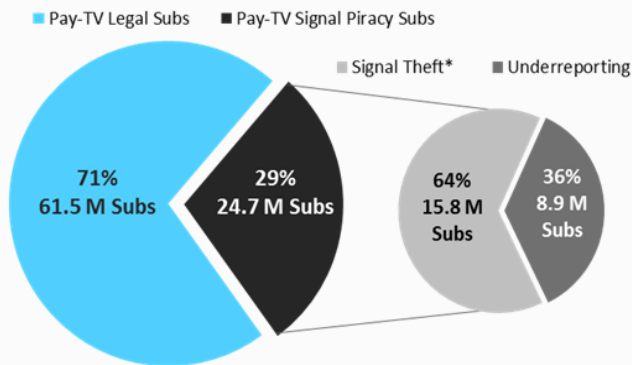


PAY-TV SIGNAL PIRACY IN LATIN AMERICA AND THE CARIBBEAN

29% of pay-TV HHs served by pirate providers



*Signal theft includes "hook-up," retransmission and FTA piracy. Figures do not include online piracy.



\$1.2 B in annual taxes evaded



50 K new jobs lost



\$6.5 B in annual losses for pay-TV operators and programmers

All data as of September 2015. Figures do not include online piracy. Evaded taxes include VAT and income tax only.

PAY-TV SIGNAL PIRACY PER COUNTRY

ARGENTINA

LEGAL PAY-TV:
73% 8,146,814
TOTAL SIGNAL PIRACY:
27% 2,935,951
ANNUAL EVADED TAXES:
\$278 M

BRAZIL

LEGAL PAY-TV:
65% 16,623,439
TOTAL SIGNAL PIRACY:
35% 9,132,931
ANNUAL EVADED TAXES:
\$486 M

CHILE

LEGAL PAY-TV:
82% 2,844,841
TOTAL SIGNAL PIRACY:
18% 630,752
ANNUAL EVADED TAXES:
\$66 M

COLOMBIA

LEGAL PAY-TV:
69% 5,445,022
TOTAL SIGNAL PIRACY:
31% 2,465,478
ANNUAL EVADED TAXES:
\$163 M

ECUADOR

LEGAL PAY-TV:
69% 1,347,386
TOTAL SIGNAL PIRACY:
31% 615,644
ANNUAL EVADED TAXES:
\$24 M

MEXICO

LEGAL PAY-TV:
84% 16,101,751
TOTAL SIGNAL PIRACY:
16% 3,030,360
ANNUAL EVADED TAXES:
[Not estimated]

PERU

LEGAL PAY-TV:
65% 1,832,217
TOTAL SIGNAL PIRACY:
35% 981,169
ANNUAL EVADED TAXES:
\$68 M

URUGUAY

LEGAL PAY-TV:
70% 577,854
TOTAL SIGNAL PIRACY:
30% 252,237
ANNUAL EVADED TAXES:
\$28 M

VENEZUELA

LEGAL PAY-TV:
75% 4,795,659
TOTAL SIGNAL PIRACY:
25% 1,635,848
ANNUAL EVADED TAXES:
\$113 M

*Numbers for Colombia adjusted according with official pay-TV numbers published by ANTV and DANE, 2014.

PAY-TV SIGNAL PIRACY IN LATIN AMERICA AND THE CARIBBEAN

Pay-TV signal piracy is a multi-billion-dollar problem in Latin America and the Caribbean. It poses daunting challenges for pay-TV operators, programmers, governments and consumers alike. In fact, the *Alianza Contra la Piratería de Televisión Paga en América Latina* (Alliance Against Pay-TV Piracy in Latin America), or ALIANZA, estimates that, when all forms of piracy (except the online variety) are taken into account, users of stolen and underreported pay-TV signals exceed subscribers of any legitimate pay-TV service in the region. About 29% of the approximately 86-million Latin American and Caribbean households (HHs) with pay-TV enjoy it through signal piracy, excluding its online variety. Estimates for online piracy in South America point to about 110 million individual users. This memo describes the most common types of signal piracy and highlights estimates of its cost to and negative impact on the pay-TV industry, programmers and governments.

