

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

Third Degree Films, Inc.)
20525 Nordhoff Street, Suite 25)
Chatsworth, CA 91311)
)
Plaintiff,)
)
v.)
)
DOES 1 – 118)
)
Defendants.)

Civil Action No. _____
DECLARATION OF
JON NICOLINI

I, Jon Nicolini, declare as follows:

1. I am the Vice President of Technology for Copyright Enforcement Group, LLC (“CEG”).
2. CEG’s address is 8484 Wilshire Boulevard, Suite 220, Beverly Hills, California 90211.
3. CEG is in the business of discovering infringements, and arranging for the enforcement, of the copyrights of its clients. Plaintiff in this case is a client of CEG. Based on information provided to me, I state that Plaintiff Third Degree Films, Inc. creates and distributes motion pictures, and the motion picture named in the Third Degree Films, Inc. Complaint is among the motion pictures whose copyrights are the subject of the CEG’s efforts on behalf of Plaintiff.
4. Music and motion picture piracy (i.e., the unauthorized copying and/or distribution of songs and motion pictures) has been a serious problem since at least as early as home audio and video tape cassette players became popular. The problem continued with the introduction of home CD and DVD players. Today the problem persists with the ability to store digital files of songs and motion pictures in the memory of home and/or laptop computers, and

for people to distribute such files to each other over the Internet on peer-to-peer networks (sometimes called "P2P" networks) using file sharing software applications such as BitTorrent. Articles describing aspects of music and motion picture piracy could be found, at least until recently, at these web pages, among others, on the Internet:

(1) http://www.usvo.com/usvo_videopiracy.pdf (attached to this Declaration as **Exhibit B**), and

(2) <http://www.thefreelibrary.com/DVD+piracy+in+the+U.S.+becomes+an+industry-a0103403775> (attached to this Declaration as **Exhibit C**).

5. Neither of the two major operating systems for personal computers (i.e., those developed by Microsoft Corporation and Apple, Inc.) nor any of the four most used web browsers, namely, Microsoft Internet Explorer, Mozilla Firefox, Google Chrome and Apple Safari, which are used by well over 90% of users in the United States, include native functionality for peer-to-peer file sharing over the Internet. (Regarding the relative popularity of browsers, see the following articles that could be found, at least until recently, at these web pages, among others, on the Internet,

<http://gs.statcounter.com/#browser-US-monthly-201006-201106-bar> (attached to this Declaration as **Exhibit E**)

http://www.statowl.com/web_browser_market_share.php?1=1&timeframe=last_3&interval=month&chart_id=4&fltr_br=&fltr_os=&fltr_se=&fltr_cn=&timeframe=last_12 (attached to this Declaration as **Exhibit F**).

Other than Microsoft Internet Explorer and Apple Safari, all other browsers must be intentionally installed. Therefore, the original seeder and each of the members of the swarm (i.e., each peer) must have separately installed on their respective computers special software that allows peer-to-peer sharing of files by way of the Internet. The most popular type of peer-to-peer file sharing program utilizes the BitTorrent protocol. The seeder and members of the swarm use software known in the field as "BitTorrent clients." Among the most popular BitTorrent clients are Vuze (formerly Azureus), μ Torrent, Transmission and BitTorrent 7, although many others are used as well. In any event, the seeder and each member of the swarm (i.e., peer) must intentionally

install a BitTorrent client (i.e., software application) onto his or her computer before that computer can be used to join a BitTorrent file sharing network.

6. P2P networks distribute infringing copies of motion pictures (and works in other forms such as music and books) with file sharing software such as BitTorrent as follows: The process begins with one user accessing the Internet through an Internet Service Provider ("ISP") and intentionally making a digital file of the work available on the Internet to the public from his or her computer. This first file is often referred to as the first "seed." I will refer to the person making this seed available as the "original seeder." Persons seeking to download such a work also access the Internet through an ISP (which may or may not be the same ISP as used by the original seeder) and seek out the work on a P2P network. With the availability of the seed, other users, who are referred to as "peers," access the Internet and request the file (by searching for its title or even searching for the torrent's "hash" - described below) and engage the original seeder and/or each other in a group, sometimes referred to as a "swarm," and begin downloading the seed file. In turn, as each peer receives portions of the seed, most often that peer makes those portions available to other peers in the swarm. Therefore, each peer in the swarm is at least copying and is usually distributing, as a follow-on seeder, copyrighted material at the same time. This also means that the participants engage in a series of related transactions. Of the over 20,000 infringers tracked in connection with several cases currently pending, at least 95% of the Doe defendants were uploading (i.e., distributing) illegal copies of our clients' motion pictures at the moment indicated by the Timestamp in the respective Exhibit A appended to each complaint, which is also true for this case. In P2P networks, the infringement may continue even after the original seeder has gone completely offline. Any BitTorrent client may be used to join a swarm. As more peers join a swarm at any one instant, they obtain the content at even greater speeds because of the increasing number of peers simultaneously offering the content as seeders themselves for unlawful distribution. As time goes on, the size of the swarm varies, yet it may endure for a long period, with some swarms enduring for 6 months to well over a year depending on the popularity of a particular motion picture. As a result, the original seed file becomes

