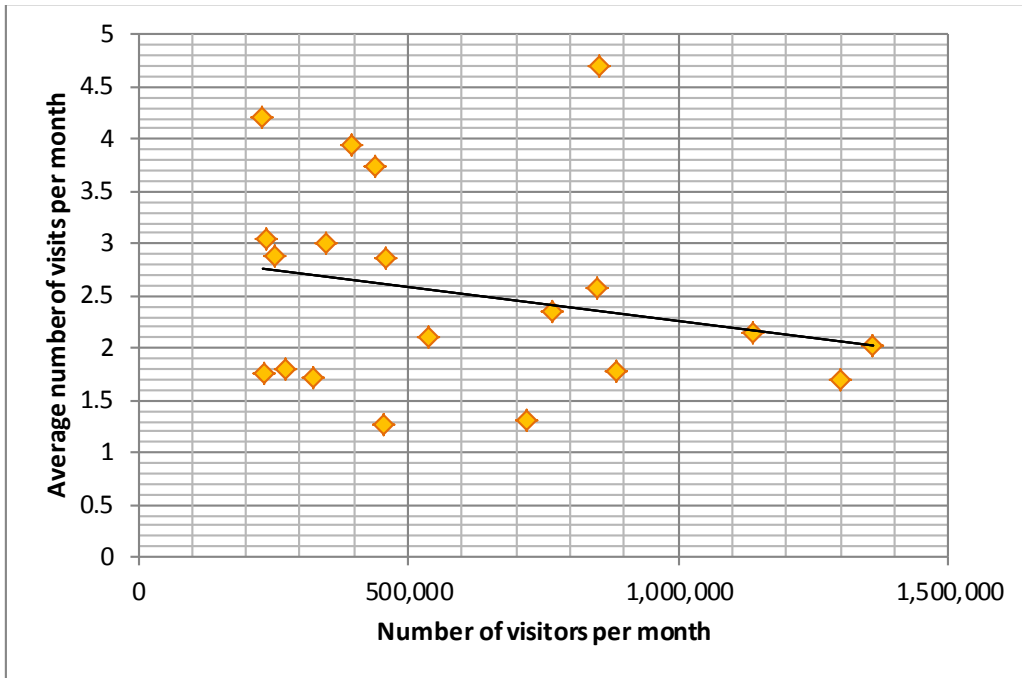
When looking at the unduplicated visitors to the top 20 Live IPTV rebroadcast sites, South American visitors to the top 20 sites make up 6.7 million of the 9.8 million unique visitors sourced to the region. These users, which total estimated 5.44% of the South American internet audience accounted for a total number of 28.90 million visits to the top 20 Live IPTV rebroadcast. Across the entire ecosystem, 8.7m unduplicated visitors make a total of 34.5 million visits to rebroadcasting sites, significantly below the 438.6m visitors over the same period to cyberlocker link sites, the 145.1m visits to cyberlocker link sites, or the 270.6m visits in the peer-to-peer ecosystem. Additionally these unduplicated visitors accounted for 135.4 million page views in a single month.

It is likely that the simplicity of the technology and its similarity to the legitimate experience make Live IPTV rebroadcasting an attractive experience to novice users.

The importance of the South American audience to the wider Live IPTV rebroadcast site ecosystem is less pronounced, but still significant, contributing 8.6 million unduplicated users from a total of 12.6 million.

Many sites within the Live IPTV rebroadcast ecosystem add and remove content in a dynamic fashion that differs from that on other web based piracy ecosystems. Links to content will be added and removed regularly and streams can frequently switch between channels. As such it is possible that some sites which do occasionally feature potentially infringing content are not included in this analysis.

Interestingly the data suggests a slight negative correlation between the number of visitors to a site per month, and the number of times each of those visitors visited. While this might suggest that the more popular sites are only used infrequently, the variance within the data is such that it is challenging to draw firm conclusions.



4. Sizing the total South American Piracy Universe

While separate South American ecosystem audience figures have already been reported earlier in this report, any attempt to calculate the size of the South American piracy universe must start by understanding that many piracy users will not exclusively use a single site or even ecosystem. For example, a user might access one TV show via streaming cyberlocker whilst downloading a complete series via BitTorrent for later consumption. By collating the total unduplicated visitors, according to comScore, to all of the piracy venues monitored by NetNames, it is possible to account for the effect of those users who might use more than one site to access content.

This figure shows the total worldwide piracy universe but does not separately report the total audience across South America. However, it is possible to measure how much of the aggregate traffic to each of the sites monitored ultimately came from South America, and work out the total proportion of traffic that each category contributes to the world-wide aggregate traffic total. Alongside calculating the proportion of traffic sourced from South America in each of the monitored piracy ecosystem categories, it is possible to calculate an estimate for the total South American audience to all of the various piracy ecosystems monitored.

However, it is still necessary to account for those users that might be accessing non-infringing content upon these ecosystems. Previous analysis by NetNames calculated plausible estimates for each of the ecosystems monitored in this report, besides Live IPTV rebroadcasting. In this case, the Live IPTV Rebroadcast sites included in this analysis overwhelmingly feature infringing content and, as such, all traffic to these sites can be considered infringing.

110.5m users in the South American Piracy Universe

Accounting for those potential non-infringing uses of the ecosystems produced a final figure of **110.5m unique users**, representing the total piracy universe size in South America across the peer-to-peer cyberlocker, and Live IPTV rebroadcasting ecosystems.

With the total South American internet user base believed to be around 222.3m as of the end of 2013, this means that around 49.7% of all internet users within the region are likely to have engaged in some form of piracy across the various monitored ecosystems, a considerable proportion when considering the underdeveloped nature of the internet architecture in many areas. As internet access rates and speeds increase, rights holders face even higher levels of infringing usage, absent a significant shift in public attitudes to piracy.

49.7% of South American internet users engaged in piracy

5. Country level analysis

This section of the report analyses the usage of the three recorded piracy ecosystems across the nine monitored South American territories. These usage figures are based upon the same mix of comScore World Metrix and country specific data as was used to calculate the regional usage breakdowns per ecosystem, in section 3 of the report, however in this instance data is segmented across countries.

When interpreting the results of this section of the report, it is important to keep in mind the wider demographic background against which these results take place. Population size and internet penetration rates, shown below, vary greatly across territories and as such, the specific infringing usage profile of each country should be viewed through the lens of the current local internet state and potential future reality.

It has not been possible to secure accurate infringing bandwidth usage data at the level of individual country. Were this available, it would be a useful dataset against which to present this regional analysis.

