# Measuring Online Advertising Transparency in Singapore:

## *An Investigation of Threats to Users*

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# EXECUTIVE SUMMARY

Recent studies have highlighted the role that internet advertising plays in supporting the revenue of rogue websites (Taplin, 2013). Certainly, such advertising generates enormous profit margins for operators of these websites, and present an ongoing threat to the viability of Singapore's creative industries. However, a recent study by Watters (2013) investigated the harms to users from viewing the increasingly "high risk" nature of advertising being hosted on these sites.

An analysis of advertising transparency was undertaken using the methodology developed by Watters (2013). A total of 5,000 webpages representing ten pages sampled from Google's ad transparency report were downloaded in Singapore, and each ad banner categorised as being High Risk or Mainstream, where each page was verified as being in breach of Digital Millennium Copyright Act (DMCA) for movies and TV shows. 10% of ads were Mainstream, 90% were High Risk.

The prevalence of Mainstream ads being served to Singaporeans is one order of magnitude greater than similar advertising being shown to Australians. The policy implications of this result and future research directions, including methodology enhancements, are discussed.

## KEY FINDINGS:

- For the Singaporean population, only 10% of advertising on rogue websites was for mainstream businesses. 90% of the advertisements displayed on rogue websites were categorised as High Risk (i.e. Malware, sex industry, gambling, scams and downloading sites).
- With 44% of advertisements on rogue websites being categorised as malware, Singaporeans who access rogue websites are at a substantially higher risk of being exposed to malware infection.
- 10% of advertisements on rogue websites were categorised as gambling. These gambling advertisements, targeting Singaporean users, operate outside Singapore's jurisdiction and regulations.

# DEFINITIONS

INTERNET ADVERTISER. A business, government, association or individual that desires to sell goods or services, or provide information to, a target group of consumers. Internet advertising competes with traditional advertising for marketing budgets. Singapore's online advertising market was valued at US$107m in 2011 and is growing rapidly[1].

1 http://www.asiamediajournal.com/pressrelease.php?id=3906

INTERNET ADVERTISING. Ads are typically placed as "banners" on a website, which direct a user to another site when clicked. The contents of the ad are similar to a highway billboard, except that the can incorporate interactive elements such as animation. Ads on the same page are often rotated through a predetermined or random sequence, depending on the advertising plan that an advertiser has subscribed to. While some sites host and manage their own banners, most often, these are managed by a third-party advertising network. These ad networks act as an intermediary between an advertiser and many hundreds, thousands or millions of sites, allowing an advertiser to increase their reach to potential consumers while only dealing with a single agency. Advertisers typically operate either a "pay per impression" or "pay per click" model, billing an advertiser every time a user views or clicks on a banner ad respectively.

MAINSTREAM ADVERTISING. Mainstream ads are those placed by legitimate businesses that operate within the formal economy. Such businesses operate through a corporate structure and offer goods or services which fall outside the black market, grey market or underground economy.

HIGH-RISK ADVERTISING. High-Risk ads are those promoting goods or services which fall outside the legitimate economy or white market, may be illegal or restricted within certain jurisdictions but not others, or may be fake or counterfeit. Examples include the sex industry, gambling and suspicious software/malware, such as anti-virus software which actually installs a Trojan Horse on a user's system. Many of the ads are likely to fall into scam categories described by Stabek et al (2009).

ADVERTISING NETWORK. Ad networks facilitate the placement of an advertiser's ads on numerous websites according to a specific revenue model. Ad networks specialise in anticipating consumer's needs and wants by building up profiles of users who click most frequently on certain ad categories on certain page themes, which can lead to more targeted, personalised, and relevant advertising. For the purposes of this paper, sites that host advertising on behalf of external / third-party advertisers are also grouped under this category, even if they only provide banners on sites within their own domain. For example, isohunt.com provides their own ad network exclusively for their own site, and not to other sites; they also host banners from other ad networks.

ROGUE SITE. A website which provides an index and search capability for torrents of infringing content, a "file locker" site which provides hosting for such material, or a "link site" which provides direct links to content on third party sites. The primary motivation for users visiting these websites is to access infringing content. These sites can all use advertising as either primary or secondary sources of income.

DIGITAL MILLENNIUM COPYRIGHT ACT (DMCA). The DMCA provides ISPs with indemnity against liability for copyright infringement, provided that they agree to co-operate in "takedowns" of material which is alleged to be infringing, typically after being notified by a rightsholders. Google provides a report of requests that they have received and actioned on behalf of rightsholders in order to provide transparency to their users.

# INTRODUCTION

Online advertising has a 20 year long history (Medoff, 2000), progressing from simple ad banners displayed on a fixed rotation schedule, through to personalised, behavioural advertising networks, which use profiles of individual users to present the most "relevant" advertisements (McStay, 2011). Such technologies make extensive use of "tracking cookies" (Watters, 2012) and the linkages between advertising networks and cookies have recently been monitored and explored for the most popular websites in Singapore (Herps et al, submitted). The most interesting result from this study was that the number of cookies stored on a user's computer from any of the Top 50 most-visited sites for Singaporeans ranged between 0 and 86. The sophistication and the extent to which user behaviour is tracked and experiences customised is only going to increase over time, as is the overall volume of advertising. Indeed, in 2012, online advertising spending in the US reached US$39.6b, exceeding the amount spent on traditional print advertising for the first time (eMarketer, 2012).

Furthermore, some companies are in a unique position to know "everything" about their customers. Google, for example, has the capacity to monitor almost all of the world's information, including personal emails, YouTube movies, Android phones, news services, images, shopping, blogs and so on (Cleland, 2013). Through its acquisition of Doubleclick, Google controlled an estimated 69% of the online advertising market (Browser Media, 2008), however, the rise of social media advertising (especially through Facebook) has seen this reduce to 56% (Womack, 2013). Clearly, there is a potential confluence of capability and opportunity to maximise the number of "eyeballs" exposed to online ads.

What are the implications of this massive rise in advertising expenditure, which coincides with an increased ability for online advertising networks to be able to best "place" ads to suit specific customers? One particular type of website – those associated with file sharing of infringing content – appears to have wholeheartedly embraced advertising. Indeed, advertising revenues provide the commercial motivation for criminal syndicates to operate such 'rogue' web sites. While the connection between film and television piracy and organised crime has been explored elsewhere, in terms of direct revenues (Treverton et al, 2009), there has been far less publicity about the advertising revenues generated from sites that appear to offer infringing content for free, or at least, offer torrents that enable users to download such material. Certainly, the links between the underground economy and the internet have been criticised for facilitating sexual exploitation and human trafficking through organised crime – in the classic paper in this field, Hughes (2000) highlighted how global advertising and marketing of prostitution have led to increases in volume globally. Furthermore, Hughes identified that a lack of regulation of internet advertising was the key policy failure in preventing harm to women and children.

The Pirate Bay is one of the most popular sites for providing torrents to infringing content, and has been the subject of criminal proceedings against its operators in Sweden. In the 2009 trial of its operators, their expenses were estimated to be US$110,000 p.a (Olsson, 2006; Kuprianko, 2009), with advertising revenues in the order of US$1.4m p.a

(Sundberg, 2009) – in other words, an extremely profitable business with gross margins of 1272%! A recent study (Detica, 2012) indicated that there are six different business models operating within the pirate site marketplace, ranging from advertisement and donation funding, through to subscriptions and freemium sites, where subscribers can gain faster access to illicit content by paying a subscription fee. 83% of the sites in that study operated using a central website. Selling advertising on file locker and torrent search sites is the major source of revenue for such sites. The Pirate Bay, for example, regularly features in the Top 50 sites accessed by Singaporeans (as computed by alexa.com) , and so it is a potentially attractive space for advertisers and ad networks, since the number of potential "eyeballs" is very high. Maximising "eyeballs" leads to clicking, which drives revenue for the ad networks (if they operate a Pay Per Click revenue model), and sales for the advertisers. A key question for advertisers and ad networks is the extent to which they wish to be associated with this type of activity; indeed, due to the complex algorithms which decide which ads to display to which users, advertisers may not be aware of every site that their ads are being displayed on.

Being able to quantify the scale of advertising on these sites is important, since informing and making advertisers aware of the integrity of the sites on which their ads are being displayed can then be undertaken. Advertisers will thus be able to make more informed choices about their use of online advertising networks (the companies who provide aggregation of space on web sites) who are supporting piracy by selling ad space on torrent and file locker sites. A recent set of best practice guidelines for ad networks to address piracy and counterfeiting have recently been released[2], and early indications are that most of the world's major web companies will participate[3].

There have been few systematic studies investigating the relationship between piracy and advertising, and most have been concerned with the impact of interventions to reduce piracy. For example, Sheehan et al (submitted) identified that increasing the perception of legal risk for college students was most likely to influence downloading behaviour, while Gopal et al (2009) weighed up the ethical predispositions of downloaders and their beliefs in justice and law to the money potentially saved by downloading infringing content. Indeed, it is this appeal to justice as the primary virtue of social behaviour (Rawls, 1999) that may concern ethical advertisers if their advertising expenditure was being used to fund illicit activities.