unlawfully duplicated multiple times by multiple parties, with a potentially exponential increase in the number of illegal copies of any copyrighted work. With respect to any particular swarm, the hash (an alphanumeric representation of a digital file) associated with the copied file's torrent file remains the same.

7. The premise of BitTorrent sharing is well known, and is stated on the Bittorrent.com website, at least until recently here,

<http://www.bittorrent.com/help/guides/beginners-guide> (attached to this Declaration as **Exhibit G**) as follows:

"BitTorrent is a protocol (a set of rules and description of how to do things) allowing you to download files quickly by allowing people downloading the file to upload (distribute) parts of it at the same time. BitTorrent is often used for distribution of very large files, very popular files and files available for free, as it is a lot cheaper, faster and more efficient to distribute files using BitTorrent than a regular download."

That is, each peer (i.e. member of a swarm) in a P2P network has acted and acts in cooperation with the other peers by agreeing to provide, and actually providing, an infringing reproduction of at least a substantial portion of a copyrighted work in anticipation of the other peers doing likewise with respect to that work and/or other works. Joining a P2P network is an intentional act, requiring the selection by a peer of multiple links to do so.

8. Depending on the particular P2P network involved, at any one time any number of people, from one or two, to hundreds, to several thousands, unlawfully use the P2P network to upload, that is, distribute, or download, that is, copy, copyrighted material. To the extent that persons using a P2P network identifies themselves, they use "user names" or "network names" which typically are nicknames that do not disclose the true identity of the user, and do not indicate the residence or business address of the user. So, while, as I explain below, we can detect infringements, we can only identify the infringers by their Internet Protocol address and the time that the infringement is detected by us. Note that while we detect an infringement at a particular instant, the infringer may, and likely is infringing at other times as well.

9. The use of P2P networks, such as those accessed with BitTorrent software, to make unauthorized copies of motion pictures has become such common knowledge that it is casually mentioned in newspaper articles. For example, in the article titled "The Glut of Shows Unwatched" published on the New York Times website, and which at least until recently could be seen at this web page:

<http://www.nytimes.com/2010/09/06/business/media/06carr.html> (attached to this Declaration as **Exhibit D**),

There is this statement by the article's author who was describing his efforts to find a television show he had missed:

"Starting to feel desperate, I thought for a moment about hopping on the laptop and searching BitTorrent for an **illegal copy**, but given that I make a living creating original content for a large media company, **stealing** from another one did not seem like a good idea."

(Emphasis added by me.)

10. Plaintiff and other similarly situated companies contract with CEG to have CEG determine whether or not copies of their works are being distributed on the Internet without their permission and to identify infringers. Plaintiff does not authorize distribution of its motion pictures on P2P networks.

11. CEG utilizes a system of software components ("the System") conceptualized, developed, and maintained by me in order to collect data about unauthorized distribution of copies of copyrighted works on P2P networks.

12. The life cycle as it relates to monitoring copyrighted works of CEG's client's begins as follows. When a copyrighted work is requested to be monitored, my colleagues and I first check to ensure that a copyright registration exists for the work or is in process with the U.S. Copyright Office.

13. In this case, we confirmed that the work at issue in the above-captioned case (the "Work") is titled "Illegal Ass 2" and is registered in the United States Copyright Office

(PA00011366719/2007-03-02), and that the Copyright Office's or other records show that the copyright is owned by Third Degree Films, Inc., the above-identified Plaintiff.

14. Once the copyright information is confirmed, we use a text-based search to find digital files on the Internet that have the same title as the copyrighted work.

15. The digital files for which we search are available on P2P networks. As described above, a person making a copy available on a P2P network typically had obtained his or her copy from a P2P network, and whenever a digital file is located on anyone's computer on a P2P network, that digital file is typically available to be downloaded from that computer to a requestor's computer. In every case that a CEG client's motion picture is available on a P2P network, it is an unauthorized distribution of the motion picture.

16. In this case, the P2P network on which we found unauthorized distribution of Plaintiff's Work was a BitTorrent network.