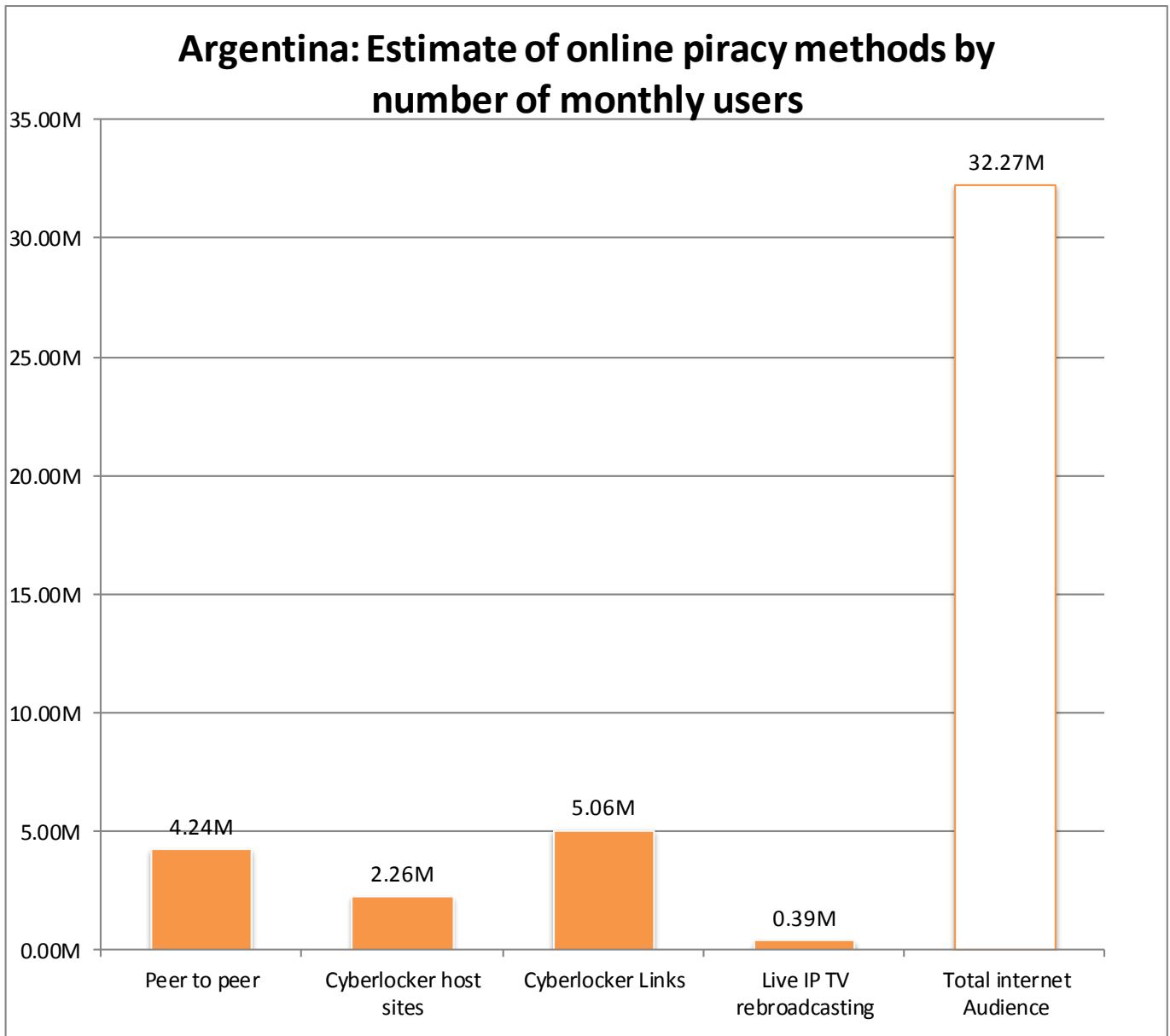
South American Population and Internet Penetration

	Population	Internet Usage,	Internet Penetration Rate
Argentina	43.0M	32.3M	75.00%
Brazil	202.7M	109.8M	54.17%
Chile	17.4M	11.5M	66.50%
Colombia	46.2M	28.5M	61.58%
Ecuador	15.7M	6.3M	40.35%
Paraguay	6.7M	2.5M	36.90%
Peru	30.1M	11.8M	39.20%
Uruguay	3.3M	1.9M	58.10%
Venezuela	28.9M	13.0M	45.01%
Other SA countries	12.2M	4.7M	38.79% (Average)

(Source Internetworldstats⁸)

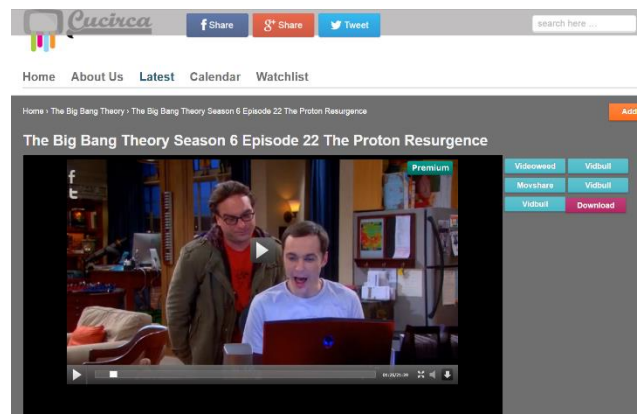
⁸ <http://www.internetworldstats.com/stats15.htm>

Argentina



Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

The above chart illustrates the popularity of the cyberlocker link sites ecosystem within Argentina. Sites such as Argentinawarez.com (now fiuxy.com) are specifically designed for an Argentinian audience, featuring content attractive to that audience, and as such have managed to attract over 13.1% of the country's 32.27 million internet users. However, interestingly, in common with the rest of the region, this is not reflected in a one to one user ratio, between cyberlocker link sites and cyberlocker host sites,



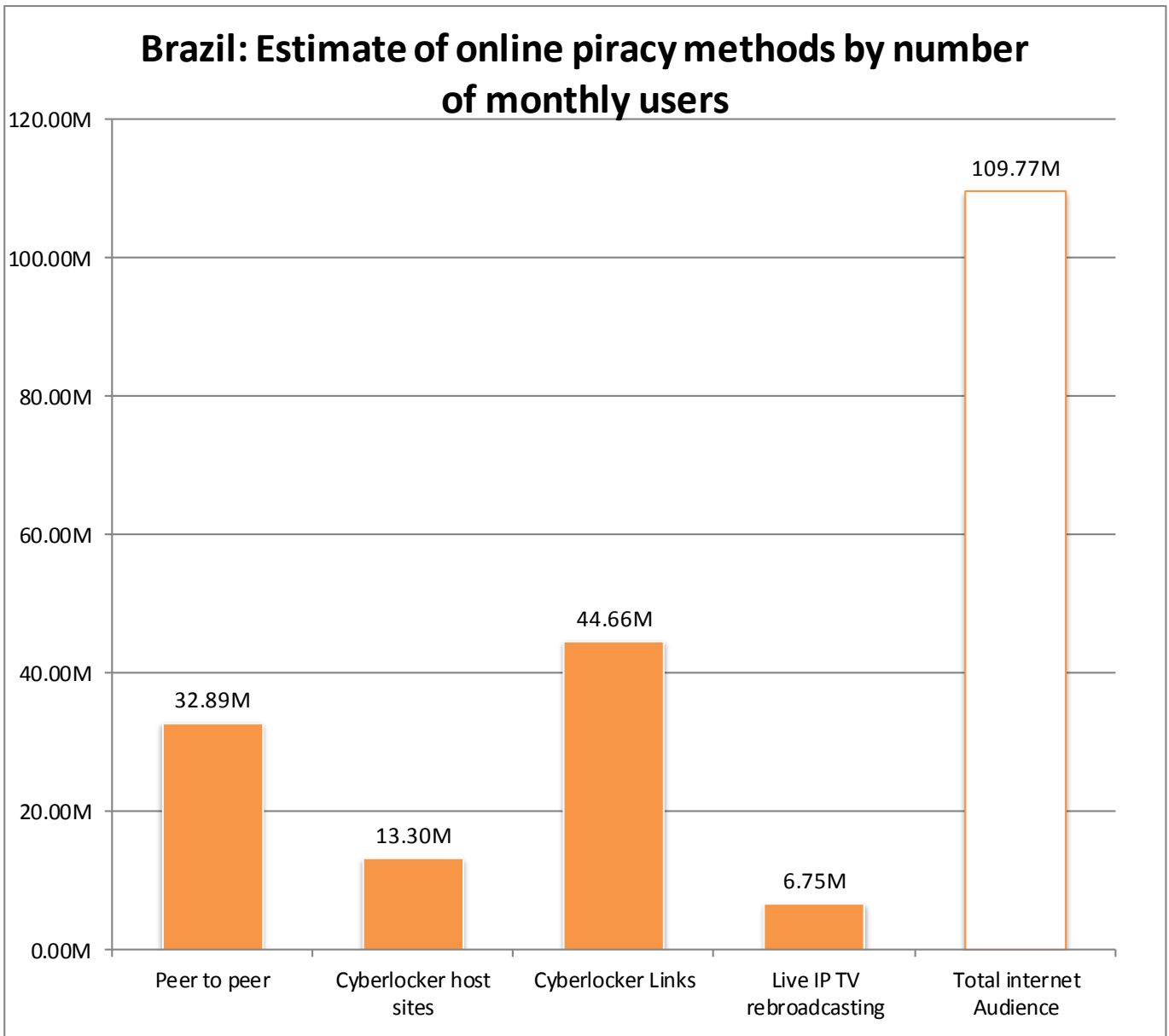
with only 2.26 million visitors to cyberlocker hosts sites. It is possible that some number of cyberlocker users do not move onto host sites when viewing content. comScore's system of measuring traffic movement from one site to the other relies on traffic web browser activity clearly drawing a line from one site to another/It is possible that some portion of link site users, particularly those using streaming link sites may access the content without ever leaving the link site within the browser, thanks to the ability embed video streams within a frame of the streaming link site. For example, a user of cucirca.eu can view numerous video streams for a single episode of Big Bang Theory without transferring away from the link site, and may not therefore be tracked by comScore. It is also possible that some number of link site visitors moved from that ecosystem onto another host site that was not included in our monitoring, either by virtue of that site not being discovered by NetNames during its period of data collection, or by viewing content on services not traditionally associated with piracy. Some limited amount of infringing content is posted to services such as Google Video, but such activity would not be recorded under the category 'cyberlocker host' due to the difficulty of distinguishing infringing usage from legitimate usage.