Recently, the USC Annenberg Lab has begun producing a report that explores the relationship between piracy sites and online advertising networks (Taplin, 2013). The USC report provides a method for revealing the advertisers whose ads are most likely to be served up on these sites, which may be occurring without the direct knowledge of the advertiser. While the objectives of USC research are significant, the monthly rankings of the "top ten" advertising networks responsible for placing the most ads on web sites that support infringing content are surprisingly variable – Google, for example, was ranked at #2 in January 2013, but did not appear at all in

2 http://2013ippractices.com/bestpracticesguidelinesforadnetworkstoaddresspiracyandcounterfeiting.html

3 http://torrentfreak.com/tech-giants-sign-deal-to-ban-advertising-on-pirate-websites-130715/

the February and March 2013 lists at all. One interpretation of the result could be that the January report achieved its goal of sensitising advertising networks, and that Google subsequently withdrew from placing ads on those sites. Alternatively, the variation could be due to biases inherent in studies using an observational methodology, including:

- Selection bias, in the way that infringing sites are selected. The study uses a single source (the Google Transparency Report of domains with the most DMCA takedown requests), rather than using a consensus technique which combines the ranks of several different data sources to provide the most accurate ranking. This type of triangulation is commonly used in observational studies as a form of triangulation;
- Information bias, since only one technique for collecting data is used (HTML and JavaScript code scraping), where other techniques may be more accurate or representative of advertising behaviour. For example, persistent cookies have been strongly associated with behavioural advertising, and the frequency of tracking cookies being stored by ad networks could provide an alternative measure of presence of significance. Yet the USC report does not analyse cookies at all; and
- Recall bias, since the data analysed was only from English-language websites and advertising networks which may potentially have a higher level of visibility than networks which operate in other geographic zones, languages, encoding types etc

Also, the lack of detail in how measures like the “top 500” sites prevent the study results from being directly replicated, which would be the standard required for peer review by other researchers. By not providing this level of detail, the credibility of the USC report may be called into question by the very vocal critics of any research in the anti-piracy field.

In this paper, we present a more rigorous and fully replicable methodology which should provide a much clearer view of advertising network behaviour in different countries, jurisdictions, languages etc. In this study, we specifically target English language films and television shows viewed by Singaporean users; the methodology itself is sufficiently general that it could be applied to any country and any category, including music, computer games, e-books etc

A previous study using this methodology focused on the ads being served to Australians. In that study, it was found that 99% of the ads from the “top 500” sites were High-Risk, while only 1% were Mainstream. It is predicted that a similar composition will be found in Singapore.

# METHODOLOGY

The main goal of the methodology is to identify the advertising networks and advertisers from a sample of DMCA complaints, which have been ranked in terms of the number of complaints upheld by Google (through their Transparency Report).

These complaints typically relate to the availability of search results for a wide range of potentially infringing content; by only selecting the most complained about and subsequently upheld complaints as assessed by a third-party (Google), the results should be robust against criticisms that there is no proof that the sites in question were hosting torrents of infringing content or infringing content directly, in the case of a file locker site.

The methodology operates by downloading each page from the "top 500" complaints submitted to Google within the previous month, ordered by the number of upheld complaints. Since each DMCA notice can contain many thousands of individual URLs, a sampling procedure can be used to identify a representative subset of URLs, and the advertisements on each page can be downloaded along with their metadata. In the case of simple banner ads, it is then relatively easy to identify the advertisers concerned; in the case of each distinct advertisement, a rule can be generated using SQL or similar to identify all advertisements with the same metadata. However, some advertising networks use JavaScript obfuscation and a series of redirects to obscure the ultimate destination for the advertising banner; in this case, manual inspection must be performed, in the absence of a general purpose image/logo recognition system. The overall prevalence of a particular advertiser on each network can be then be computed and ordered by frequency.

A key question arises concerning the relevance of using DMCA notices from Google as the basis for determining prevalence in Singapore. Singapore's population has a linguistically diverse Chinese (75%), Malay (14%) and Indian (8.8%) population, and given that DMCA notices predominantly relate to English-language movies and television, are these notices relevant? However, in practice – as noted by Ang (2007), English-language television and other forms of media are still dominant.

Furthermore, it may be of interest to separate out "Mainstream" advertisements as opposed to "High-Risk" advertising, since the Annenberg reports indicate a flight by Mainstream advertising this year from sites that host infringing content.

Advertisers who may otherwise be unable to place their ads on a Mainstream site can then take advantage of increasing "eyeballs" by occupying display space. Results are thus reported for the High-Risk and Mainstream categories, with the former including categories such as:

- Sex Industry, which includes adverts for:
  - » Penis length extension medication
  - » Fake personal/dating sites

  - » Pornography of various kinds
  - » Dating and “foreign bride” sites
- Online Gambling
- Malware, including
  - » Fake software incorporating Trojan horse malware (numerous alerts were raised by anti-virus software during the data collection process due to “drive by downloads” of malware)
  - » Fake anti-virus or anti-scamware
  - » Suspicious software such as fake video codecs or video players that replicate existing functions within Microsoft Windows. The purpose of such downloads is unclear, although it is possible that they could host Trojans or provide backdoor access to systems.
- Scams, as defined by Stabek et al (2010), such as:
  - » Premium rate SMS scams
  - » Fake competitions where no prizes are offered
  - » Investment scams
  - » Employment scams

The algorithm works as follows:

1. A data collection system is installed physically or logically to attract advertising for a specific geographical/country segment. For this study, Singapore was selected.
2. The current Google Transparency Report[4] is downloaded, which lists all of the DMCA requests for a specific time period[5]. This list provides one means of identifying sites involved in sharing pirated material.
3. The dataset is sorted by the number of URLs removed, retaining the “top 500” DMCA requests (the request list) by complaint category. For this study, the complaint category was movies and TV shows; other complaint categories such as pirated software, adult material, music etc were excluded.
4. For each report in the request list first 10 URLs are extracted as a representative sample of all of the URLs contained within the report. This gives a total of 5,000 web pages to be downloaded (the sample).

4 https://www.google.com/transparencyreport/removals/copyright/data/

5 The DMCA list for May-July 2013 was used in this analysis

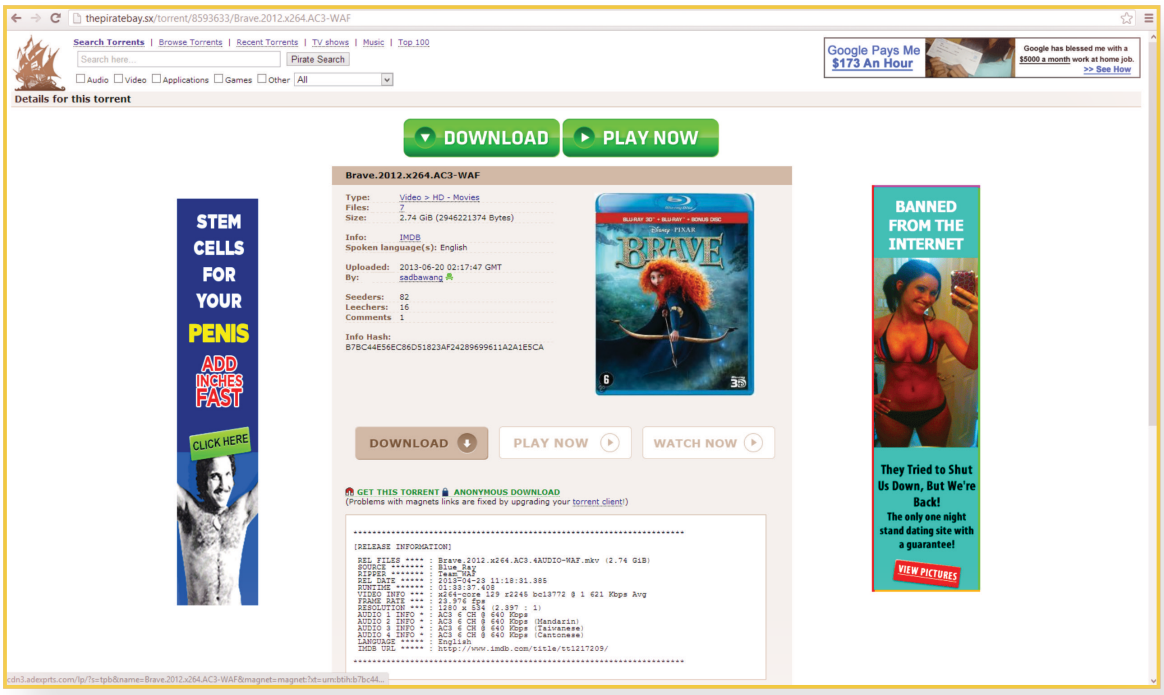
5. Each of the 5,000 web pages in the sample is downloaded, and a screenshot is taken, showing the ads being served. Note that pop-up ads are not captured.