17. When a digital file with the same name as CEG's client's motion picture is found on a P2P network, CEG downloads a full copy of the file. The file is then forwarded to a two-stage verification computer process and identified by two people. The computer process compares the digital data in the suspect file with digital data in a digital copy of the motion picture obtained from CEG's client. If the suspect file matches the authorized file, then the two people play the suspect file and watch the motion picture. If both people confirm that a substantial portion of the motion picture in the suspect file is substantially the same as a corresponding portion of CEG's client's motion picture, then particular unique data (often referred to as metadata) in the suspect file (now referred to in this Declaration as the "accused file") is noted by the System, and the System searches for additional computers on P2P networks that have the same suspect file.

18. Users subscribe to the services of an ISP to gain access to the Internet. Each time a subscriber accesses the Internet, the ISP provides a unique Internet Protocol ("IP") address to the subscriber. An ISP generally records the times and dates that it assigns each IP address to a subscriber and maintains for a period of time a record of such an assignment to a subscriber in

logs maintained by the ISP. In addition, the ISP maintains records which typically include the name, one or more address, one or more telephone numbers, and one or more email addresses of the subscriber. P2P technology relies on the ability to identify the computers to and from which users can search and exchange files. The technology identifies those computers by the IP address from which the computer connects to the Internet. Taking advantage of this technology and the unique metadata associated with the file containing unlawful copy of CEG's client's motion picture, CEG's System inspects file-sharing networks for computers that are distributing at least a substantial portion of a copy of a copyrighted work owned by Plaintiff, and when CEG finds such a computer, CEG's System also collects the following publicly accessible information: (a) the time and date the infringer was found, (b) the time(s) and date(s) when a portion of the accused file was downloaded successfully to the accused infringer's computer, (c) the time and date the infringer was last successfully connected to via the P2P network with respect to the infringer's computer's downloading and/or uploading the accused file to the Internet (hereinafter referred to as "Timestamp"), (d) the IP address assigned to the infringer's computer, (e) the P2P software application used by the infringer and the port number used by the infringer's P2P software, (f) the size of the accused file, and that file's MD5 checksum, and SHA-1 checksum (the last of which is the unique "hash" referred to above), (g) the percent of the file downloaded by us from the infringer's computer, (h) the percent of the accused file on the infringer's computer which is available at that moment for copying by other peers, and (i) any relevant transfer errors. In addition, CEG uses available databases to record the name of the ISP having control of the IP address and the state (and often the city or county) associated with that IP address. However, because of the partially anonymous nature of the P2P Internet distribution system used by Defendants, the true names, street addresses, telephone numbers and email addresses of Defendants are unknown to Plaintiff at this time. CEG also downloads the available file from a subscriber's computer, and later runs visual observations to confirm whether or not the file is a copy of at least a substantial portion of a copyrighted work of Plaintiff. CEG has confirmed that each of the files obtained from the Defendants that are listed in **Exhibit A**

attached to the Complaint filed in this case is a copy of a substantial portion of the copyrighted work listed in **Exhibit A**. All of this information is stored in database files on CEG's computers.

19. As indicated above, an Internet Protocol address uniquely identifies each computer connected to the Internet. If one knows a computer's Internet Protocol address, one can, using publicly available reverse-lookup databases on the Internet, identify the ISP used by that computer and the city (or county) and state in which the computer was located at the date and time that the Internet Protocol address was obtained. However, the actual name and address of the person subscribing to the ISP's service is neither publicly available, nor available to CEG.

20. However, with the Internet Protocol address and the date and time that the infringer's computer was accessing the Internet through the ISP, the ISP (be it AT&T, Verizon, Qwest, Comcast or any of many other ISPs) can review its own subscriber logs to identify either (i) the names and addresses of the subscriber, or (ii) the intermediary ISP through which the person is ultimately subscribed to the main ISP. In turn, if the intermediary ISP is provided with the Internet Protocol address and the date and time that the infringer's computer was accessing the Internet through the ISP, then the intermediary ISP can review its own subscriber logs to identify the name, addresses, telephone numbers and email addresses of the subscriber.

21. With respect to accused files, CEG sends notices (sometimes referred to as "DMCA notices") to ISPs. Each notice includes the identity of an accused file and the Internet Protocol address of the computer having that file available for download, along with the Timestamp associated with it. In the notice, CEG requests that the ISP forward the notice to the ISP's subscriber associated with the Internet Protocol address. Each notice includes, among other information, an address for the accused infringer to contact CEG to arrange for settlement. In the above-captioned case, the Internet Protocol addresses identified in **Exhibit A** of the Third Degree Films, Inc. Complaint are those of subscribers who had not settled with CEG. **Exhibit A** lists on a Defendant-by-Defendant basis (one Defendant per row) the IP address associated with each Defendant, the identity of the ISP associated with the IP address, the date and time (the Timestamp referred to earlier) that the infringement by that Defendant was last observed, and the


software protocol used by the Defendant in infringing the Work, the title of which, along with its copyright registration number, is set forth on the first page of **Exhibit A**.