I. TYPES OF PAY-TV SIGNAL PIRACY

Today, pay-TV signal piracy stands out as the No. 1 competitor of pay-TV operators and programmers in Latin America and the Caribbean. ALIANZA has identified five main types of pay-TV signal piracy that currently impact the Latin American and Caribbean market. They differ by (1) methodology; (2) driver of the illegal conduct (i.e., consumer, provider); and (3) equipment or tools required to provide or access the stolen signals.

FIGURE No. 1 – TYPES OF PAY-TV SIGNAL PIRACY

TYPES OF PAY-TV SIGNAL PIRACY				
CATEGORIES	SUBCATEGORIES	METHODOLOGY	DRIVER	EQUIPMENT/TOOLS
SIGNAL THEFT	“HOOK-UP” PIRACY	Connection (hook-up) of cables by subscribers to legal set-top boxes to share with others in same building, or illegal sharing of a DTH subscription service	Consumer	Basic cable or DTH set-top boxes
	RETRANSMISSION	Use of formal pay-TV providers’ set-top boxes to illegally redistribute signals	Pirate provider	Set-top boxes from legal providers and antennas on rooftops
	FTA PIRACY	Use of free-to-air (FTA) satellite receivers with decryption capabilities to illegally access pay-TV signals	Pirate provider	FTA devices, plus satellite or internet connectivity
	ONLINE PIRACY	Illegal streaming of online content, usually for no fee	Pirate provider	Internet connection and sometimes additional devices
UNDERREPORTING	NA	Formal pay-TV providers’ illegal practice of reporting fewer subscribers than those actually served	Legal provider	Accounting sheets, reports submitted to regulators

Source: ALIANZA (2015)

As shown in Figure No. 1, “hook-up”, retransmission, FTA and online piracy are all forms of **signal theft**, in which a consumer obtains illegal or unauthorized access to pay-TV signals or audiovisual streams.

Underreporting occurs when pay-TV operators license signals properly but underreport the number of subscribers to their services and, as a result, pay lower intellectual property royalties and lower taxes and fees than otherwise due. In cases of underreporting, unlike signal theft, end users do not take actions enabling piracy and may not even be aware of the improper use of the pay-TV signals they receive.

II. PENETRATION OF PAY-TV SIGNAL PIRACY

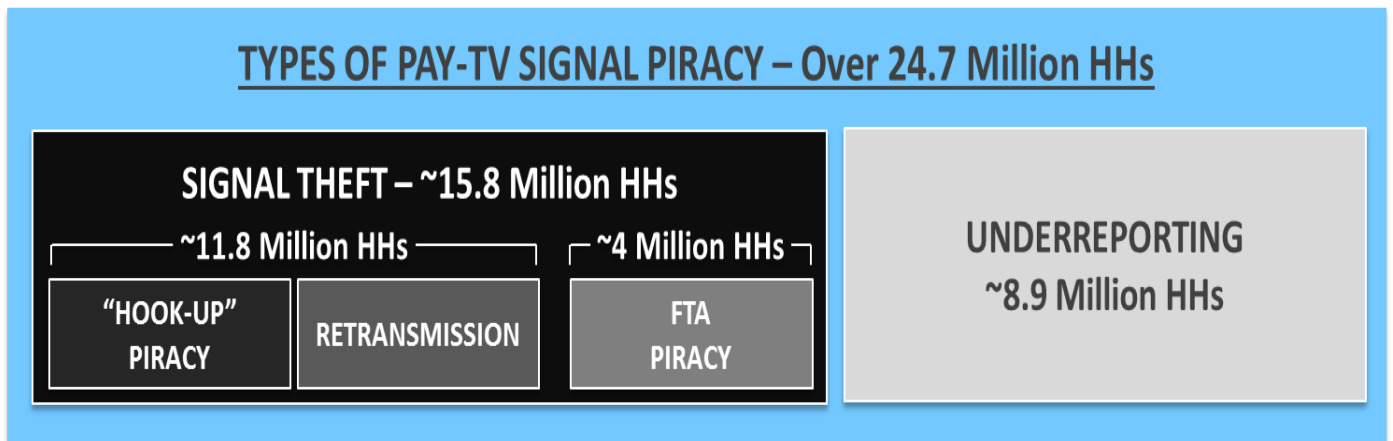
By its very nature, estimating the extent of piracy and illegality is a challenging task. However, ALIANZA has developed models to do so that are considered accurate in the industry.