6. For each web page in the sample, the code blocks that contain advertising are parsed and extracted. This can be achieved by matching against the Easy List[6](used by Adblock Plus for filtering), for known URL patterns and hostnames of advertisers. Some pages in the sample will have no ads, while others will have multiple ads.

7. For each advertising code block, the domain of the advertising network being used is identified, by stripping extraneous code and links from the code block, and counting the frequency of appearance of each ad network domain.

8. For each identified advertisement, an attempt is made to identify the actual advertiser, by analysing metadata, following the link and extracting the domain of the actual advertiser, or through visual inspection. A list of all identified advertisers is then generated.

Below, an example search for a child's movie that displays advertising for 'Sex Industry', 'Employment Scams' as well as 'Software Downloads' which is designed to coerce users into clicking by showing prominent, in-line 'download' and 'play now' buttons:




6 http://easylist.adblockplus.org/en/

# RESULTS

Appendix A contains a list of the DMCA notices identified in Step 3, including TV and movies from major Hollywood studios such as Fox, Warner Bros etc.

From the 5,000 pages analysed in Step 4, a total of 10,009 advertising items and 1,521 visible ads were identified in Step 6[7]. Postprocessing of the identified domains were performed to ensure that all ad blocks were correctly identified, for example, by removing port numbers that were included as part of a URL. 253 unique domains for advertising networks were identified, indicating an average 6.01 ads per network in the sample (keeping in the mind that the distribution – shown in Table 1's Top 10 advertising networks - is non-uniform).

Appendix B contains the complete list of advertising networks detected. Note that no merging of distinct services was performed, eg, the several domains of The Pirate Bay were not aggregated. Also, where a domain appears within an ad block, this is a technical definition as per the methodology in Steps 6 and 7, ie, if the site or known ad URL appears in the block, then it will be counted. This could include Facebook social plugins, for example, rather than Facebook ads.

The analysis is presented by reviewing the High Risk ads first, followed by the Mainstream ads.

TABLE 1. Frequency Analysis by Advertising Network[8]

| Advertising Network | Frequency | % of Ads |
|---|---|---|
| propellerads.com | 1647 | 16.5% |
| pobieramy24.pl | 718 | 7.2% |
| fhserve.com | 702 | 7.0% |
| filestube.com | 392 | 3.9% |
| isohunt.com | 322 | 3.2% |
| sumotorrent.com | 279 | 2.8% |
| adcash.com | 268 | 2.7% |
| propellerpops.com | 246 | 2.5% |
| btarena.org | 240 | 2.4% |
| velmedia.net | 232 | 2.3% |

7 Advertising items include any scripts, images, spacers etc being referenced from an Adblock domain, in addition to visible ads

8 Note that some ad networks like isohunt.com and sumotorrent.com do not display their ads outside their own domain; they are ranked highly because of the high number of DMCA complaints against their site.

## HIGH-RISK ADVERTISING - TOP 10

Table 2 contains a summary of the results from the Top 10 ad networks. There were 5,046 advertisements in this sub-sample of which 1,446 items were distinct. Each of these advertisements was downloaded, visually inspected and categorised.

The results indicate that malware, scams (including employment, investment and SMS premium rate), and the sex industry were the most popular distinct advertising types in Singapore for the Top 10 networks.

An example of malware downloaded is provided by the advertising link http://isohunt.com/a/adclick.php?bannerid=493&zoneid=&source=btDetails-banner&dest=http%3A%2F%2Flp.ncdownloader.com%2Fexact%2F%3Fq%3DCannonball+Run+II.+1984.

TABLE 2. High-Risk ad type frequencies by network

KEY:

| |
|---|
| Sex Industry |
| Malware |
| Downloads |
| Gaming/Gambling |
| Scams |

| Ad Network | Ad URLs | Distinct Ad URLs | | | | | |
|---|---|---|---|---|---|---|---|
| propellerads.com | 1647 | 113 | 0 | 45 | 0 | 4 | 3 |
| pobieramy24.pl | 718 | 76 | 0 | 36 | 0 | 0 | 85 |
| fhserve.com | 702 | 609 | 16 | 149 | 0 | 2 | 116 |
| filestube.com | 392 | 184 | 33 | 10 | 0 | 0 | 267 |
| isohunt.com | 322 | 142 | 0 | 2 | 11 | 0 | 0 |
| sumotorrent.com | 279 | 76 | 2 | 3 | 1 | 0 | 0 |
| adcash.com | 268 | 55 | 0 | 6 | 0 | 1 | 10 |
| propellerpops.com | 246 | 83 | 0 | 0 | 0 | 0 | 0 |
| btarena.org | 240 | 86 | 0 | 120 | 0 | 4 | 0 |
| velmedia.net | 232 | 22 | 1 | 8 | 0 | 2 | 2 |
| TOTAL | 5046 | 1446 | 52 | 379 | 12 | 13 | 483 |

Upon visiting this page, a download is initiated to the user's computer containing the file Cannonball Run II. 1984.exe which is only 292K in size – much smaller than a typical video file of at least 700M. Running this file through the online scanner virscan.org –

which analyses suspicious files using 36 different products – the file is verified as ADWARE/Adware.Gen (http://v.virscan.org/ADWARE/Adware.Gen.html) by AntiVir 8.2.10.202 and as Adware.Downware.1166 by ClamAV (http://v.virscan.org/Adware.Downware.1166.html).

A review of the other known filenames associated with this malware indicates a typical strategy of associating a desirable filename with the malicious code, ie, using a filename that users desiring to download infringing content will click on, including Mortal Kombat - Komplete Edition Crack (2013) Download.exe and Transformers 3 - Dark of the Moon (2011) [1080p].exe.

## HIGH-RISK ADVERTISING - ALL SITES

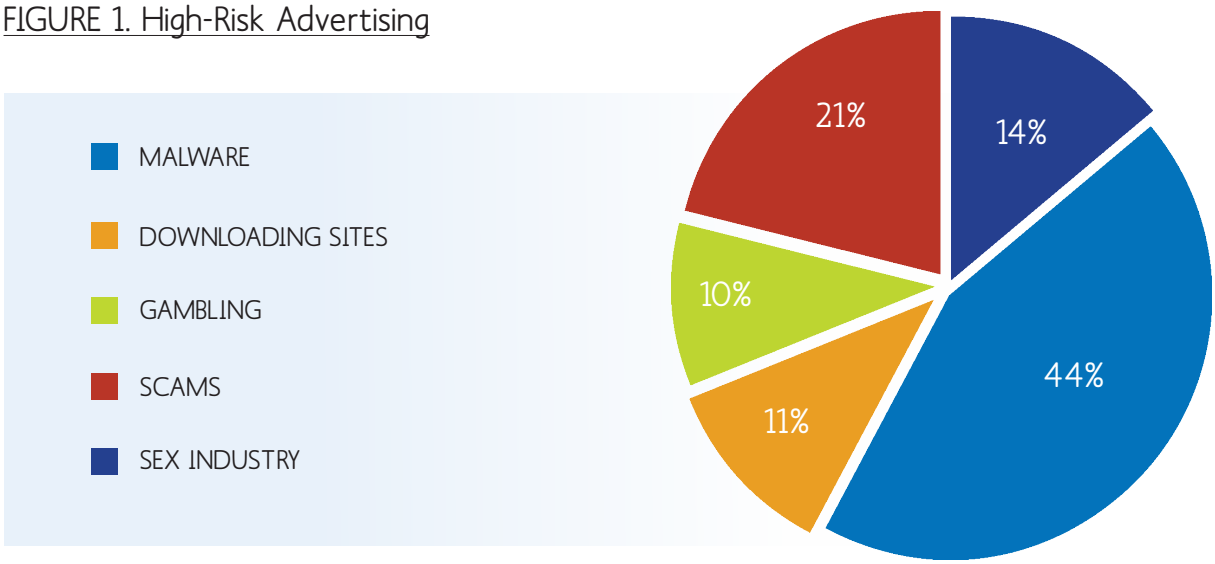
Table 3 shows the breakdown of the most common ad categories for High Risk ads across all networks. Each advertisement was downloaded, visually inspected and categorised.

TABLE 3. Frequency by Ad category - High Risk Ads

| | Sex | Malware | Download | Gambling | Scams |
|---|---|---|---|---|---|
| N | 193 | 608 | 159 | 139 | 285 |
| % | 13% | 40% | 10% | 9% | 19% |

The results indicate that the sex industry, malware, downloading sites, gambling or scams (including employment, investment and SMS premium rate) were the most popular distinct advertising types. The categories are summarised in Figure 1.