22. With respect to Plaintiff's copyrighted motion picture named in the Complaint, CEG performed the steps described in paragraphs 11-21 above. In summary, each of the computers having the IP addresses and time stamps listed in **Exhibit A** of the Third Degree Films, Inc. Complaint made a digital file copy of at least a substantial portion of Plaintiff's Work, and, without authorization, made such file available for download by others on a P2P network. As indicated above, all of the infringers identified as "Doe" defendants in the Third Degree Films, Inc. Complaint used BitTorrent software. Further, the hashes associated with the torrent files on the computers having the IP addresses and time stamps listed in **Exhibit A** are all identical to each other, that is, they all have the same hash. This demonstrates that all the Doe defendants listed in **Exhibit A** joined the same swarm and engaged in a series of related transactions.

23. CEG sent DMCA notices as described above to the ISPs with respect to all the Doe Defendants in the case. None of the ISPs provided the names and addresses of the Doe Defendants to CEG. However, we could determine that the 108 Doe Defendants in this case are likely in the Maryland area. Without information held by the ISPs, we cannot obtain further information needed to identify the Defendants, including their names, and their actual addresses, telephone numbers and email addresses.

24. I declare under penalty of perjury that the foregoing is true and correct of my own personal knowledge, except for those matters stated as information and belief, and those matters I believe to be true, and if called upon to testify I can competently do so as set forth above.

Executed this 18th day of October, 2011 in Los Angeles, California.



Jon Nicolini

EXHIBIT B

TO DECLARATION OF JON NICOLINI



Video Piracy Brief

The United States leads the world in the creation and export of intellectual property (IP) and IP-related products.¹ Piracy, which is the unauthorized use or reproduction of copyrighted or patented material, jeopardizes this.

The freedom and incentive provided to authors, artists, and scientists to create new inventions and artistic works is an American tradition. U.S. patent law grants the originator of an invention or artistic work legal protection from copying and the freedom to profit from it. Article I, Section 8, Clause 8, of the U.S. Constitution declares that, "the Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." The First Congress of the United States further defined this with the Copyright Act of 1790.

WHY PIRACY IS A PROBLEM

The U.S. motion picture industry loses more than \$3 billion annually in potential revenue² and unless online piracy is curbed, these losses will become even greater. It costs an average of \$82 million per film to produce and market, with only two in ten movies ever retrieving its total investment from U.S. theatrical exhibition. Each film must journey through various distribution channels – airlines, home video, satellite delivery, premium and basic cable, over the air TV stations and internationally – in order to break even or make a profit.³ When piracy of a film occurs at any point in the release sequence, all subsequent markets are negatively affected.⁴

The Internet has the potential to be a convenient means for consumers to be able to watch any movie they want, when they want. However, with the advent of the Internet, the acquiring and spreading of illegal content is unprecedented. With just a click of a button, content can instantly be sent or received from anywhere in the world.⁵

Over the past few years, piracy has had a devastating impact on the music industry. The Internet has enabled individuals the ability to download music free onto their computer, in a matter of minutes. The music industry has been fighting this problem for years, and believes piracy is responsible for the low music sales they have been experiencing.

The motion picture industry however, has not experienced this problem to the same scale due to the very long time it takes dial-up users to download a movie. This has started to change as more Internet users continue to upgrade from slow dial-up Internet access to the fast-speed, broadband access afforded them through cable and DSL modems. There are roughly 70 million U.S. households with Internet access; of them, about 16 million use broadband access.⁶ It has become all too common for newly released films to be illegally available on the Internet within 24 hours after their debut. And according to studies, millions of downloads of illegal movies occur each week.⁷ As broadband access becomes more available and affordable to households, video piracy will likely grow.

Technology continues to improve, making illegal copies higher quality and the means to download them faster and easier. Unlike VHS tapes that degrade, the quality of the 1000th digital copy of a DVD is as good as the original.⁸ Although many pirated movies are poor quality, movie studios are concerned that as counterfeit films become higher quality they could affect VHS and DVD revenues.

HOW PIRACY HAPPENS

With video piracy, there are two basic phases: acquiring an illegal copy of a film, and distributing the illegal copy. There are many ways to copy illegally a movie. Some of the methods are:

Camcording: Pirates record a movie as it appears on a theater screen by smuggling a hand-held video camera into a theater. These copies are usually poor quality both visually and audibly.