- “Hook-up” piracy, retransmission and underreporting: These are the most traditional forms of pay-TV signal piracy in Latin America, the Caribbean and elsewhere. To estimate the penetration of these forms of piracy, ALIANZA relies on market research conducted by Business Bureau (BB). With over 25 years’ experience in the industry, BB conducts telephone surveys throughout the region. Overlaying this information with demographic and other market information, it has developed estimates of the number of HHs enjoying pay-TV services. By comparing these numbers to subscriber numbers officially reported by pay-TV operators to national regulatory agencies, as well as privately reported to programmers, BB is able to derive an estimate of how many recipients of pay-TV services benefit from piracy in the form of illegal connections (“hook up”), retransmission or underreporting. For a more detailed explanation of BB’s methodology and practices, see Annex No. 1.
- FTA piracy: BB’s experience shows that users of FTA services have greater awareness of the illegality of these services, and therefore are much less likely to respond affirmatively to telephone inquiries about whether they receive pay-TV services. Therefore, BB does not provide estimates of FTA services. However, ALIANZA, through its investigation of the importation and sales of illegal FTA receivers, as well as through the intelligence gained by it in a number of important enforcement actions against servers used to illegally distribute transmission keys, has developed its own internal estimates of the penetration of FTA piracy. Based on such investigative and intelligence information, ALIANZA estimates that there are at least 4 million HHs receiving pay-TV signals through illegal FTAs.

Online piracy is completely outside the scope of BB’s audits and ALIANZA’s estimates; it is not included in this section.

For purposes of clarity, Figure No. 2, below, shows the interrelationship between and the magnitude of the two major types of pay-TV signal piracy, namely, signal theft (except online piracy) and underreporting.

FIGURE No. 2 – TYPES OF PAY-TV SIGNAL PIRACY—INTERRELATIONSHIP AND MAGNITUDE



Note: BB’s numbers, which refer to “hook-up,” retransmission, and underreporting piracy, do not fully capture the penetration of pay-TV signal piracy due to the complexities associated with the auditing of illegal conduct. FTA numbers are not based on BB data but on ALIANZA’s investigative and intelligence information, and likewise cannot fully capture penetration. Thus, all numbers are approximations, and this figure does not include online piracy.

Source: BB’s and ALIANZA’s estimates (September 2015).

According to BB’s and ALIANZA’s estimates, by September 2015, the total pay-TV market in Latin America and the Caribbean¹ consisted of over 85 million HHs, and 29% of those (~24.7 million HHs) are pay-TV signal piracy users. A breakdown of these estimates is detailed in Table No. 1, below.

The signal theft portion of the piracy phenomenon, estimated at ~15.8 million HHs, comprises:

1. “Hook-up” piracy and retransmission, both estimated by BB at ~11.8 million pirate HHs; and
2. FTA piracy, estimated by ALIANZA at ~4 million HHs.

Underreporting, consisting mainly of HHs that are not reported by legal pay-TV providers as subscribers but that in fact receive the service and pay for it, is estimated by BB at ~8.9 million HHs.

[Continues on page 5]

¹ Includes Argentina, Bolivia, Brazil, Caribbean, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Puerto Rico, Rca. Dominicana (Dominican Republic), Uruguay and Venezuela. Paraguay is not included because of the lack of data. For purposes of this paper, Caribbean is understood to mean Aruba, Barbados, Curacao and Trinidad & Tobago.