FIGURE 1. High-Risk Advertising



## MAINSTREAM ADVERTISING - ALL SITES

Table 4 contains the results of the step 8 results obtained by visually inspecting every advertisement in the sample (comprising 10 pages from each of the Google Ad Transparency Top 500 complaints) to identify whether it contained any Mainstream advertising. Typically, a rogue site will have 3-4 ad panels, and in many cases, the ads were tailored to the local geographic context. In some cases, advertisements were blocked with an image stating the site was "blocked for Singaporeans" indicating further evidence of geographic customisation for the advertising content. In some cases, domains associated with file sharing were "parked" and advertising displayed, even if no infringing content was actually displayed – especially where such sites had terms like "warez", "anon" and "rapidshare" in their domain name.

## 90% OF ADVERTISEMENTS DISPLAYED ON ILLEGAL WEBSITES ARE HIGH-RISK[9]

10% of the ads sampled consistently showed evidence of targeting Singaporean users through the presentation of Mainstream advertising. Some ads and/or advertisers were only detected once. In a sense, this represents a type of leakage, since the Mainstream ads were a minority of the overall ads displayed (which were overwhelmingly High-Risk). A breakdown by industry category is shown in Figure 2.

TABLE 4. Mainstream Advertisers detected

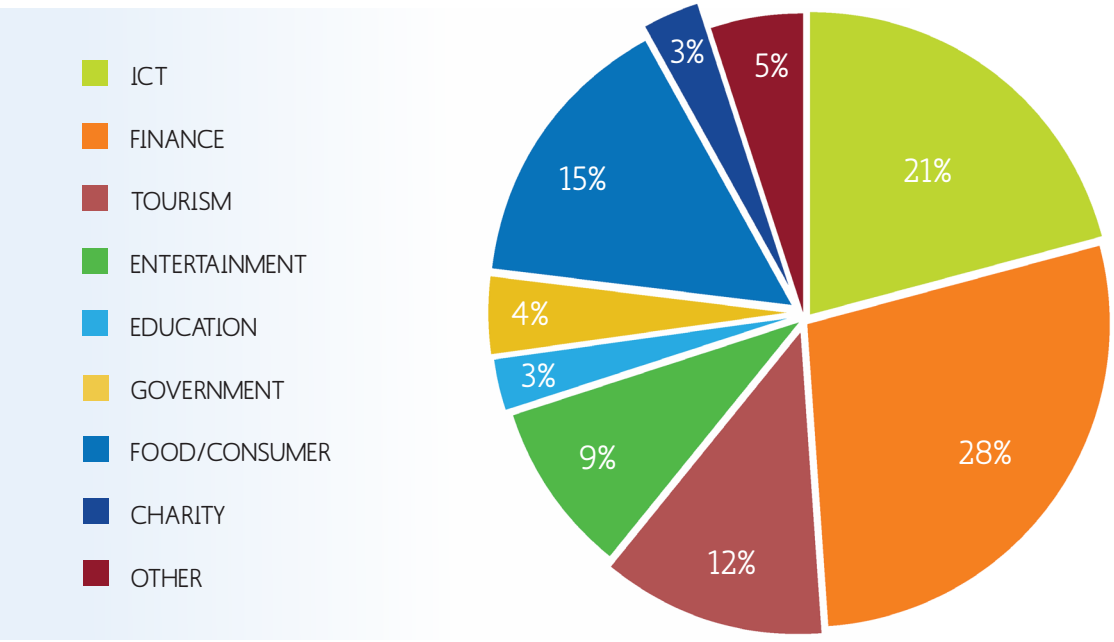
| Frequency | Advertiser |
|---|---|
| 27 | Tmobile |
| 22 | Kerdytyk Bank |
| 10 | McDonalds |
| 8 | Agoda |
| 6 | Visa |
| 5 | Imesh |
| 5 | Indidirk |
| 4 | Sony |
| 4 | University of Liverpool |
| 4 | Netotrade |
| 4 | Groupon |

9 High-Risk ads are those promoting goods or services which fall outside the legitimate economy or white market, may be illegal or restricted within certain jurisdictions but not others, or may be fake or counterfeit.

TABLE 4. continued...

| | |
|---|---|
| 3 | Cebu Pacific Air |
| 3 | Pizza Hut |
| 3 | Hotels Combined |
| 3 | Tesco |
| 2 | dvs.vn |
| 2 | Adobe |
| 2 | ESPA Resort |
| 2 | Paypal to webmoney |
| 2 | Jetstar |
| 2 | Radiorage |
| 2 | SmokeyBear.com |
| 2 | adoptuskids.org |
| 2 | Yahoo Ads |
| 1 | Maybank |
| 1 | Singapore Human Capital Summit |
| 1 | Franklin Templeton Global Equity Fund |
| 1 | Google Nexus |
| 1 | Nicorette |
| 1 | De Puy hip recall |
| 1 | whitehouseblackmarket.com |
| 1 | Coca Cola |
| 1 | Disney Pixar |
| 1 | Tic tacs |
| 1 | Clinton Foundation |
| 1 | Microsoft |
| 1 | endabuse.org |
| 1 | Red Cross |
| 1 | Alzheimer's Association |
| 1 | Health Promotion Board |
| 1 | RIPD movie |
| 1 | Cafepress |

FIGURE 2. Mainstream Advertising




## MAINSTREAM ADVERTISING - TOP 10 ADS

Table 5 shows the frequency distribution for the ten most frequently detected Mainstream ads. The key difference to note is the relative decline in Google ads for this sample and geographic location compared to the original Australian sample, where 87% of the Mainstream ads were served up by Google ads (Watters, 2013). This may be due to local advertising conditions, network restrictions (eg, blocking of certain ad networks) or a reduction in placement of Google ads onto rogue sites as a matter of policy.

TABLE 5. Mainstream Advertisers Detected (Top 10)

| Advertiser | Ad Network | Eg. Site where displayed | Frequency | % of Ads |
|---|---|---|---|---|
| Tmobile | tlvmedia | pobieramy24.pl | 27 | 18% |
| Kerdytyk Bank | bbelements | pobieramy24.pl | 22 | 15% |
| McDonalds | Google | apnatvforum.com | 10 | 7% |
| Agoda | appnexus | 1fichier.com | 8 | 5% |
| Visa | appnexus | movshare.net | 6 | 4% |
| Imesh | Adcash | kat.ph | 5 | 3% |
| Indidirk | unknown | derinport.in | 5 | 3% |
| Sony | appnexus | movshare.net | 4 | 3% |
| University of Liverpool | appnexus | 1fichier.com | 4 | 3% |
| Netotrade | appnexus | yallarab.com | 4 | 3% |

Table 6 summarises the prevalence of ad networks showing the top 10 ads. With the relative decline in Google ads, two other ad networks have simply moved in to fill the void, resulting in a type of displacement. Criminological theory suggests that displacement does not necessarily always result in negative outcomes. For example, if a more serious crime type is displaced by a less harmful type, then displacement can be positive (Felson & Clarke, 1998). In this case, the Mainstream advertisements are simply being displaced from network (such as Google ads) to others (including AppNexus and TLVMedia).

TABLE 6. Mainstream Advertisers Detected (Top 10)

| Advertising Network | N | % of Ads |
|---|---|---|
| tlvmedia | 27 | 28% |
| appnexus | 26 | 27% |
| bbelements | 22 | 23% |
| Google | 10 | 11% |
| adcash | 5 | 5% |
| unknown | 5 | 5% |
| TOTAL | 95 | 100% |

# CONCLUSION

High Risk ads comprise the dominant form of advertising on rogue sites as viewed by Singaporeans. Singaporeans are at a very high risk of being exposed to advertisements for the sex industry, malware, scams and gambling if they visit rogue websites. Such advertisements pose a real risk to the mental wellbeing of Singaporeans, and appear to be inconsistent with Singapore's social policies.

Mainstream ads were present at a much higher than a comparable study for Australia, with ad banners often customised to suite local tastes and interests. For example, McDonald's ads were displayed on page providing links to infringing copies of the movie Brave. Other household names such as Coca Cola, the Red Cross, Nicorette and Jetstar across industries such as banking, transport and leisure were prominently displayed. Even if only a single ad was displayed in this sample, that would correspond to a prevalence rate of 1 in 5,000 for all ad impressions.

The key findings from the analysis of the first Singaporean data set are discussed below:

- 90% of the ads were High-Risk; only 10% were Mainstream.
- In the High-Risk ads, 40% were for malicious or suspected malicious code, while 13% were for the sex industry. A further 19% were for scams of various kinds, including premium rate SMS, investment and employment scams, and gambling ads were 9%. While these were broadly comparable to the Australian data, variations may be due to the implementation of ISP or government filtering regimes. For example, all visually explicit content was blocked, but sex industry ads in Singapore appeared to use more subtle language and models wearing lingerie rather than being nude.
- The top ad networks serving ads to Singaporeans include propellerads.com, pobieramy24.pl and fhserve.com; while pobieramy24.pl is new, the other two were the top advertising networks for Australian ads.
- A significant number of household name brands in Singapore choosing to advertise on sites and their pages which are promoting the distribution of infringing content (movies and TV shows). Further investigation is needed to uncover the mechanics of how these ads are selected to appear; are advertisers engaging directly with ad networks, or are ad networks operating at a wholesale level and distributing ads to other networks through a resale programme? Who, eventually, has control over the display of this type of advertising space?
- Household names from the top Mainstream advertisers included Tmobile, McDonalds, Visa and Agoda, with ICT, Finance, Tourism, Entertainment, Education, Government, Food/Consumer and Charity being the most prominent industry categories.