Telesync: A more professional method than camcording in order to make a higher quality recording of a film. With or without the help of a theater employee, the pirate sets up a professional digital camera on a tripod in an empty auditorium and records the movie. To obtain higher quality sound they may employ methods like using wireless-transmitters on theater speakers,⁹ running cables from the "hearing impaired" outlets or directly from the projection equipment.¹⁰

Telecine: A sophisticated method where the pirate has access to a film reel at a theater. Using a Telecine machine the pirate can record a very high quality copy of the movie either directly to a computer's hard drive or onto VHS tape and then digitize the copy at home.¹¹

Screeners: These promotional preview films for marketing purposes are provided to video retailers or film reviewers before a movie's official street release. Pirates obtain a screener DVD and make a copy of it.

Downloadable media: A pirate will legally download a movie onto their computer, and then use software to break the encryption to make an illegal copy.

Streaming media: A pirate will copy a movie that is legally delivered to him or her in a steady stream in near real time.

PVR/DVR and Video-on-Demand: A pirate can intercept, divert and save media content that has been retrieved from a storage system, as it is being output to a TV screen

Cable, satellite and Telco TV: A pirate can intercept and save digital media content that has been delivered to a set-top box and decoded, as it is being output to a TV screen

Workprint: A pirate will obtain an incomplete copy of a film and copy it.

Theatrical print: A pirate steals a film from a theater, film depot, courier service or other industry-related facility.¹²

Once a pirate obtains an illegal copy of a movie, depending on the quality of the copy, the pirate can distribute it either online or sell it as a hard good. To distribute a film over the Internet, the pirate uses file compression software, and can then use Internet Relay Chat (IRC), which is a system used for chatting and file-swapping. Other Internet distribution methods are using peer-to-peer file-swapping software like Kazaa, Grokster or Morpheus, or using popular Usenets, which allow users to post messages, and share audio and video files. If a film is going to be sold, then copies are made onto VHS tapes, DVDs, or VCDs. These counterfeit films are then sent to illegal distribution channels in the U.S., or shipped overseas for sale even before the movie's international theatrical debut.

WHY PIRACY HAPPENS

There are three groups of pirates: ordinary Internet users, amateurs, and professionals. Many ordinary Internet users believe that if it is on the Internet, it is free to all who can download it.¹³ Those who believe this, will download and watch an illegal movie if it is easy to do. Amateur pirates are usually computer or Internet hobbyists with varying skills and motivation for pirating. Some make illegal copies for the "bragging rights" of being the first to provide a newly released film. Others believe they are providing a service to their Internet community at large. Some feel they are fighting the power of the movie industry or the government. Then there are those who do it as a hobby.

On the other hand, professional pirates are motivated by money. They sell illegal videos on the street, at open markets, on auction websites, etc. International criminal groups are getting rich from the high gain/low risk business of stealing America's copyrighted works.¹⁴ The FBI reports that, "There is strong evidence that organized groups have moved into IP crime and that they are using the profits generated from these crimes to facilitate other illegal activities."¹⁵ The link between organized crime groups and counterfeit goods is well established. Interpol is sounding the alarm that Intellectual Property Crime is becoming the preferred method of funding for a number of terrorist groups.¹⁶ Participants at the 1st International Conference on IPR hosted by Interpol in Lyon, France in 2001 "all agreed the evidence was indisputable: a lucrative trafficking in counterfeit and pirate products – music, movies, seed patents, software, tee-shirts, Nikes, knock-off CDs and 'fake drugs' accounts for much of the money the international terrorist network depends on to feed its operations."¹⁷

RECENT MOVIE PIRACIES

Lucasfilm: A week after the new "Star Wars Episode I" blockbuster opened in the United States in May of 1999, pirated copies were already hitting store shelves in Hong Kong. Reports of widely available video CDs of the film selling from \$3.20 to \$3.80 were reported.¹⁸ With this experience fresh in executives' minds, May of 2002, George Lucas' highly anticipated Episode II of the Star Wars saga debuted. This time two pirated versions of the film was available a week before the film opened at the theaters. Reports indicated that the versions appeared to have been recorded with digital camcorders at a private screening.

Warner Brothers: Rumors circulated that a copy of "Matrix Reloaded" was available online the day before the film was released at theaters in May of 2003. Within two weeks of its debut, a high-quality copy of the film was available on the Internet for downloading. In addition, low-quality DVD copies were available for purchase.¹⁹ All this, despite Warner Brothers decision to avoid piracy by opening the movie worldwide in 62 countries.²⁰

Universal Studios: "The Hulk," which opened June 20, 2003, was predicted to be one of the blockbuster movie hits of the summer. However, two weeks before its theater release, a New Jersey man obtained a "workprint" of the film. The individual is not a professional pirate, rather a self-described computer hobbyist. He used software tools to defeat security protections in the film designed to prevent unauthorized duplication, and then posted the copied film onto the Internet. The release of the pirated movie is believed to have contributed to the lower than expected ticket sales at the box office.