The peer-to-peer ecosystem within Argentina can claim significantly more users than the cyberlocker host site ecosystem, accounting for 4.24 million, thanks to significant BitTorrent portal and Ares network usage. During testing of the Ares network, Argentina accounted for 11.7% of all captured IP addresses

The Live IPTV rebroadcasting ecosystem recorded relatively low amount of users at just 0.39 million, however, this is in line the usage seen across region, and may be a sign of systemic issues that make accurately tracking usage of the ecosystem difficult. The ecosystem is incredibly dynamic and transient, especially with regards to live sporting events and as a result, the pages linking to and hosting content can come and go over the course of minutes and hours. Additionally, many of these pages are posted on popular blogging platform, making it impossible to track that traffic accurately.

As a nation with a relatively mature internet infrastructure, Argentina already benefits from the highest levels of internet connectivity of any of the monitored countries in this report, with over 75% of the population believed to have access to some form of connection. However, average internet speeds within the country were just 6.15Mbps at the time this report was produced only the fifth highest speed in the region and as such over the mid to long term, rights holders can expect any further improvements in Argentina's internet speeds to be matched by increases across all of the key piracy ecosystems, especially if measures such as the so called 'Netflix tax' in Buenos Aires serve to dissuade the launch of other legitimate online content providers.

Brazil



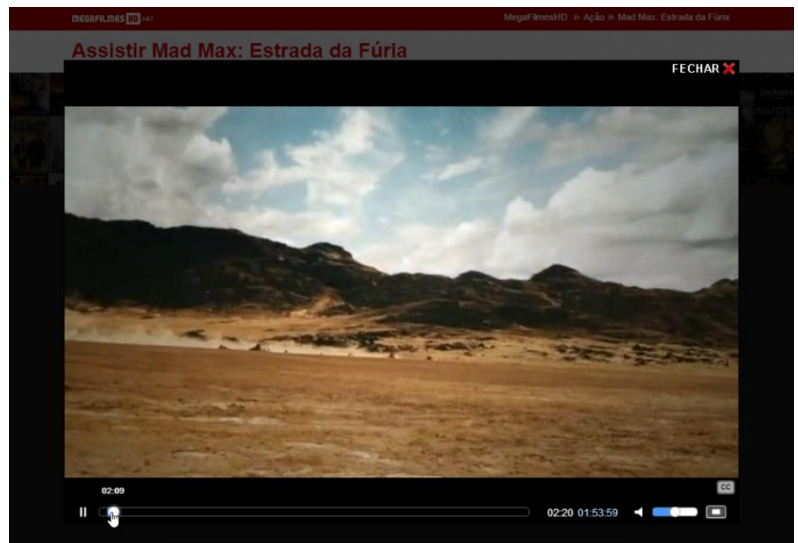
Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

The chart above reflects the massive appetite for pirated video content within Brazil, with 40.7% (44.66m) of the nations’ internet users found to use the cyberlocker link site ecosystem, predominantly via a number of specialist Brazilian language portals that cater specifically to Portuguese speaking audiences. For example over 10.1 million monthly Brazilian visitors were recorded to the streaming link site Megafilmeshd.net, and a further 6.3 million to Filmesonlinegratis.net, both sites featuring streaming links of a huge amount of Portuguese subtitled and dubbed film and TV content. These sites also embed content within a frame of the original link site, and these likely accounts for at least some of the 31.36m lost users between the cyberlocker link site and host site ecosystems. Despite this, Brazilian internet users predominantly prefer internationally popular cyberlocker host sites, for example, around 2.3 million Brazilian visitors accessed Bitshare.com in a single month.

Brazilian internet users are also able to take advantage of a limited number of Portuguese language cyberlockers such as Minhateca, which attracted 2.1 million Brazilian web users over a single month, providing a mix of streamable and downloadable content.

Brazilian web users, who typically have high levels of understanding of spoken Spanish when compared to the average Spanish speaker's understanding of spoken Portuguese, are also able to leverage pirated video content in the Spanish language in a way that is not matched by their local neighbors.

The Brazilian peer-to-peer landscape attracts 32.89 million of the country's 109.77m internet users, including across a mix of both internationally popular torrent portals, and dedicated Portuguese language sites. Brazil also accounted for around 40.1% of logged Ares network connections, a higher percentage than the other eight monitored countries.