Drawing together these findings, some key lessons can be drawn:

- Singaporeans have a greater chance of viewing Mainstream ads compared to Australians, but the overwhelming majority of ads served by rogue sites are High Risk and pose a real danger to viewers.
- Singaporean ads appear to be filtered to some extent, with many "blank" ads appearing in screenshots where an ad should have been visible. However, the filtering appears to be image-based and not text-based, and it does not appear to be effective in blocking scams and gambling ads, or sex industry ads where the models are wearing lingerie. Singapore should investigate applying further controls that are text based as well as image based (eg, Ho & Watters, 2004).
- Advertisers need to have better mechanisms to control where there ads are eventually displayed on ad networks. Consider the case where one Disney ad was displayed on a rogue website; clearly, this is not a place where the advertiser would wish their ads to be placed. Better systems for operational assurance and detection of misplaced ads need to considered, whether they operate using a whitelist or a blacklist (Ho & Watters, 2005).
- Regulatory approaches need to be considered to control the revenue flowing to rogue websites, and to minimise harm to users. A proposed code of conduct (Dredge, 2013) would be a first step to isolating rogue websites. Advertisers recently succeeded in pressuring Facebook, for example, to remove offensive by threatening to remove ads (as a group; Cellan-Jones, 2013).
- Other types of rogue content have been managed effectively by legal sanctions in the past. For example, paid search results for pharmaceuticals without prescriptions (O'Donnell, 2013) were removed by Google after they paid a very significant fine. However, Google's organic search results continue to display results from rogue drug sellers, ranging from marijuana through to MDMA and ecstasy (Watters & Phair, 2012). Searching Google for "buy ecstasy" returns numerous pages such as http://buyecstasypillsonline.wordpress.com/2013/07/27/buy-cheap-ecstasy-pills-online/ where users can order illicit drugs and have them delivered to order. Regulation of this type of advertising can be effective but more needs to be done.

# CONCLUSION

- Since cyber criminals are very effective at exploiting jurisdictional differences, a global, industry wide code may have a greater impact on revenue flows for rogue websites. However, industry codes need to engage with ad networks who are placing ads for High Risk advertisers. At this stage, none of the top advertising networks supporting rogue websites appear to be involved in the proposed code of conduct[10].

- Finally, and perhaps most importantly, parents and educators need to be aware of that the sex industry and online gambling sites specifically target torrent search and file locker sites for advertising their services. Ads promoting scams, the sex industry and gambling compromised 37.72% of the ads examined. For example, upon visiting the "Top 100" page for the Pirate Bay, one employment scam was displayed ( "I make $260 every day") and one porn site ("Facebook of webcams"). However, upon clicking the "Porn" page, an animated sex ad is displayed ("LOCAL SLUTS WANT TO F**K. Why the F**K would you pay for sex? Sign Up and F**K"). There are absolutely no age warnings on these pages, and no attempt is made by the Pirate Bay to verify if users are adults. Parents need to be aware that this is the type of content that will be served up to their children, even if they are only intending to download torrent for music or less offensive content. The absence of traditional regulatory mechanisms for effectively controlling online content – including the Classification Board and Advertising Standards Bureau - mean that new subcultural norms are rapidly being established online, and these can have profoundly negative consequences; for example, a progression model of rising interest in child exploitation material has been linked to the rise of the online porn culture, particularly where young users are inadvertently exposed to pornography through advertising (Prichard et al, 2013).

10 http://www.bbc.co.uk/news/technology-23325627

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# APPENDIX A- TOP 500 DMCA NOTICES, FILM &TV SHOWS

| URL | Complainant |
|---|---|
| http://www.chillingeffects.org/notice.cgi?sID=1000881 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1002076 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1002077 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1002078 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1002082 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1002085 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1002436 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1002441 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1004067 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1004332 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1004944 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1005246 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1006896 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1008522 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1009532 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1010605 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1010607 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1010609 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012432 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=1012433 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=1012485 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012493 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012495 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012506 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012507 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012509 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012510 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012514 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012515 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012517 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1012839 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1013010 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1014235 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1014241 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1014294 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1014333 | Viacom Media Networks |

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|---|---|
| http://www.chillingeffects.org/notice.cgi?sID=1014467 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1016109 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1016112 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1016119 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1016128 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1016131 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1016132 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1016705 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1017042 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1017501 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1019049 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1019428 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1019465 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1020730 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1021685 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1021800 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1021829 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1022720 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1022728 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1022731 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1022733 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1022739 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1023887 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1024866 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1024867 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1024868 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1024870 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1024871 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1024874 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1024875 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1025091 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=1026072 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1026075 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1027258 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1027259 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1028116 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1029213 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1029233 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1030120 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1030169 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030171 | NBCUniversal |

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| http://www.chillingeffects.org/notice.cgi?sID=1030173 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030174 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030178 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030187 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030188 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030191 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030198 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030200 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030202 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1030976 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1032190 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1032215 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1032216 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1032223 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1032227 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1034388 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1034389 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1034398 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1034663 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1035407 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1035408 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1036743 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1036751 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1036757 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1037636 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1037673 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1038831 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1038838 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1038925 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1040832 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1040833 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1040836 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1040841 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1040842 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1040849 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1042608 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1042610 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1042771 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1043408 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1043431 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1043441 | Disney Enterprises Inc. |

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| http://www.chillingeffects.org/notice.cgi?sID=1043442 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1043693 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1044657 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1044664 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1044998 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1045903 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1045907 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1047152 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1047165 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1047188 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1047195 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1048215 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1048222 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1049382 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1049509 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1050134 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1050805 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1051250 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1052083 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1052259 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1052931 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1053913 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1053926 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1054287 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1054458 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1054845 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1055591 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1055593 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1055599 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1055631 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1055632 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1055640 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1055699 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1056841 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1056855 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1056874 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1057253 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1057332 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1057335 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1058627 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1060646 | Fox |

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| http://www.chillingeffects.org/notice.cgi?sID=1060650 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1060656 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1060658 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1060674 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1060989 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1061413 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1061674 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1061675 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1061696 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1061703 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1061712 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1062480 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1062483 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1062489 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1062496 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1062497 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1062515 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1063603 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1063605 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1064557 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1064558 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1064575 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1064581 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1064784 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1065639 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1066048 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=1066279 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1066307 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1066325 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1066326 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1067259 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1067321 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1067323 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1068116 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1069318 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1069330 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1069538 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1069915 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1071174 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1073271 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1073277 | Fox |

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| http://www.chillingeffects.org/notice.cgi?sID=1073312 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1073322 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1073323 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1073541 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1075063 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1075077 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1075078 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1075083 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1075087 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1075586 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1075785 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1075989 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076009 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076123 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076125 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076129 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076140 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076163 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076173 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1076976 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1077125 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1077169 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1077523 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1077944 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1077951 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1077961 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1077968 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1077970 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1077987 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1077989 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1078002 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1078009 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1078016 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1078021 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1078026 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1078359 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1079349 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1079357 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1079360 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1079537 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079835 | NBCUniversal |

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| http://www.chillingeffects.org/notice.cgi?sID=1079840 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079852 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079855 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079859 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079862 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079864 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079867 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1079916 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1079934 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1080126 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1080127 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1080137 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1080188 | Paramount Pictures Corp. |
| http://www.chillingeffects.org/notice.cgi?sID=1080849 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1080867 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1081893 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1081900 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1082642 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1083894 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1085665 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1085670 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1085672 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1085678 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1085682 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1086579 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1086582 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1086798 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1087900 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1087910 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1087939 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1088117 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1088128 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1088129 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1088158 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1088660 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1088815 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1088825 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1088829 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=1089572 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=1090222 | Fox |

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| http://www.chillingeffects.org/notice.cgi?sID=1090223 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1090227 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1090236 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=1090968 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1090972 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=1090981 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=926012 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=927133 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=927140 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=927141 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=928963 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=928966 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=929454 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=929609 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=929614 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=930899 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=930903 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=930905 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=930907 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=931188 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=931190 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=931193 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=931214 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=931218 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=931220 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=931426 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=931432 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=931433 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=933115 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=933726 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=934635 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=936109 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=936129 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=936132 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=937194 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=937746 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=937749 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=937751 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=937758 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=938256 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=939197 | Disney Enterprises Inc. |