TABLE No. 1 – PAY-TV SIGNAL PIRACY PENETRATION IN LATIN AMERICA AND THE CARIBBEAN (EXCLUDING ONLINE PIRACY)

PAY-TV SIGNAL PIRACY PENETRATION IN LATIN AMERICA AND THE CARIBBEAN (EXCLUDING ONLINE PIRACY)							
COUNTRY	TOTAL PAY-TV MARKET	SIGNAL THEFT		UNDERREPORTING	TOTAL PAY-TV SIGNAL PIRACY		
		"Hook-up" Piracy & Retransmission	FTA Piracy ⁽¹⁾		HHs	HHs	%
		HHs	HHs				
Argentina	11,082,765	1,622,259	178,431	1,135,261	2,935,951	26%	
Bolivia	756,658	196,731		206,891	403,622	53%	
Brazil	25,756,370	4,495,339	3,001,961	1,635,631	9,132,931	35%	
Caribbean	442,246	22,341		33,843	56,184	13%	
Chile	3,475,593	172,514	241,176	217,062	630,752	18%	
Colombia ⁽³⁾	7,910,500	1,312,052	131,373	1,022,053	2,465,478	31%	
Costa Rica	677,895	88,126		194,624	282,750	42%	
Ecuador	1,963,030	208,567	131,373	275,704	615,644	31%	
El Salvador	459,671	87,337		148,933	236,270	51%	
Guatemala	794,288	174,743		291,186	465,929	59%	
Honduras	758,185	151,637		260,816	412,453	54%	
Mexico	19,132,111	1,550,706		1,479,654	3,030,360	16%	
Nicaragua	457,137	95,999		162,512	258,511	57%	
Panama	447,917	35,833		123,625	159,458	36%	
Peru	2,804,386	544,248	84,313	352,608	981,169	35%	
Puerto Rico	868,976	60,828		48,489	109,317	13%	
Rca. Dominicana	1,242,623	236,098		483,132	719,230	58%	
Uruguay	830,091	34,799	131,373	86,065	252,237	30%	
Venezuela	6,431,507	755,958	100,000	779,890	1,635,848	25%	
TOTAL	86,291,949	11,846,115	4,000,000	8,937,979	24,784,094	29%	

(1) ALIANZA estimates there are at least 4 million users of illegal FTAs in Latin America and the Caribbean. The per-country FTA number was calculated by using as a proxy the percentage of private IKS services identified by ALIANZA in Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Uruguay and Venezuela. ALIANZA does not have information for the rest of the countries in the table. ALIANZA's FTA number is very conservative, if considered that only for Brazil, an independent study conducted by ABTA (Brazilian Association of pay-TV providers) identified 4 million FTA pirate devices in the market.

(2) Calculated as a percentage of the total pay-TV market.

(3) Colombia Total pay-TV Market and Underreporting numbers, adjusted according with official pay-TV numbers published by ANTV and DANE, 2014.

Source: BB's and ALIANZA's estimates (September 2015).

III. LOSSES CAUSED BY PAY-TV SIGNAL PIRACY EXCLUDING ONLINE VARIETY

TO PAY-TV INDUSTRY

The Organization of American States (OAS), through its telecommunications advisory body (CITEL), recently acknowledged that “subscription satellite television has been negatively affected” by the widespread use of signal theft devices “to the extent of putting its future development at risk.” CITEL has urged its member states to “set forth provisions to prevent importation, marketing and use” of such signal theft devices.²

Table No. 2, below, shows BB’s estimates of pay-TV providers’ total annual losses caused by signal theft, excluding online piracy. According to those estimates, pirate providers operate an illegal market of approximately \$4.8 billion—an industry that does not create formal employment, does not pay taxes, fees, or royalties, does not provide quality services and does not reinvest in innovation and better content.

[Continues on page 7]

² Available at: https://www.citel.oas.org/en/SiteAssets/PCCII/Final-Reports/P2!R-3857r1_i.pdf.