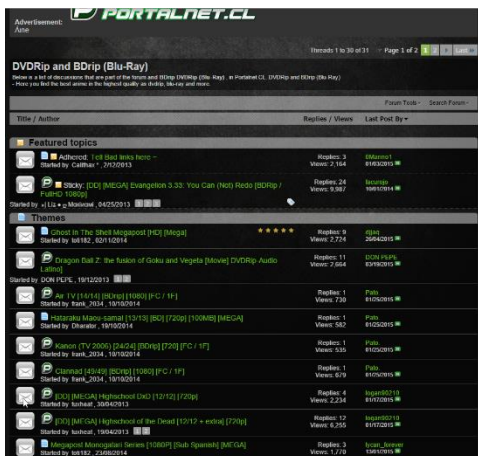
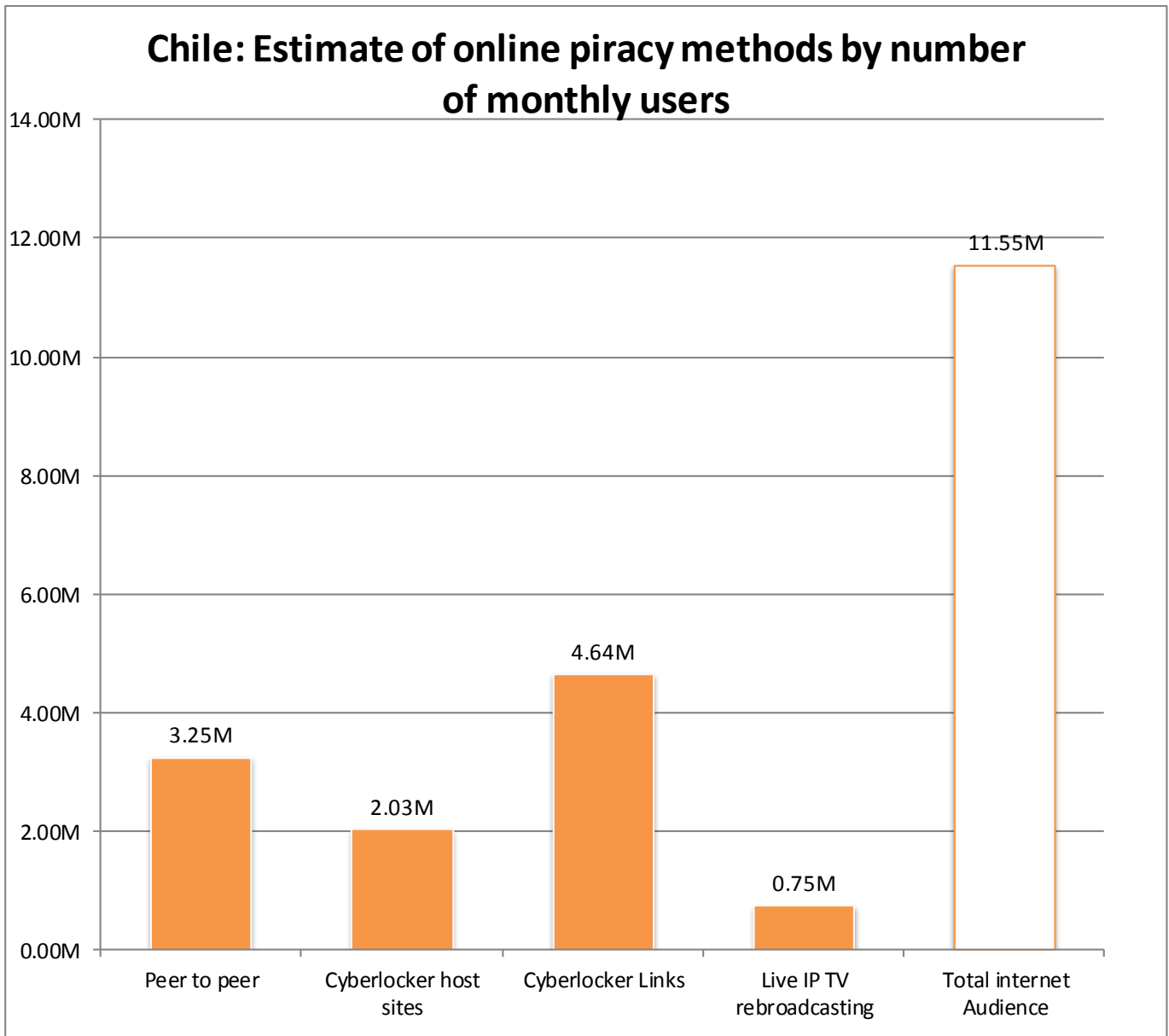


Live IPTV rebroadcasting of premium sports and movie content saw 6.75 million users in a single month, accessed by 6.2% of the country's total internet users, the second highest percentage usage level seen across the region. Brazilian rebroadcasting sites have access to a range of dedicated Portuguese language sites, such as assistirtvbr.tv, which saw 1.4 million users in a single month features various live rebroadcast channels of Alianza member content. In general, Portuguese rebroadcasting users make little use of internationally popular sites such as wiziwig.tv.

Despite contributing the greatest absolute amount of internet users across the region, the most populous nation in South America has the 5th lowest internet penetration rate across the nine monitored nations at 54.1%. Many areas of the country remain underserved by internet networks, but with improving network infrastructure remaining a priority for the Brazilian government,⁹ additional broadband capacity from new Satellite and undersea cable links will come online. This improved capacity could have an impact on a number of piracy ecosystems. If network coverage is expanded to include greater numbers of web users without significantly improving download speeds across the nation, a modest increase in users of the peer-to-peer ecosystem might be expected, as users take advantage of the ability of BitTorrent and Ares to delivery content in piece meal over slow network connections. However, should improvements in the breadth of broadband coverage also be matched by increased speeds across the region, more substation increases in the usage of cyberlocker link and host sites can be expected, as the ecosystems low barriers to entry and technologies such as adaptive bitrate streaming provide opportunities for growth.

⁹ <http://www.zdnet.com/article/internet-projects-avoid-brazil-budget-cuts/>

Chile



Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

The Chilean video piracy landscape is one dominated by the cyberlocker ecosystem, with 40.7% (4.64m) of an estimated 11.55M total internet audience, taking advantage of content posted to country specific general forums such as Portalnet.cl as well as other Spanish language portals such as Argentinawarez.com. However only 12.1% (2.03m) of Chile’s internet user base feature as visitors to one of our monitored cyberlocker hosts sites. This suggests that either the survey of the cyberlocker host sites used by Chilean’s was not as comprehensive as hoped, that certain use video streams were not adequately tracked by Chilean cyberlocker users, or that a proportion of Chilean link sites users went on to view content at sites

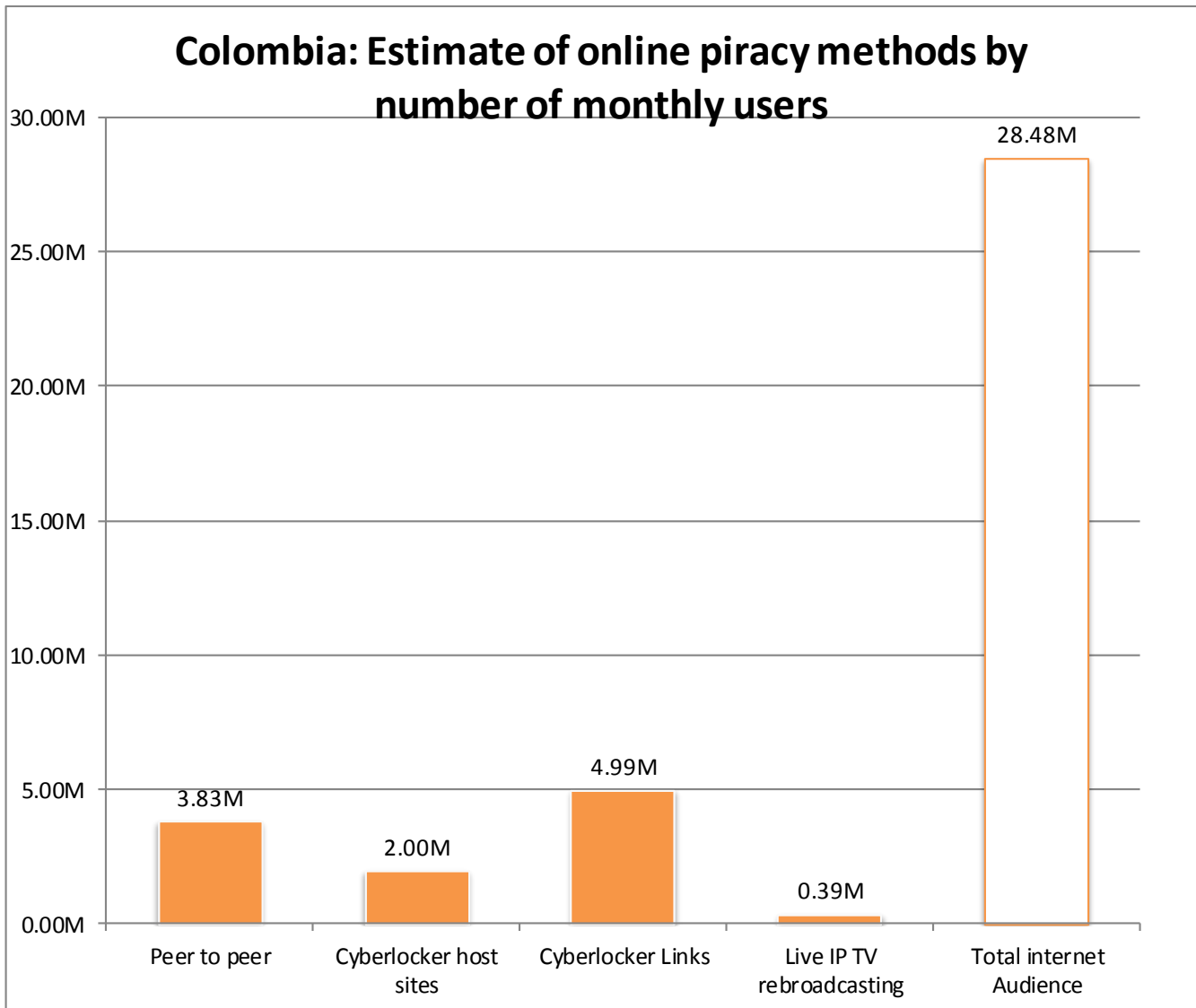
that would not traditionally be called cyberlockers.