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| http://www.chillingeffects.org/notice.cgi?sID=939812 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=940054 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=940056 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=941300 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=941308 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=941647 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=942465 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=942779 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=942997 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=943140 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=943679 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=943680 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=944024 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=944726 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=944789 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=944792 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=945435 | Viacom Media Networks |
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| http://www.chillingeffects.org/notice.cgi?sID=947368 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=947372 | Fox |
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| http://www.chillingeffects.org/notice.cgi?sID=947395 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=947967 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=947975 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=949303 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=949934 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=949940 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=950763 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=950767 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=951148 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=951464 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=951529 | Viacom Media Networks |
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| http://www.chillingeffects.org/notice.cgi?sID=952417 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=952446 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=953579 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=953919 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=953951 | Fox |
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| http://www.chillingeffects.org/notice.cgi?sID=958998 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=958999 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=959003 | Fox |
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| http://www.chillingeffects.org/notice.cgi?sID=959010 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=959357 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=959378 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=960722 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=961244 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=961251 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=961254 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=961673 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=961776 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=962816 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=962829 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=963725 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=963784 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=963791 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=963794 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=964664 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=964679 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=965237 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=965264 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=965271 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=965374 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=965378 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=965379 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=965380 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=966472 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=967030 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967174 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967177 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967179 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967181 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967182 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=967183 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967187 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967189 | NBCUniversal |

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| http://www.chillingeffects.org/notice.cgi?sID=967191 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967192 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967196 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=967198 | NBCUniversal |
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| http://www.chillingeffects.org/notice.cgi?sID=967277 | NBCUniversal |
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| http://www.chillingeffects.org/notice.cgi?sID=971043 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=971049 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=971054 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=971070 | Paramount |
| http://www.chillingeffects.org/notice.cgi?sID=972670 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=972675 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=973119 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=973606 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973659 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973662 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973665 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973666 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973667 | NBCUniversal |
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| http://www.chillingeffects.org/notice.cgi?sID=973673 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973677 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973678 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=973760 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=974871 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=974896 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=975378 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=975404 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=975473 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=976691 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=977292 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=977294 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=977610 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=977947 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=979072 | Fox |

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| http://www.chillingeffects.org/notice.cgi?sID=979381 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=979388 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=980651 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=981522 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=983020 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=983154 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=983157 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=983159 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=983162 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=983166 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=983686 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=983832 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=984275 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=984283 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=985406 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=986293 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=986301 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=986312 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=987551 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=988561 | Viacom Media Networks |
| http://www.chillingeffects.org/notice.cgi?sID=989506 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=989757 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=989760 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=989761 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=990365 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=991299 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=991318 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=992380 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=992381 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=992392 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=993126 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=994208 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=996009 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=996031 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=996032 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=996033 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=996394 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=996395 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=996400 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=996402 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=996405 | NBCUniversal |

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| http://www.chillingeffects.org/notice.cgi?sID=996407 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=996412 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=996420 | NBCUniversal |
| http://www.chillingeffects.org/notice.cgi?sID=996912 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=996915 | Disney Enterprises Inc. |
| http://www.chillingeffects.org/notice.cgi?sID=997769 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=997801 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=997802 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=997803 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=997805 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=999830 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=999832 | Fox |
| http://www.chillingeffects.org/notice.cgi?sID=999898 | Fox |

# APPENDIX B- FULL LIST OF ADVERTISING NETWORKS DETECTED

| Advertising Network | Frequency |
|---|---|
| propellerads.com | 1647 |
| pobieramy24.pl | 718 |
| fhserve.com | 702 |
| filestube.com | 392 |
| isohunt.com | 322 |
| sumotorrent.com | 279 |
| adcash.com | 268 |
| propellerpops.com | 246 |
| btarena.org | 240 |
| velmedia.net | 232 |
| admxr.com | 228 |
| adshost1.com | 203 |
| googletagservices.com | 200 |
| adshost2.com | 200 |
| tlvmedia.com | 184 |
| torrentfunk.com | 164 |
| adexprt.com | 161 |
| pl.bbelements.com | 138 |
| google.com | 138 |
| webmasterbond.com | 120 |
| facebook.com | 110 |
| zedo.com | 106 |
| popads.net | 96 |
| ad4game.com | 93 |
| netsprint.eu | 92 |
| usualmedia.com | 72 |
| uasdel.com | 72 |
| coolmirage.com | 70 |
| bidvertiser.com | 68 |
| torrentroom.com | 64 |
| esoft.me | 64 |
| fulldls.com | 62 |
| sceper.ws | 60 |
| lulzimg.com | 60 |
| yimg.com | 51 |
| cpm24.pl | 46 |

| | |
|---|---|
| cpmleader.com | 46 |
| impresionesweb.com | 45 |
| ad6media.fr | 42 |
| aclantis.com | 42 |
| adserve.com | 40 |
| adbooth.net | 37 |
| torrentportal.com | 37 |
| 1phads.com | 34 |
| zoink.it | 34 |
| ad4mmo.pl | 33 |
| reduxmediia.com | 33 |
| isohits.com | 32 |
| torrage.com | 32 |
| depositfiles.com | 30 |
| torrentreactor.net | 30 |
| cdnfile.com | 28 |
| limetorrents.com | 27 |
| clicksor.com | 27 |
| onclickads.net | 26 |
| lumovies.com | 24 |
| cdn.turbobit.net | 24 |
| ffdownloader.com | 23 |
| advertise.com | 23 |
| adlure.net | 23 |
| adsbyisocket.com | 22 |
| bitsnoop.com | 21 |
| torrentdownloads.me | 21 |
| fileserve.com | 20 |
| adbrite.com | 20 |
| dreamboxcart.com | 20 |
| mechodownload.com | 20 |
| adtransfer.net | 19 |
| fenopy.com | 19 |
| torrents.net | 18 |
| rapidgator.net | 18 |
| downtwarez.com | 17 |
| juicyads.com | 17 |
| torlock.com | 16 |
| torrenthound.com | 16 |
| fenopy.se | 16 |
| smowtion.com | 15 |

| | |
|---|---|
| monova.org | 15 |
| 1337x.org | 15 |
| sanatas.com | 15 |
| kickasstorrents.com | 15 |
| madadsmedia.com | 15 |
| campus-party.org | 15 |
| h33t.com | 14 |
| yourbittorrent.com | 14 |
| uptobox.com | 14 |
| extratorrent.com | 14 |
| extabit.com | 14 |
| evolutionmedia.bbelements.com | 14 |
| yieldmanager.com | 13 |
| friendlyduck.com | 13 |
| seedpeer.me | 13 |
| newtorrents.info | 13 |
| torrentday.com | 13 |
| katmirror.com | 12 |
| warez-home.net | 12 |
| procontentservice.com | 12 |
| pubdirecte.com | 12 |
| lzjl.com | 12 |
| yesads.com | 12 |
| w3.org | 12 |
| auto-ping.com | 12 |
| engine.4dsply.com | 12 |
| vidics.ch | 11 |
| go.goldbachpoland.bbelements.com | 11 |
| torrentzap.com | 11 |
| SceneTime.com | 11 |
| mrgreen.com | 11 |
| predictad.com | 11 |
| tinypic.com | 11 |
| baypops.com | 11 |
| rarbg.com | 10 |
| darkmachine.pl | 10 |
| ioptionpartners.com | 10 |
| zimabdk.com | 10 |
| shabakti.com | 10 |
| simplyserve.me | 10 |
| criteo.com | 9 |

| | |
|---|---|
| schema.org | 9 |
| onvertise.com | 9 |
| v2cigs.com | 9 |
| torrentbit.net | 9 |
| torrentdownloads.net | 9 |
| bubblesmedia.ru | 8 |
| tblamnetwork.com | 8 |
| serveads.info | 8 |
| tvrage.com | 8 |
| wikipedia.org | 8 |
| torrentcrazy.com | 8 |
| xtendmedia.com | 8 |
| btjunkie.org | 8 |
| thepiratebay.sx | 7 |
| katproxy.com | 7 |
| pirateproxy.net | 7 |
| engine.trklnks.com | 7 |
| networkhm.com | 7 |
| dt00.net | 7 |
| yllix.com | 7 |
| btscene.org | 6 |
| vatgia.com | 6 |
| vidxden.com | 6 |
| feedburner.com | 6 |
| movie25.com | 6 |
| cpxinteractive.com | 6 |
| adsopx.com | 6 |
| ahashare.com | 6 |
| digg.com | 5 |
| kovla.com | 5 |
| icio.us | 5 |
| extra33.com | 5 |
| bittorrent.am | 5 |
| imdb.com | 5 |
| twitter.com | 5 |
| mypcbackup.com | 4 |
| phaze.co | 4 |
| torrent.cd | 4 |
| fenopy.eu | 4 |
| c8.net.ua | 4 |
| stumbleupon.com | 4 |