TABLE No. 2 – PAY-TV PROVIDERS’ LOSSES CAUSED BY SIGNAL THEFT (EXCLUDING ONLINE PIRACY)

PAY-TV PROVIDERS' LOSSES					
SIGNAL THEFT (EXCLUDING ONLINE PIRACY)					
COUNTRY	"Hook-up" Piracy & Retransmission	FTA Piracy	TOTAL SIGNAL THEFT ⁽¹⁾	ESTIMATED ANNUAL LOSSES ⁽²⁾	
	HHs	HHs	HHs	Annual Avg. Subscriber Fee (USD)	Pay-TV Providers' Annual Losses (USD)
Argentina	1,622,259	178,431	1,800,690	\$298	537,181,841
Bolivia	196,731		196,731	\$234	45,987,839
Brazil	4,495,339	3,001,961	7,497,300	\$354	2,653,144,524
Caribbean	22,341		22,341	\$360	8,050,803
Chile	172,514	241,176	413,690	\$399	164,963,024
Colombia	1,312,052	131,373	1,443,425	\$129	185,855,403
Costa Rica	88,126		88,126	\$402	35,394,927
Ecuador	208,567	131,373	339,940	\$204	69,225,382
El Salvador	87,337		87,337	\$239	20,873,543
Guatemala	174,743		174,743	\$125	21,786,957
Honduras	151,637		151,637	\$123	18,705,940
Mexico	1,550,706		1,550,706	\$241	373,285,948
Nicaragua	95,999		95,999	\$99	9,549,981
Panama	35,833		35,833	\$355	12,732,182
Peru	544,248	84,313	628,561	\$184	115,856,364
Puerto Rico	60,828		60,828	\$508	30,905,490
Rca. Dominicana	236,098		236,098	\$170	40,202,767
Uruguay	34,799	131,373	166,172	\$362	60,140,970
Venezuela	755,958	100,000	855,958	\$443	379,018,202
TOTAL	11,846,115	4,000,000	15,846,115		4,782,862,087

(1) Includes BB's and ALIANZA's numbers for "hook-up," retransmission and FTA piracy. Underreporting estimates are not included in this assessment of pay-TV providers' annual losses because underreported subscribers are served by legal providers. Online piracy is also excluded.

(2) Annual avg. subscriber fee multiplied by total pay-TV signal theft.

Source: BB's and ALIANZA's estimates (September 2015).

TO PROGRAMMERS

BB estimates programmers' losses by assuming that the programming cost is 25% of the subscriptions earned by pay-TV providers. Table No. 3, below, summarizes BB's results and shows

that programmers lose annually a total amount of almost \$1.8 billion due to pay-TV signal piracy, excluding its online variety.

TABLE No. 3 – PROGRAMMERS’ LOSSES CAUSED BY SIGNAL PIRACY (EXCLUDING ONLINE PIRACY)

PROGRAMMERS' LOSSES (EXCEPT FROM ONLINE PIRACY)					
COUNTRY	PAY-TV SIGNAL PIRACY			ESTIMATED ANNUAL LOSSES ⁽²⁾	
	TOTAL SIGNAL THEFT ⁽¹⁾	UNDERREPORTING	TOTAL PAY-TV SIGNAL PIRACY	Annual Avg. Subscriber Fee (USD)	Programmers' Annual Losses (USD)
	HHs	HHs	HHs		
Argentina	1,800,690	1,135,261	2,935,951	\$298	218,963,226
Bolivia	196,731	206,891	403,622	\$234	23,587,670
Brazil	7,497,300	1,635,631	9,132,931	\$354	807,990,406
Caribbean	22,341	33,843	56,184	\$360	5,061,617
Chile	413,690	217,062	630,752	\$399	62,879,667
Colombia	1,443,425	1,022,053	2,465,478	\$129	79,363,737
Costa Rica	88,126	194,624	282,750	\$402	28,390,928
Ecuador	339,940	275,704	615,644	\$204	31,342,436
El Salvador	87,337	148,933	236,270	\$239	14,117,133
Guatemala	174,743	291,186	465,929	\$125	14,523,007
Honduras	151,637	260,816	412,453	\$123	12,720,051
Mexico	1,550,706	1,479,654	3,030,360	\$241	182,367,065
Nicaragua	95,999	162,512	258,511	\$99	6,429,169
Panama	35,833	123,625	159,458	\$355	14,164,654
Peru	628,561	352,608	981,169	\$184	45,212,268
Puerto Rico	60,828	48,489	109,317	\$508	13,885,445
Rca. Dominicana	236,098	483,132	719,230	\$170	30,617,621
Uruguay	166,172	86,065	252,237	\$362	22,822,404
Venezuela	855,958	779,890	1,635,848	\$443	181,088,374
TOTAL	15,846,115	8,937,979	24,784,094		1,795,526,873

(1) Includes BB's and ALIANZA's numbers for "hook-up," retransmission and FTA piracy.