28.2% of the countries internet users are engaged with the peer-to-peer landscape, significantly boosted by high levels of Ares usage. During testing over 13% of detected infringing Ares users were found to be using Chilean IP addresses, despite accounting for only 5.2% of total internet users in the region.

Live IPTV rebroadcasting of premium sports and movie content saw 0.75 million users in a single month, accessed by 6.5% of the country's total internet users, the highest percentage usage level seen across the entire region.

With the second highest level of internet penetration across the region, Chile also boasts the second highest average internet speed across the region at 15.61Mbps and the ability to access content at higher speeds has led to both high relative levels of infringement, but equally created environments in which legitimate content provision can be introduced. According to estimates, around 2% of Chile's internet population subscribed to Netflix in 2014, roughly in line with proportion of Brazilian internet users subscribed to the streaming service. However, this still sits some way below the roughly 13% level of Netflix usage found amongst US internet users, suggesting significant potential for further growth the Chilean legitimate video distribution market.

Colombia



Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

The above chart shows that Colombian cyberlocker link site users currently make up a relatively small percentage of the overall Colombian internet user base, with just 4.99 million users (17.5%) out of a total of 28.4 million. This is still more than double the 2.00 million users which make up 7.0% of the cyberlocker host site ecosystem. Certain internationally popular download or streaming host sites attracted significant local audiences within Colombia, which sites such as Mediafire.com and Videomega.tv received 0.5 million and 0.2 million users respectively.

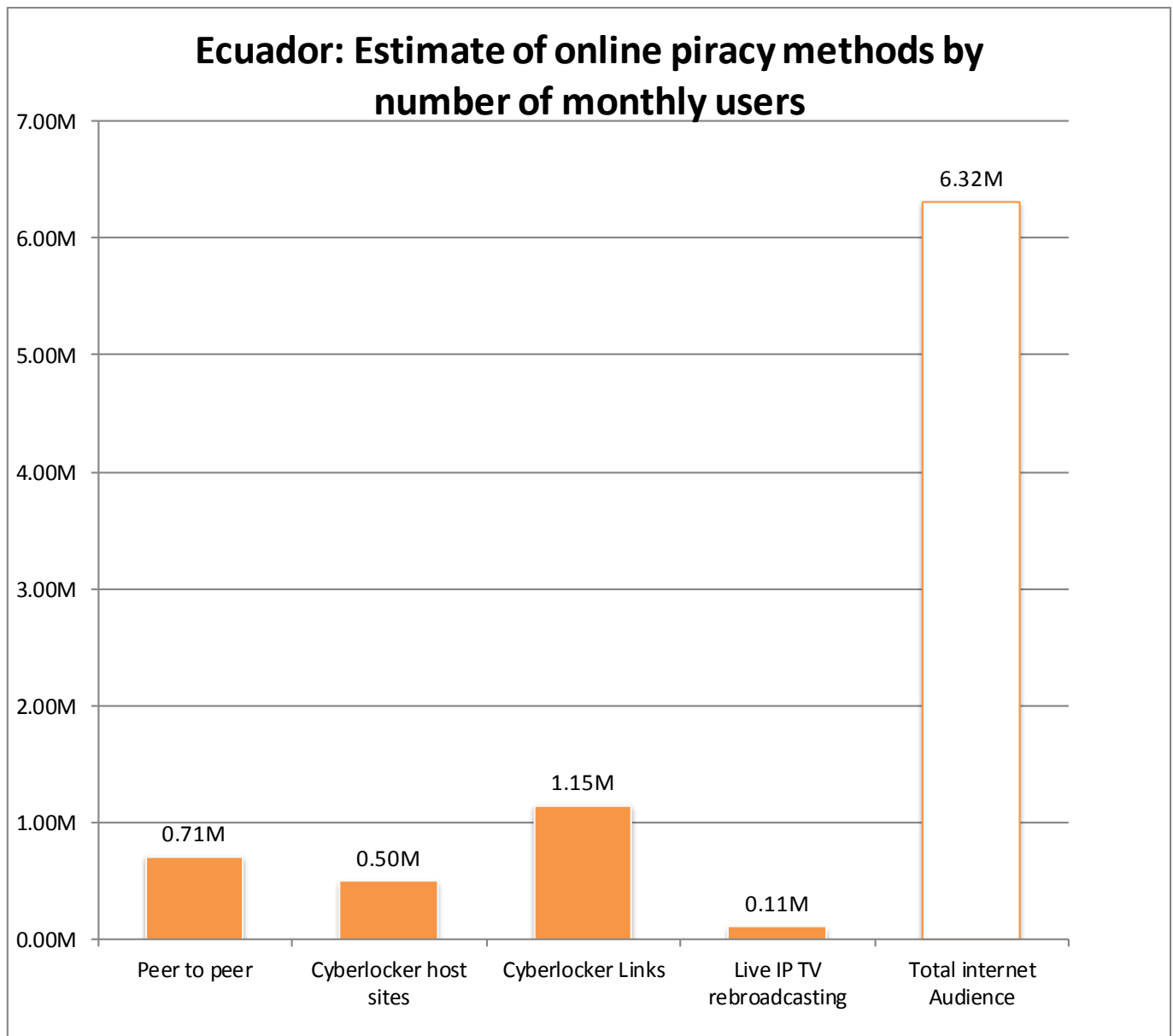
The Peer-to-peer ecosystem attracted 3.83 million users within Colombia, having attracted 13.5% of the country's total user base, built upon an appetite for internationally popular BitTorrent portals such as ThePirateBay or KickassTorrents as well as limited usage of Spanish language torrent portals such as Mejortorrent.com.

Live IPTV rebroadcasting of premium sports, TV and Film content saw 0.39 million users in a single month, accessed by 1.5% of the country's total internet users, the highest percentage usage level seen across the entire region.

While Columbia boasts the third highest level of internet penetration across the region, the average internet speed across the region is just 6.36Mbps and as such, the country retains significant opportunity for growth in both the legitimate and infringing content distributions world. With Facebook heading up efforts to provide free access over 2G and 3G networks to a limited number of sites via the Internet.org service¹⁰, future internet user growth, outside of this scheme may be dampened. Additionally, with users able to get access to some of a number of popular sites, growth in infringing usage may be slower than otherwise expected. In the longer term, the Internet.org project may serve to feed greater numbers into the infringing world, as a larger swathe of the Colombian public become accustomed to internet usage and eventually subscribe to a full unrestricted service.