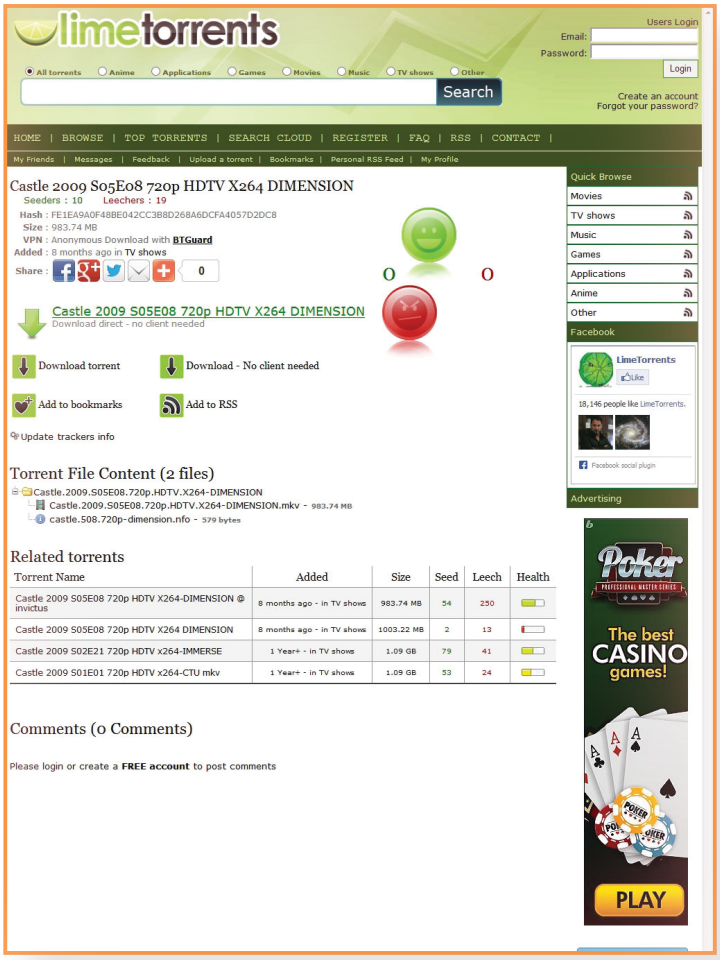
| | |
|---|---|
| medleyads.com | 4 |
| katzddl.ws | 4 |
| gssp-a.com | 4 |
| quaivatdienanh.com | 4 |
| iwannawatch.ch | 4 |
| zap2it.com | 4 |
| | 4 |
| thefutoncritic.com | 4 |
| desijuke.net | 4 |
| arbopl.bbelements.com | 4 |
| opensubtitles.org | 3 |
| rotator.hadj7.adjuggler.net | 3 |
| bt-chat.com | 3 |
| cpxcenter.com | 3 |
| btmon.com | 3 |
| wordpress.com | 3 |
| alivetorrents.com | 3 |
| ipodnova.tv | 3 |
| ad-center.com | 3 |
| exoclick.com | 3 |
| gmpg.org | 3 |
| moviemotion.info | 3 |
| hagalepues.net | 3 |
| na5.netdna-cdn.com | 3 |
| static.flickr.com | 3 |
| thepiratebay.org | 3 |
| refban.com | 3 |
| adhood.com | 3 |
| seedpeer.com | 2 |
| raidrush.org | 2 |
| yesads.com, | 2 |
| dirtywarez.com | 2 |
| redown.se | 2 |
| kat.ph | 2 |
| torrentco.com | 2 |
| linksbox.net | 2 |
| smashingmagazine.com | 2 |
| eztv.it | 2 |
| vertor.com | 2 |
| btguard.com | 2 |
| rmbn.net | 2 |

| | |
|---|---|
| us.e-planning.net | 2 |
| www.done... | 2 |
| movie-stars.us | 2 |
| adnxs.com | 2 |
| altervista.org | 2 |
| torrentbar.com | 2 |
| cs-puchatek.pl | 2 |
| abc.go.com | 2 |
| googleapis.com | 2 |
| gumgum.com | 2 |
| twilight.ws | 2 |
| netz.ru | 2 |
| abcfamily.go.com | 1 |
| torrentlocomotive.com | 1 |
| imagetoupload.com | 1 |
| best-top.biz | 1 |
| uploadbaz.com | 1 |
| adpv.com | 1 |
| blamcity.com | 1 |
| downloadstube.org | 1 |
| awempire.com | 1 |
| RARBG.com.txt | 1 |
| esoft.ws | 1 |
| Torrentday.com.txt | 1 |
| addthis.com | 1 |
| am11.ru | 1 |
| Speed.Cd | 1 |
| 205.157.43 | 1 |
| rlslog.net | 1 |
| Speed.Cd.txt | 1 |
| postimage.org | 1 |
| popcash.net | 1 |
| movietorrents.eu | 1 |
| played.t... | 1 |
| fastpic.ru | 1 |
| mybittorrent.com | 1 |
| ro2.biz | 1 |
| vemba.com | 1 |
| mightyupload.com | 1 |
| iwannawatch.net | 1 |
| mininova.org | 1 |

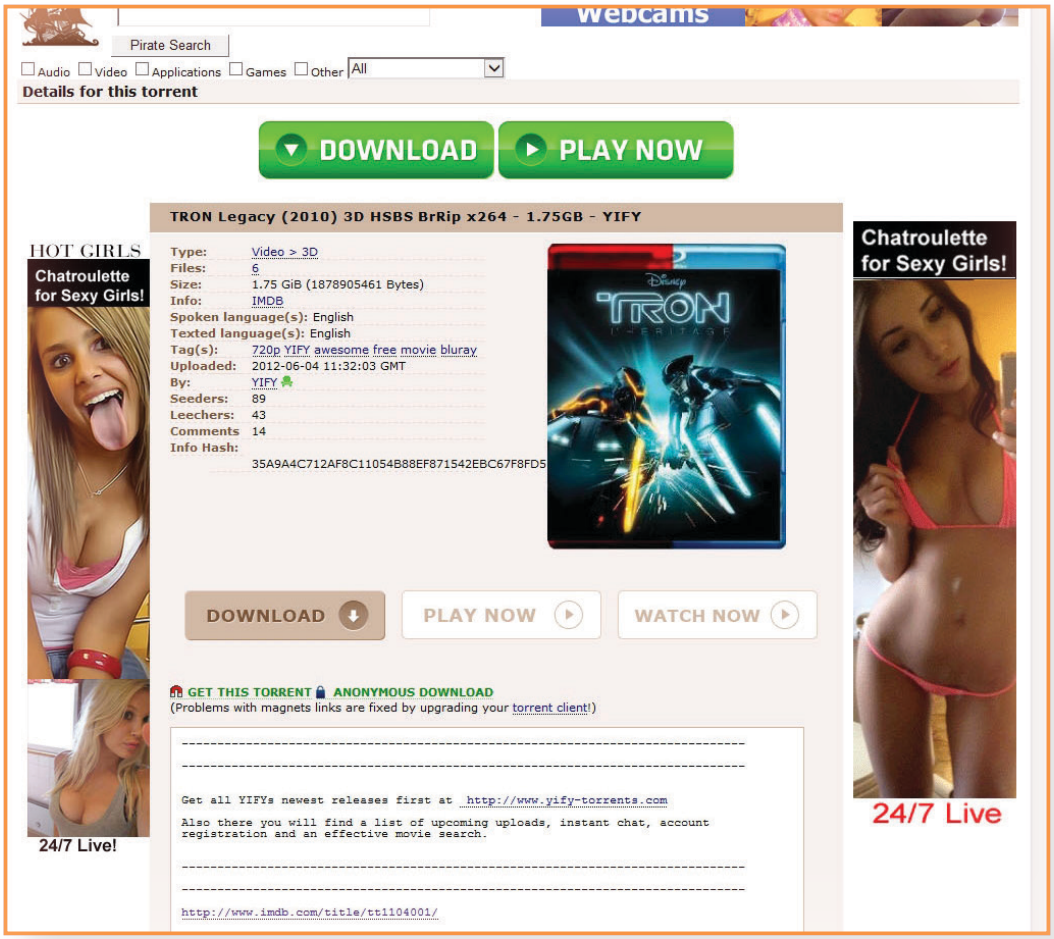
| | |
|---|---|
| bitshare.com | 1 |
| www.uplo... | 1 |
| scenetime.com.txt | 1 |
| lumfile.com | 1 |
| www.zala... | 1 |
| ilibr.org:6969 | 1 |
| technorati.com | 1 |
| doubleclick.net | 1 |
| go.com | 1 |
| prq.to | 1 |
| nuseek.com | 1 |
| Cpasbien.me] | 1 |