(2) Assumes that pay-TV providers' cost of programming is approx. 25% of their per-subscriber income.

Source: BB's and ALIANZA's estimates (September 2015).

TO LATIN AMERICAN AND CARIBBEAN GOVERNMENTS

Uncollected Taxes:

ALIANZA is not aware of any third-party estimates of the amount of income that Latin American and Caribbean governments lose due to pay-TV signal piracy. However, based on each country's tax regime and the estimated number of informal users, it is possible to assess the amount of funds that Latin American and Caribbean governments fail to collect from pirate providers evading tax obligations.

Table No. 4, below, shows the amount of tax income that Latin American and Caribbean governments³ would be able to collect if piracy users were served by legal pay-TV providers without underreporting.

Only taking into account each country's value-added and income taxes, the total annual amount evaded by the illegal signal piracy industry, excluding online piracy, is over \$1.2 billion. The number would increase dramatically if all federal/municipal taxes, regulatory fees and license-associated costs (i.e., license fees, spectrum fees, landing rights, etc.) were included.

TABLE No. 4 – LOST GOVERNMENT TAX INCOME (EXCLUDING FROM ONLINE PIRACY)

GOVERNMENT TAXES EVADED BY PIRATE PROVIDERS (EXCLUDING ONLINE PIRACY)						
COUNTRY	TOTAL PAY-TV SIGNAL PIRACY ⁽¹⁾	Value-Added Tax		Income Tax		TOTAL TAXES EVADED
	HHs	%	US MM	%	US MM	US MM
Argentina	2,935,951	21%	\$238	35%	\$40	\$278
Brazil ⁽²⁾	9,132,931	11%	\$428	15%	\$58	\$486
Caribbean	56,184	15%	\$4	25%	\$1	\$5
Chile	630,752	19%	\$58	27%	\$8	\$66
Colombia	2,465,478	16%	\$141	25%	\$22	\$163
Ecuador	615,644	12%	\$20	22%	\$4	\$24
Peru	981,169	18%	\$59	28%	\$9	\$68
Puerto Rico	109,317	0%	\$0	39%	\$3	\$3
Uruguay	252,237	22%	\$25	25%	\$3	\$28
Venezuela	1,635,848	12%	\$88	34%	\$25	\$113
TOTAL	18,815,511		\$1,061		\$173	\$1,234

(1) Includes BB's and ALIANZA's numbers for "hook-up," retransmission, FTA, and underreporting piracy.

(2) Brazil's value-added tax (ICMS) varies by municipality, and currently ranges from 10% to 12.5%. An average of 11% has been used for estimation purposes.

Source: BB's and ALIANZA's estimates (September 2015).

³ Countries included in the estimate are Argentina, Brazil, Caribbean, Chile, Colombia, Ecuador, Peru, Puerto Rico, Uruguay and Venezuela.

Loss of Formal Jobs:

ALIANZA estimates that a legal pay-TV provider creates approximately 200 jobs, both directly and indirectly, for every 100,000 subscribers. That means that almost 50,000 new jobs would be created in Latin America and the Caribbean if pay-TV signal piracy users, excluding those engaged in online piracy, were served by legal and fully reporting pay-TV providers.

Table No. 5, below, shows the number of jobs lost in each country due to pay-TV signal piracy, excluding its online variety.