¹⁰ <https://en-gb.internet.org/press/internet-dot-org-app-launches-in-colombia>

Ecuador



Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

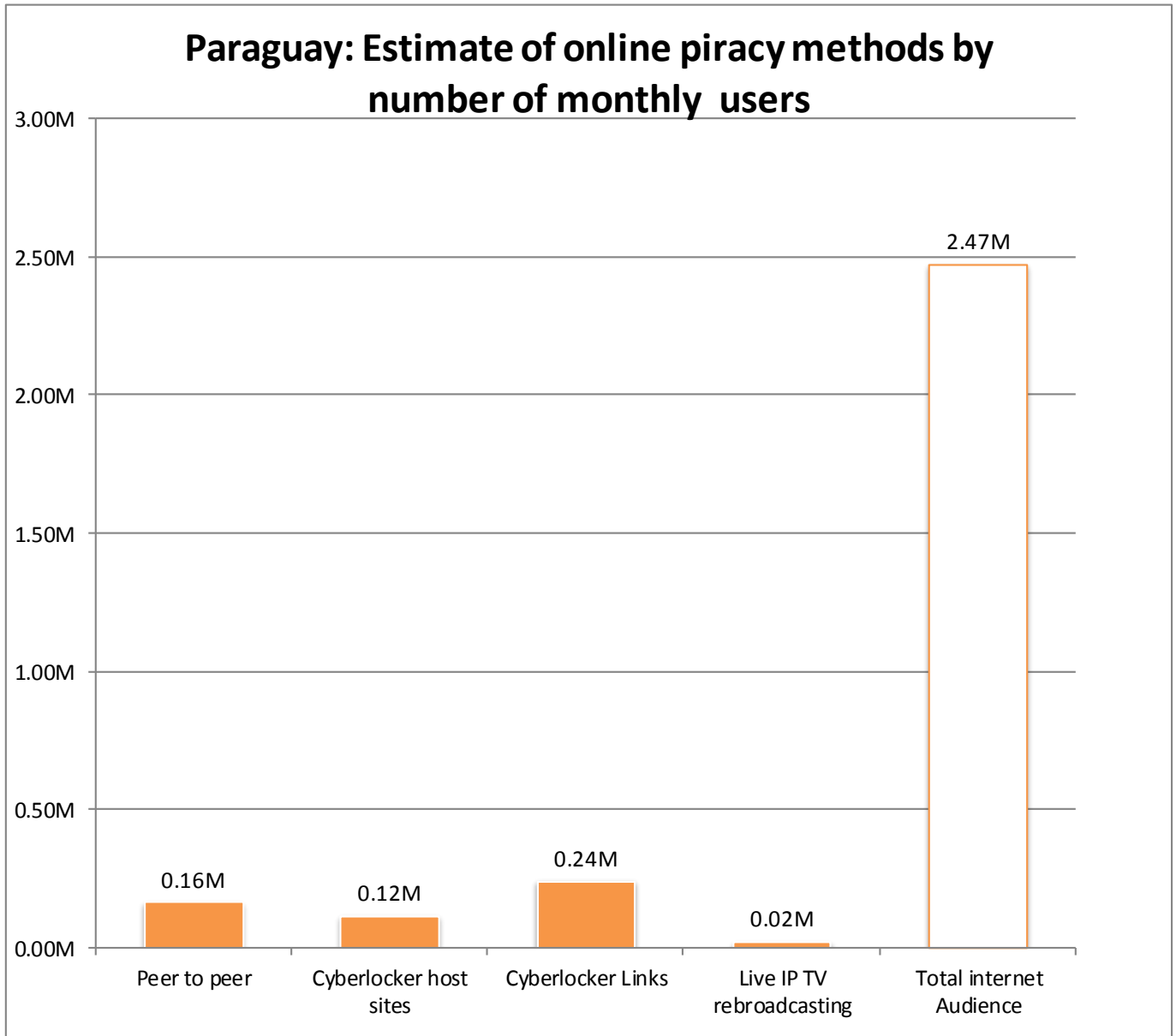
The above chart illustrates the popularity the major piracy ecosystems, within Ecuador. Cyberlocker link sites managed to attract over 18.2% of the country’s 6.32 million internet users. Only 0.50 million visitors went on to visit cyberlocker hosts sites in common with the pattern seen across the wider region.

The peer to peer ecosystem within Ecuador attracted more visitors than the cyberlocker host site ecosystem, accounting for 0.71 million users, built upon usage of a mix of internationally and locally popular portals.

The Live IPTV rebroadcasting ecosystem recorded relatively low amount of users at just 0.11 million accounting for 1.7% of the country’s 6.32 million users, however, this is in line the usage seen across region, and may be a sign of systemic issues that make accurately tracking usage of the ecosystem difficult.

The Ecuadorian broadband landscape is dominated by the state owned Corporacion Nacional de Telecomunicaciones (CNT), and across the country, internet penetration rates stands at just 40.4%. Ecuador’s average internet speed of 5.47Mbps is the third lowest across the nine monitored nations and, with little significant competition within the internet market, over the short to middle term the country is unlikely to experience a large influx of new users, or a subsequent boost in infringing usage.

Paraguay



Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

The piracy ecosystem within Paraguay shows a familiar domination by cyberlocker link site ecosystem, with over 9.8% of the country’s total 2.47M internet users.

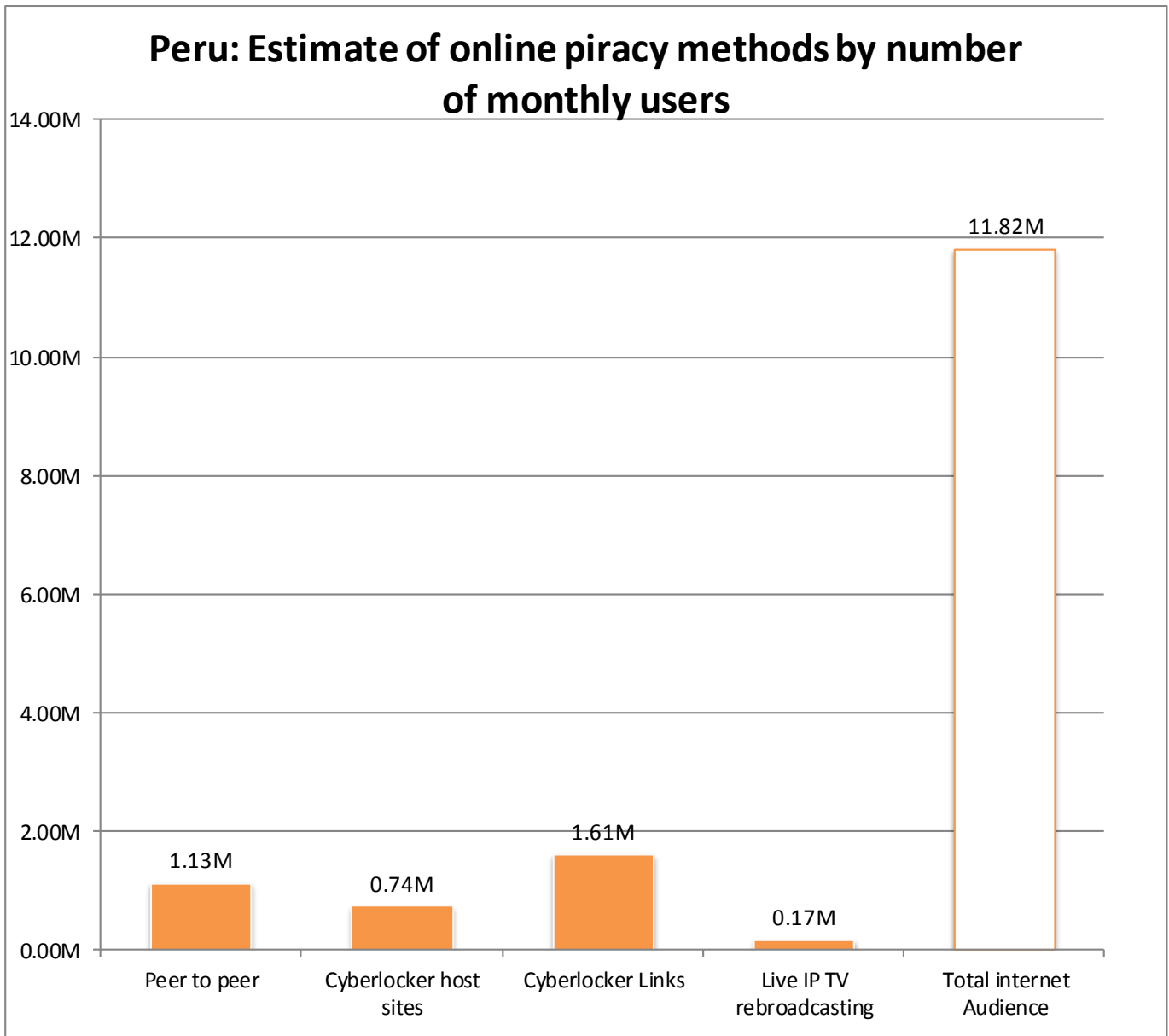
Only 0.12 million visitors went on to visit cyberlocker hosts sites in common with the pattern seen across the wider region, whereby significantly fewer users appeared in the monitoring for host sites than link sites. In total this accounts for 4.7% of total internet users within Paraguay.