HOW PIRACY IS COMBATED

Piracy is fought on many fronts: legislatively, with law enforcement, and through technology. The Motion Picture Association of America (MPAA) is tasked with fighting movie piracy and thus takes copyright infringement very seriously. The MPAA has been vocal in voicing their concerns to Congress, and new laws have been passed in regards to intellectual property protection. Some of the most recent laws are the 1997 "No Electronic Theft Act (NET Act)," which was viewed as "closing a loophole" in copyright law. It expanded the law to make it illegal to reproduce or distribute copyrighted works, even if the accused acted without commercial purpose or for private financial gain. The "Digital Millennium Copyright Act of 1998," for updating U.S. copyright laws for the digital age, and for preparation in ratifying the World Intellectual Property Organization Copyright Treaty. In the "Digital Theft Deterrence and Copyright Damages Improvement Act of 1999," Congress approved a significant hike in the minimum statutory damages for various types of copyright infringement.

The Department of Justice has a specific section of the criminal division – the Computer Crime and Intellectual Property Section – devoted to combating cybercrime. In addition, the FBI has created Computer Crime Squads in 16 metropolitan areas around the country specifically to investigate cybercrime.²¹ The primary objective of the FBI's IP program is to reduce the economic loss associated with the counterfeiting and theft of U.S. intellectual property by criminal conspiracies and other major offenders. To accomplish its objective in the area of IP crime, the FBI is focused on increasing both the quantity and quality of IP investigations and prosecutions.²²

The MPAA uses Ranger, a sophisticated search engine, to track down illegal movies that are on the Internet. When a pirated movie is found, they send "Cease and desist" letters to the website in violation.²³ In addition, the MPAA has an internal Internet piracy task force that works closely with law enforcement agencies throughout the world to find and catch video pirates. In an attempt to stop illegal copying of movies in theaters, the MPAA has begun using, in certain situations, airport style security to find concealed video cameras.²⁴ They have also used theater personnel with night vision goggles to detect video cameras during a movie showing.²⁵

Digital Rights Management (DRM) is a general term used to describe various techniques that content providers use to protect their copyrighted material and define the rights on how their copyright material is to be made available to users. In the technology industry, most DRM attention is focused on producing better means of ensuring only authorized users have access to content and in preventing illegal copying of content. The method in which to achieve this is by making better encryption software and technology. This effort, while needed, continues to be defeated. As highly intelligent as the individuals in this field are, and as sophisticated the encryption software and technology continues to evolve, there are equally intelligent hackers and pirates from around the world who are highly motivated to break the encryptions.

The MPAA is experiencing major problems. In the numerous cases of pirates using digital camcorders to record movies in theaters, encryption methods are powerless to prevent this. Moreover, with the Internet available worldwide, fighting piracy by U.S. legislation alone cannot solve this issue. Furthermore, not all countries abide by or enforce their own copyright laws. In addition, when a website that contains illegal movies is shut down, they simply relocate.

SUMMARY

As Jack Valenti, president of the MPAA has clearly stated, the real way to combat piracy is by catching and bringing the pirates to justice. When this occurs, it will send the message to pirates that they can no longer be anonymous and continue to believe pirating movies is high-reward with low risk of being caught.²⁶

Combating content piracy is an uphill battle that is unlikely to subside any time soon. Individuals no longer have to physically steal a product, they can simply download information or transmit it electronically to a single accomplice or to tens of thousands of people in an instant -- and they can do so with total anonymity. It is hardly surprising that there are so many organized "hacker" groups engaged in large scale distribution of pirated products over the Internet or that there are also thousands of websites that exist solely to distribute pirated products when the money to be made from this type of activity can be significant, and the risk of being caught so minimal.²⁷

Please visit us at www.usvo.com, to read USA Video Interactive's press release on our upcoming anti-piracy software. For more information, contact Edwin Molina, CEO (info@usvo.com).