# APPENDIX C- HIGH-RISK ADVERTISING EXAMPLES

## SCAMS, GAMBLING & MALWARE

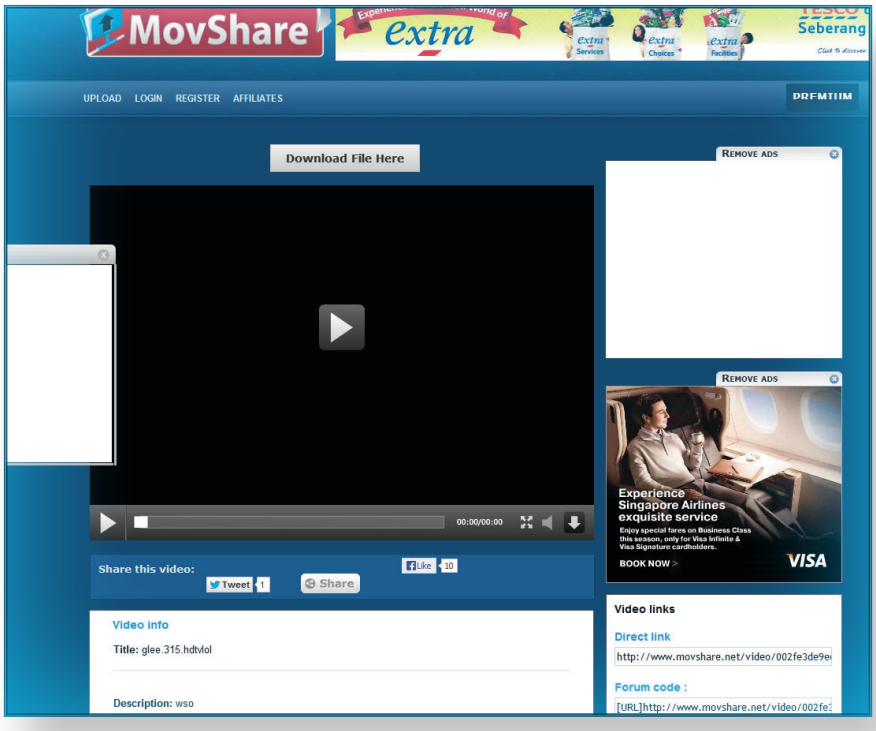


# SEX INDUSTRY

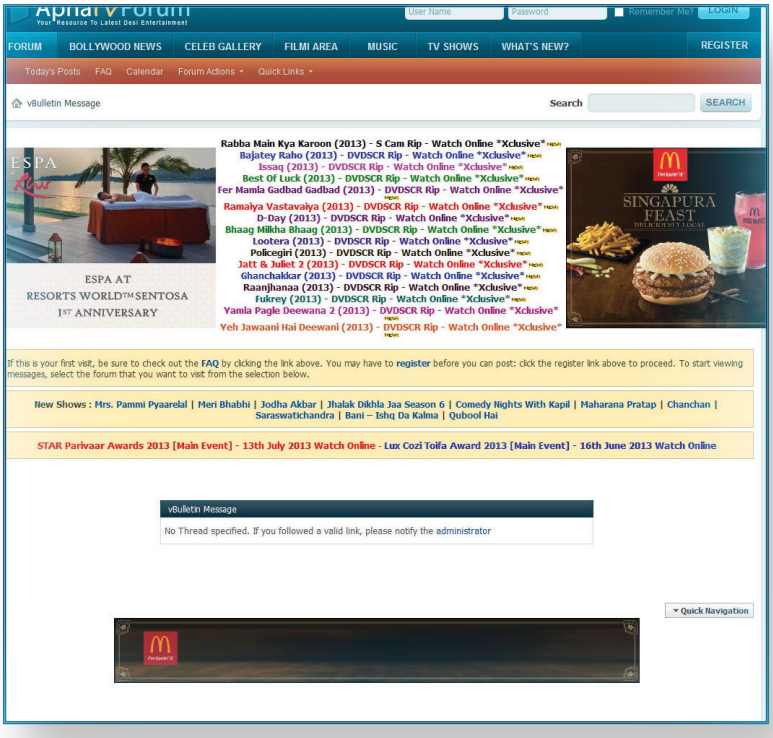


# APPENDIX D - MAINSTREAM ADVERTISING EXAMPLES

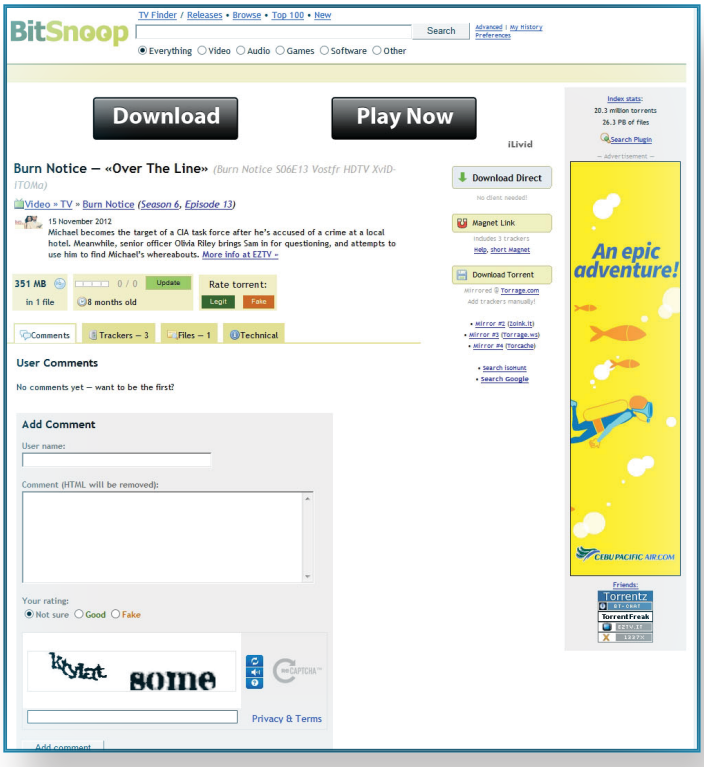
## FINANCE/BANKING




## FOOD/CONSUMER



# TOURISM


BitSnoop
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Burn Notice — «Over The Line»
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Magnet Link
Download Torrent
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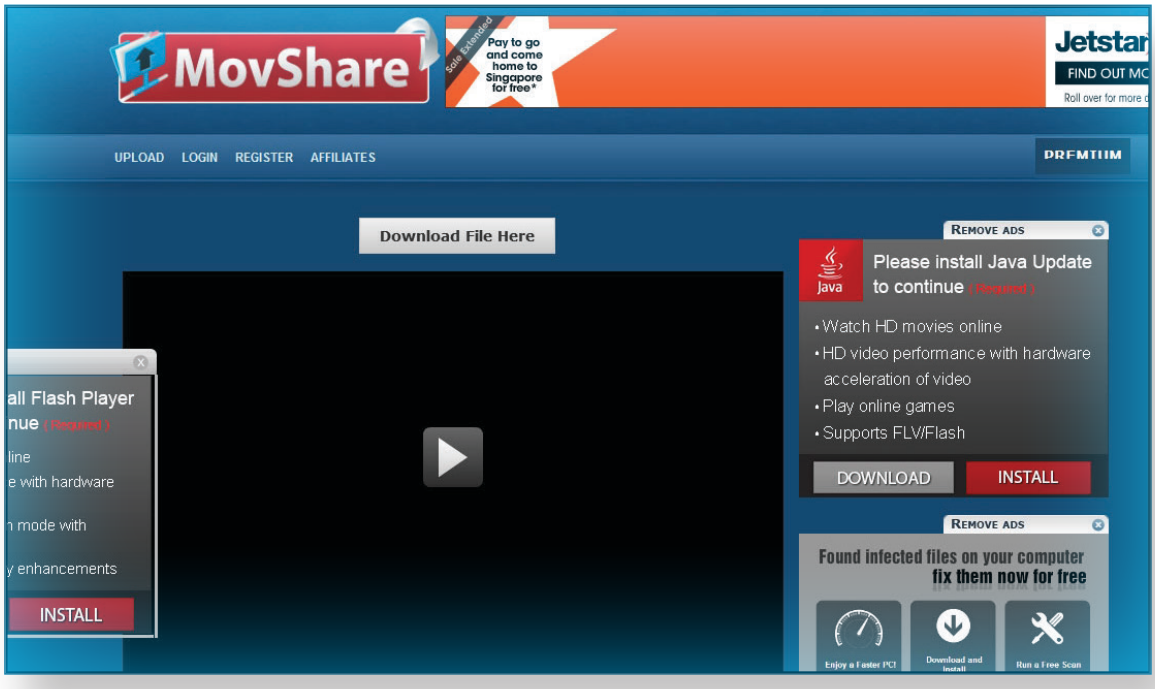
CEBUPACIFIC-AIR.COM
Add Comment
User Name:
Comment (HTML will be removed):
Your rating:
Not sure
Good
Fake
Privacy & Terms


MovShare
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Jetstar
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Please install Java Update to continue
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• Supports FLV/Flash
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# ACKNOWLEDGEMENTS

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