The peer to peer ecosystem within Paraguay attracted more visitors than the cyberlocker host site ecosystem, accounting for 0.16 million users, built upon usage of a mix of internationally and locally popular portals.

The Live IPTV rebroadcasting ecosystem recorded relatively low amount of users at just 0.02 million accounting for 0.8% of the country's 2.47 million users.

Paraguay's average internet speed is the lowest across the nine monitored countries at 2.96Mbps, and also has the lowest level of internet penetration seen across the region. Mobile broadband is increasingly important within Paraguay, and should this trend continue, users are likely to turn towards Spanish language cyberlocker link sites that are able to deliver small file sized content specifically tailored to poor internet speeds. Such content can be encoded into formats that are particularly efficient and suited to the small screen sizes on mobile devices.

Peru

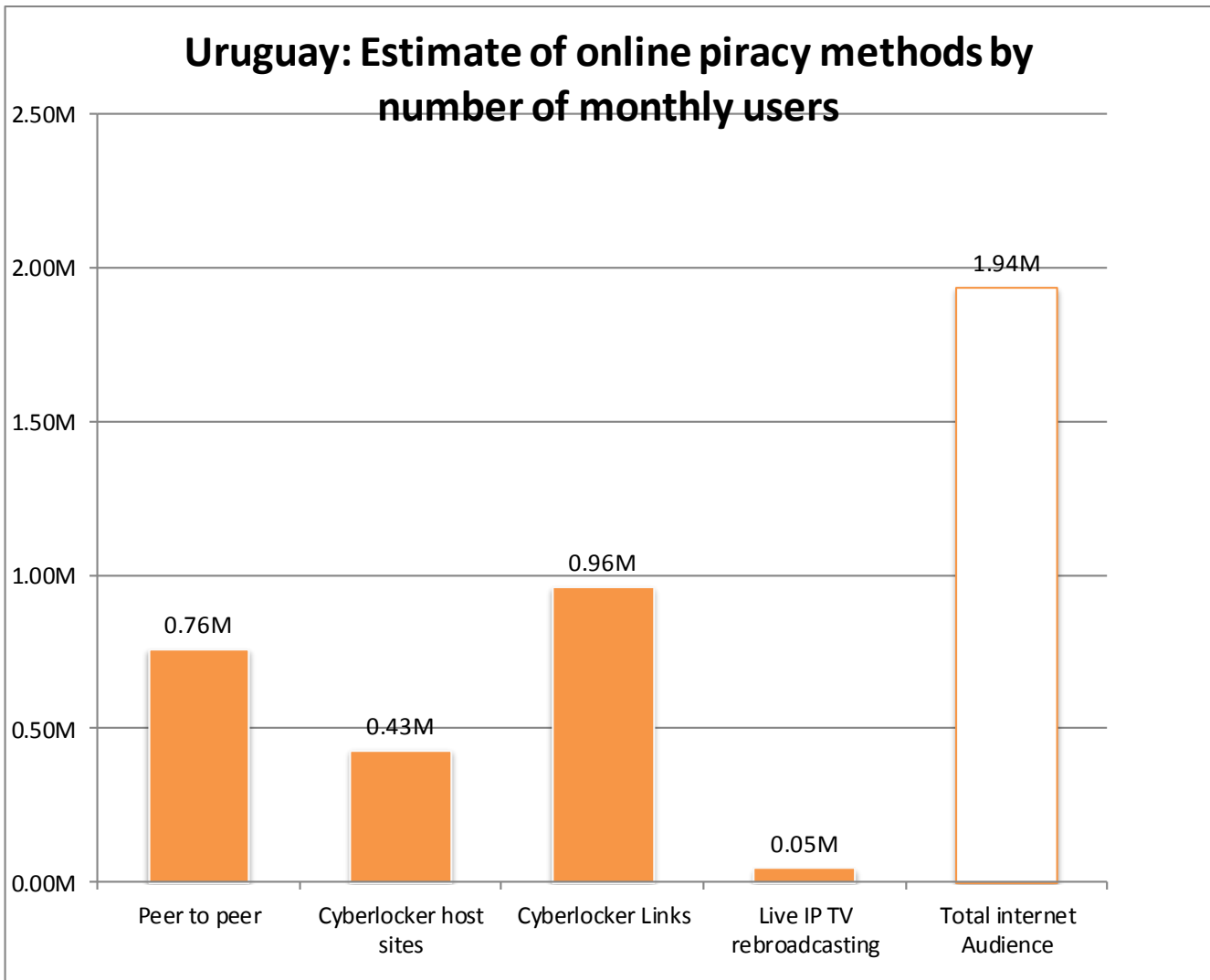


Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

The Peruvian infringement landscape shows a preference for streaming cyberlocker usage with this ecosystem accounting for 41.9% (35.8m) of estimated users within the territory, with users showing a preference for local language link sites. This stands in contrast to much of the rest of the South American region, which showed a clear preference for direct download cyberlocker usage, and that in Peru accounted for just 25.4% (21.8m) of the estimated usage.

The Ares network accounts for around 17.4% (14.9m) of estimated usage within the Peruvian infringement landscape, with BitTorrent accounting just 7.4% (6.4m) of detected connections.