¹ http://www.fbi.gov/hq/cid/fc/fifu/about/about_ipc.htm

² <http://www.mpa.org/anti-piracy/>

³ "If You Cannot Protect What You Own, You Don't Own Anything! A brief report concerning the dark underside of Internet piracy as well as the possibility of a cleansing redemption to benefit the American consumer", Presented to the Senate Committee on Commerce, Science and Transportation, on behalf of the member companies of THE MOTION PICTURE ASSOCIATION OF AMERICA, by Jack Valenti, President and Chief Executive Officer, February 28, 2002

⁴ <http://www.mpa.org/anti-piracy/>

⁵ "COPYRIGHT & CREATIVITY - The Jewel in America's Trade Crown": A call to the Congress to protect and preserve the fastest growing Economic Asset of the United States, Presented by Jack Valenti, President & Chief Executive Officer of the Motion Picture Association of America to The International Trademark Association, Santa Monica, California, January 22, 2001

⁶ "The Impact of the Internet on the Law and Economics of the United States Motion Picture Industry," by Stanford L. Levin, Department of Economics & Finance at Southern Illinois University, John B. Meisel, Department of Economics & Finance at Southern Illinois University and Timothy S. Sullivan, Department of Economics & Finance at Southern Illinois University, January 30, 2003

⁷ "Hollywood hunts for pirates," By Michael McCarthy, USA TODAY, July 30, 2003

⁸ "A CLEAR PRESENT AND FUTURE DANGER: The potential undoing of America's greatest export trade prize, An Accounting of Movie Thievery in the Analog and Digital Format, in the U.S. and Around the World," Offered to the House Appropriations Committee, Subcommittee on Commerce, Justice, State, the Judiciary, and Related Agencies, by Jack Valenti, Chairman & Chief Executive Officer, THE MOTION PICTURE ASSOCIATION, in Ashburn, Virginia, April 23, 2002

⁹ <http://www.divx-digest.com/articles/telesync.html>

¹⁰ "Secure content protection: An overview of the proposed security mechanisms in digital cinema," By Michael Strömberg, KTH Advanced Media Technology Lab Royal Institute of Technology, Stockholm, Sweden

¹¹ "Secure content protection: An overview of the proposed security mechanisms in digital cinema," By Michael Strömberg, KTH Advanced Media Technology Lab Royal Institute of Technology, Stockholm, Sweden

¹² <http://www.mpa.org/anti-piracy/>

¹³ "COPYRIGHT & CREATIVITY - The Jewel in America's Trade Crown": A call to the Congress to protect and preserve the fastest growing Economic Asset of the United States, Presented by Jack Valenti, President & Chief Executive Officer of the Motion Picture Association of America to The International Trademark Association, Santa Monica, California, January 22, 2001

¹⁴ Testimony of Jack Valenti, President and CEO, Motion Picture Association of America, Before The Subcommittee On Courts, The Internet, And Intellectual Property, Committee on the Judiciary U.S. House of Representatives "International Copyright Piracy: Links to Organized Crime and Terrorism", March 13, 2003

¹⁵ http://www.fbi.gov/hq/cid/fc/fifu/about/about_ipc.htm

¹⁶ "The links between intellectual property crime and terrorist financing," text of public testimony of Ronald K. Noble, Secretary General of Interpol Before the United States House Committee on International Relations, One hundred eighth congress, July 16th 2003

¹⁷ Testimony of Jack Valenti, President and CEO, Motion Picture Association of America, Before The Subcommittee On Courts, The Internet, And Intellectual Property, Committee on the Judiciary U.S. House of Representatives "International Copyright Piracy: Links to Organized Crime and Terrorism", March 13, 2003

¹⁸ "Pirated copies of 'Star Wars' hit Hong Kong store shelves," Hong Kong (AP), May 27, 1999

¹⁹ "Matrix sequel pirated online," BBC News, May 27, 2003

²⁰ <http://keanuweb.com/credits/movie.matrix2.html>

²¹ Remarks of Attorney General John Ashcroft, First Annual Computer Privacy, Policy and Security Institute, May 22, 2001

²² http://www.fbi.gov/hq/cid/fc/fifu/about/about_ipc.htm

²³ "A CLEAR PRESENT AND FUTURE DANGER: The potential undoing of America's greatest export trade prize, An Accounting of Movie Thievery in the Analog and Digital Format, in the U.S. and Around the World," Offered to the House Appropriations Committee, Subcommittee on Commerce, Justice, State, the Judiciary, and Related Agencies, by Jack Valenti, Chairman & Chief Executive Officer, THE MOTION PICTURE ASSOCIATION, in Ashburn, Virginia, April 23, 2002

²⁴ "Mission (Im)possible? Combating Film Piracy in the Digital World," By Nasya Bahfen, June 24 2003

²⁵ "The movie industry fights off the pirates," By Andy Seiler and Mike Snider, USA TODAY, May 6, 2003

²⁶ "How Hulk Crushed the Online Pirate," By P.J. Huffstutter, Times Staff Writer, June 26, 2003

²⁷ http://www.fbi.gov/hq/cid/fc/fifu/about/about_ipc.htm

About USA Video Interactive Corp.