TABLE No. 5 – LOST JOBS PER COUNTRY

LOST JOBS PER COUNTRY				
	PAY-TV SIGNAL PIRACY (EXCLUDING ONLINE PIRACY)			
COUNTRY	TOTAL SIGNAL THEFT ⁽¹⁾	UNDERREPORTING	TOTAL PAY-TV SIGNAL PIRACY	LOST JOBS ⁽²⁾
	HHs	HHs	HHs	#
Argentina	1,800,690	1,135,261	2,935,951	5,872
Bolivia	196,731	206,891	403,622	807
Brazil	7,497,300	1,635,631	9,132,931	18,266
Caribbean	22,341	33,843	56,184	112
Chile	413,690	217,062	630,752	1,262
Colombia	1,443,425	1,022,053	2,465,478	4,931
Costa Rica	88,126	194,624	282,750	566
Ecuador	339,940	275,704	615,644	1,231
El Salvador	87,337	148,933	236,270	473
Guatemala	174,743	291,186	465,929	932
Honduras	151,637	260,816	412,453	825
Mexico	1,550,706	1,479,654	3,030,360	6,061
Nicaragua	95,999	162,512	258,511	517
Panama	35,833	123,625	159,458	319
Peru	628,561	352,608	981,169	1,962
Puerto Rico	60,828	48,489	109,317	219
Rca. Dominicana	236,098	483,132	719,230	1,438
Uruguay	166,172	86,065	252,237	504
Venezuela	855,958	779,890	1,635,848	3,272
TOTAL	15,846,115	8,937,979	24,784,094	49,568

(1) Includes BB'S and ALIANZA's numbers for "hook-up," retransmission and FTA piracy.

(2) Estimates are based on the assumption that a pay-TV provider generates approx. 200 jobs for every 100,000 subscribers served.

Source: BB's and ALIANZA's estimates (September 2015).

IV. ONLINE PIRACY

ALIANZA requested NetNames Piracy Analysis⁴ to conduct an investigation of the online piracy landscape and its main threats for the pay-TV industry, with a focus on television piracy activity in South America.⁵ NetNames has previously authored reports, such as *Sizing the Piracy Universe*, that have explored the number of internet users across a range of online ecosystems.

The report prepared for ALIANZA, which is believed to be the first comprehensive review of the South American online piracy landscape, provides further insight into the scale and nature of this type of piracy in the region. It analyzes Internet usage data in the countries under study, with a focus on the three principal audiovisual piracy ecosystems, namely cyberlockers, peer-to-peer networks such as BitTorrent and Ares, and illegal IPTV streaming. The report estimates the number of users⁶ accessing illegal content during a single month through each of these channels.

For a more detailed description of the varieties of online piracy, see Annex No. 2. Below is a summary of the key findings of the NetNames report prepared for ALIANZA.

[Continues on page 12]

⁴ NetNames has provided piracy analysis and consulting services 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 on piracy issues.

⁵ The study covered Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela.

⁶ It is important to note that accessing users should not be understood as “unique subscribers” since users of illegal online content may also be users of legitimate or illegitimate pay-TV services.

SOUTH AMERICAN ONLINE PIRACY LANDSCAPE

- The South American online piracy universe is made up of 110.5 M individual users, that is, about half the total estimated regional Internet audience, despite an Internet infrastructure that remains underdeveloped in many areas. The number of unique users* of each of the three pirate ecosystems in the countries under study during the one-month study period were:
 - Cyberlockers: 62.7 M, representing 28.2% of all Internet users in the region, who made 51.6 M visits to the top 20 direct download and top 20 streaming link sites.
 - Peer-to-peer: 46.1 M, representing 20.7% of all Internet users in the region, who made 66.0 M individual visits to the top 20 BitTorrent portals. The South American peer-to-peer landscape is shaped, in part, by the widespread usage of the Ares Galaxy client.
 - Illegal IPTV streaming: 8.8 M, representing 4% of all Internet users in the region, who made 28.9 M visits to the top 20 sites.
- South American Internet users visit a mix of both internationally popular piracy venues and specialized local-language link sites, forums and blogs to access infringing video content.
- Annual bandwidth attributable to the three ecosystems amounts to 789 petabytes (PB), or an estimated 1.5 billion hours of viewing annually, distributed as follows:
 - Cyberlockers: Over half the infringing bandwidth usage at 442 PB, or approximately 632 M hours of TV, equivalent to 14 hours of TV per cyberlocker user.
 - Peer-to-peer: 265 PB, approximately the equivalent of a further 379 M hours of TV, or 8 hours per peer-to-peer user.
 - Illegal IPTV streaming: 82 PB, roughly equivalent to 366 M hours of TV, or 29 hours per illegal streaming user.