Uruguay



Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

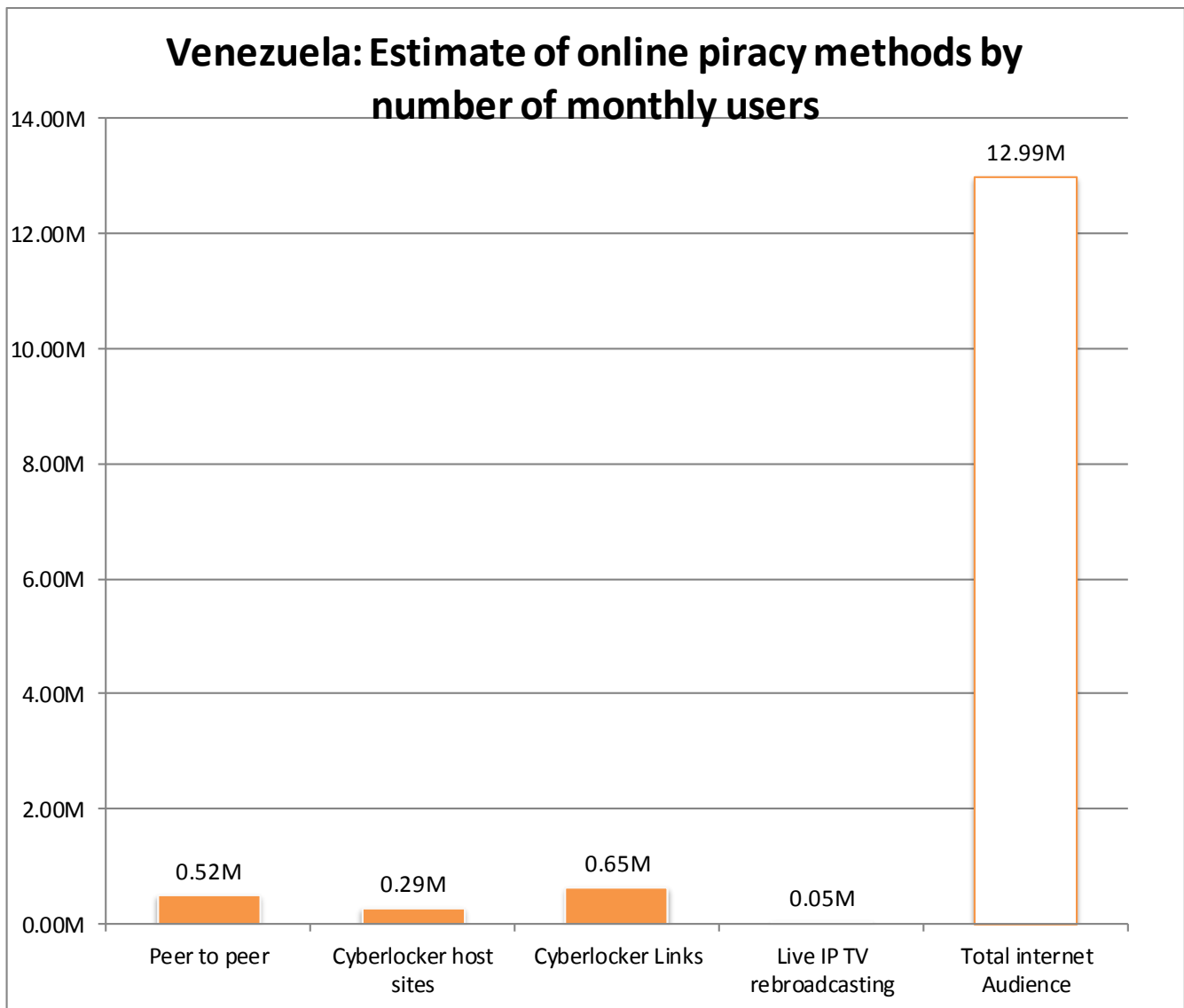
Uruguayan internet users show a significant appetite for a great range of piracy ecosystems, enabled by good quality internet connections within the country. Cyberlocker link site users currently make up a sizable percentage of the overall Uruguayan internet user base, with 0.96 million users (49.5%) out of a total of 1.94 million, while 0.43 million users (22.2%) went onto visit cyberlocker host sites.

The Peer-to-peer ecosystem attracted 0.76 million users within Uruguay, 39.2% of the country’s total user base, built upon an appetite for internationally popular BitTorrent portals such as ThePirateBay or KickassTorrents as well as strong Ares network usage.

Despite high levels of cyberlocker and peer to peer usage, relatively low levels of Live IPTV rebroadcasting was detected in Uruguay, which saw just 0.05 million users in a single month, equivalent to just 1.5% of the country’s total internet users.

While Uruguay boasts the highest average speed across the monitored countries at 21.79Mbps, the rate of internet penetration in the country is the region is just 58.1% and therefore the country retains significant opportunity for continued growth in both legitimate and infringing content consumption.

Venezuela



Infringing internet users may use more than one ecosystem and therefore the total number of infringing users may be lower than the sum of each ecosystem.

The piracy ecosystem within Venezuela shows low levels of usage, with just 5.0% of the country’s total 12.99 million internet users.

Only 0.292 million visitors went on to visit cyberlocker hosts sites in common with the pattern seen across the wider region, whereby significantly fewer users appeared in the monitoring for host sites than link sites. In total this accounts for 2.3% of total internet users within Venezuela.

The peer to peer ecosystem within Venezuela attracted more visitors than the cyberlocker host site ecosystem, accounting for 0.52 million users (4.0%), built upon usage of a mix of internationally and locally popular portals.

The Live IPTV rebroadcasting ecosystem recorded relatively low amount of users at just 0.02 million accounting for 0.8% of the country’s 2.47 million users.

While Venezuela's average internet speed is the lowest across the nine monitored countries at 1.95Mbps, moves are afoot to increase transfer speeds across the network. However, this may not lead to the expected bump in infringing use, given that the Venezuelan government is keen to retain significant control over the content that their population can access.

Glossary

- **Aggregate visitors:** the sum of Unique Visitors across a range of sites.
- **Ares:** A peer-to-peer network used by the Ares Galaxy client.
- **BitTorrent:** A method of transferring data over the Internet. BitTorrent is a highly efficient way to transfer large files between a number of individuals. Unlike most other file sharing methods, BitTorrent uses swarming methods to almost completely eliminate queuing and enhance transfer speeds.
- **BitTorrent portal:** A website which collates and indexes BitTorrent metainfo files.
- **Client:** A program used by a peer (an individual) to connect to a file sharing network and interact with other users.
- **Cyberlocker:** a file hosting service which provides static online storage space, often used to house illegally obtained copyrighted motion picture and television content. Content is hidden to the casual end-user.
- **eDonkey:** A peer-to-peer network which uses a series of central servers that index files held by users and supplies results for searches performed by users.
- **Gnutella:** A peer-to-peer network which is primarily used for music.
- **HD:** Short for 'high definition'.
- **Link Site:** a site which indexes hyperlinks to content located on a remote host; will redirect the end-user to the host site to view/download content.
- **Metainfo File:** A small file with a .torrent extension used within BitTorrent. A metainfo file contains a set of instructions which a BitTorrent client can use to connect to a tracker and download one or more files.
- **Peer:** An individual client (usually representing an individual computer and individual person) on a file sharing network.
- **Private Tracker:** A walled-garden BitTorrent network which requires users to sign up or gain an invitation before they can become members.
- **Streaming:** Content is sent in continuous compressed form over the Internet and displayed to the end-user viewer in real time. This means no download is required to view content.
- **Tracker:** The tracker is the central management point for a BitTorrent swarm (a group of peers downloading and uploading a particular file).
- **Unique Visitors: a count of the number of people visiting any particular site**
- **Unduplicated Visitors:** The number of visitors unique visitors across any given set of sites. This measure properly accounts for those visitors who have visited more than one of the sites in a set, ensuring that they are not counted more than once.

6. Appendix

Peer-to-peer visitor results

	Worldwide monthly visitors	South America monthly Visitors	South American percentage of worldwide visitors	Percentage of South American internet users visiting site	South American Visits
Aggregate total top 20 sites	166,945,233	17,633,314	10.56%	7.93%	65,998,602
Unduplicated total top 20 sites	98,201,740	6,295,893	6.411%	2.83%	n/a
Unduplicated visitors to BitTorrent ecosystem	150,578,513	9,653,863		4.34%	

Cyberlocker Link site visitor results

	Worldwide monthly visitors (Sept 2014)	South America monthly Visitors (Sept 2014)	South American percentage of worldwide visitors	Percentage of South American internet users visiting sites	South American Visits (Sept 2014)
Aggregate total top 20 sites	43.0m	36.6m	5.10%		134.6m
Unduplicated total top 20 sites	27.8m	10.4m	6.85%		
Unduplicated visitors to cyberlocker link ecosystem	166.7m	62.7m		28.2%	

Live IPTV Rebroadcasting

Site	Worldwide monthly visitors (Sept 2014)	South America monthly Visitors (Sept 2014)	South American percentage of worldwide visitors	Percentage of South American internet users visiting site	South American Visits (Sept 2014)
Aggregate visitors to top 20	15.0m	12.1m	80.70%	5.44%	28.9m
Unduplicated visitors to top 20	9.8m	6.7m	68.45%	3.01%	n/a
Unduplicated visitors to Live IPTV rebroadcast ecosystem	12.6m	8.7m		3.89%	