*The number of users for the three individual ecosystems exceeds the total number of infringing users because some users access more than one ecosystem.

ANNEX No. 1 – BUSINESS BUREAU METHODOLOGY

Business Bureau (BB) possesses a database of over 25,000 pay-TV operations (legal and illegal) in Latin America and the Caribbean. BB's team and datacenter, the later staffed by 50 interviewers, contact households by telephone in almost 10,000 localities⁷ in the region to conduct individual and specialized surveys on a periodic (i.e., quarterly) basis. Surveys use CATI and IVR methodologies.

CATI expands to computer-assisted telephone interviewing, which is self-explanatory; IVR, which expands to interactive voice response, uses an automatic prerecorded voice system and enables the surveyed person to keypad responses.

Samples, selected to represent the different socioeconomic composition of each surveyed country, have a 95.5% confidence interval and a sample margin of error of less than 5%.

Phone surveys are designed to collect data about the following variables:

- 1) Presence of a pay-TV service at home
- 2) Technology used by the pay-TV service provider (i.e., cable, satellite)
- 3) Name of the pay-TV service provider

Data collected by interviews is processed to assess how many households receive pay-TV signals in each locality. The number captures legal pay-TV subscribers, as well as illegal users who most probably believe their pirate service is legal or provided by a legal pay-TV operator.

This outcome is used to identify in each locality and country: 1) underreported subscribers, and 2) signal theft users (FTA and online varieties excluded).

Underreported subscribers are identified by comparing the number of subscribers per pay-TV provider found through BB's surveys with the public number reported to government authorities and the number privately reported to programmers. The latter number is obtained by BB directly from programmers through individual agreements.

Finally, according to BB's methodology, pay-TV users who cannot be explained as underreported subscribers are deemed "hook-up" piracy or retransmission users.

⁷ Geographical subdivisions with more than 1,000 households.

ANNEX No. 2 – ONLINE PIRACY

ALIANZA has focused its online piracy research on these three ecosystems:

1.1. Peer-to-Peer:

Peer-to-peer file sharing is the distribution and sharing of unauthorized content via peer-to-peer (P2P) connections. P2P file sharing allows users to access and share content through P2P software that searches and identifies other connected users on a P2P network. In such a network, each computer acts as a server for other computers, allowing shared access to files without the need for a central server. Examples include BitTorrent, Ares, Pirate Bay and Cuevana.

The typical P2P download generally proceeds along the following lines: a user interested in an infringing copy of, say, *Game of Thrones*, visits, for example, a BitTorrent portal site such as Pirate Bay. 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 downloading it. 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."

1.2. Cyberlockers:

Cyberlockers are file hosting services that are primarily used to store and distribute infringing content. They may deliver streamed content or allow direct download. While cyberlocker 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. From a user's point of view, the experience of using either class of site is broadly analogous. Examples include Uptobox and Uploaded.net.

Cyberlockers do not typically feature the capability to live stream content such as sporting events. This kind of activity, classified as live IPTV, is analyzed as a separate ecosystem by virtue of the distinct network of link sites and stream providers used to enable that activity.

1.3. Illegal Live IPTV Streaming:

These are sites and services enabling unlicensed sharing of films and TV 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 recording the content and making it available for download or streaming at a later time or date, live IPTV streaming sites take advantage of specific capturing and streaming technologies that allow immediate re-streaming of captured content.

The sites operate worldwide but, due to differences in local tastes, languages, and interests, most sites tend to focus on channels from a particular region. At the sites popular in South America, these are primarily premium Spanish- or Brazilian Portuguese-language movies, sports and entertainment channels that are traditionally broadcast via satellite or cable and protected by hardware-based measures. One example for South America is Roja Directa.

The streams themselves may originate from these broadcast television sources or legitimate online simulcasts of certain channels. These are typically captured by lossy techniques that take advantage of the analog hole, such as screen capture, or by lossless techniques, such as those utilizing an HDMI capture device. The captured content is then rebroadcast around the web.