USVO is a developer and supplier of Internet media delivery services, systems, and innovative end-to-end solutions. The Company developed its StreamHQ™ architecture to provide a wide range of business customers with value-added media delivery services. USVO holds the pioneering patent for store-and-forward video, filed in 1990 and issued by the United States Patent and Trademark Office on July 14, 1992; it has been cited by at least 165 other patents. USVO holds similar patents in Germany, Canada, England, France, Spain, and Italy. For more information, visit www.usvo.com.

USA Video Interactive Corporate Headquarters Office: 83 Halls Road, Old Lyme, Connecticut, 06371 Telephone (860) 434 - 5535 Facsimile (860) 434 - 5782; Canada Office: 507 - 837 West Hastings Street, Vancouver, BC V6C 3N6. Trading symbol on the OTCBB: USVO; Trading symbol on the TSX Venture Exchange US; Trading symbol on the Berlin and Frankfurt Stock Exchanges: USF. CUSIP 902924208. For more information contact Edwin Molina (860) 434 - 5535; info@usvo.com

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DVD piracy in the U.S. becomes an industry.

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Audiovisual piracy is a rich but dangerous business in the U.S. Last November, two armed would-be robbers broke into a small illegal CD and DVD manufacturer in Manhattan and one of them was killed. Similarly, a few months earlier, in July, also in New York, two men were wounded at the facility of a small illegal home video duplicator located near the Empire State Building.

According to the MPAA, the U.S. studios' association, over 400 labs for illegal duplication and replication of audiovisual content are discovered every year in the U.S., most of them in the New York metropolitan area. Miami, Florida, serves as the center of audiovisual piracy for Latin America.

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In 2001, the legit U.S. music market was valued at \$13.7 billion with the piracy marker estimated at \$4.5 billion. In the same year, the theatrical market was valued at \$68.2 billion. But piracy caused losses of \$3 billion (excluding Internet piracy, which is not quantifiable). It is estimated that last year, DVD sales and rentals reached \$10.6 billion in the U.S.

The number of illegal CDs in circulation worldwide in 2001 was estimated at 950 million, but only 20 million of these were confiscated. It is also estimated that 130 million blank DVDRs were sold worldwide in 2002.

According to the RIAA, the recording industry association, illegal sellers of CDs can deprive U.S. stores of 3540 percent of their business, in addition to diminished revenues for artists, technicians and the state, in the form of uncollected taxes. In California alone some 18,000 jobs were lost because of audiovisual piracy. Retailers in America don't seem to care for parallel imports, which mostly hurt the owners of audiovisual rights. Often DVDs and CDs cost less in the U.S. than in Europe, but the EC is not in favor of technologies that may hinder free use. Therefore, parallel imports from countries where DVDs are less expensive or face fewer restrictions could be more a matter of illegal imports than of piracy.

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Thanks to recent technological advances, audiovisual piracy is moving from pressed (replicated) CDs and DVDs to illegal DVD-Rs and CD-Rs via duplication (burning or recordable). Nowadays one can legally buy blank CD-Rs at 30 cents each, even in small quantities. Therefore, to distinguish their product, big recording labels don't use CD-Rs (recognizable by the bluish hue on one side), and employ expensive replication equipment.

To compensate for the losses due to piracy, U.S. recording companies recently decided to increase the average retail cost of CDs from \$15 to \$17 each, well aware that this could cause a surge in illegal sales (where costs amount to about \$5 per disc). The retail cost of legal CDs includes the "royalty" fee. The Philips CD license agreement lowered the fee from \$0.03 to \$0.0175 on each recorded CD made since July 2002, whereas the cost of polycarbonate resins increased to \$3 per pound, representing 40 percent of the production cost of a blank CD-R.

To reduce piracy, some companies also produce their CDs in such a way that they cannot be used in computers or transferred onto MP3 players, and they insert a CSS encoding program in DVDs. These systems may discourage consumers, but they seldom work with professional pirates.

The least expensive way to produce illegal CDs and DVDs is through duplication with a burner worth about \$9,000, but this can only be used for limited quantities. Recently, though, Marcan has introduced a new duplication system able to copy 100 CD-Rs at a time. Replicating large quantities of discs from a master is much more expensive. Such equipment can cost up to \$500,000.

A way to control piracy consists in monitoring the manufacturers of duplication equipment (about 40 in the U.S.), as well as replicators of CDs and DVDs (about 50). However, used equipment is not as easy to trace, except by way of repair parts and maintenance.

Since most recordable drivers are produced by Pioneer, it's also possible to monitor piracy at the source, controlling the distribution of small equipment. In fact, there are only nine basic producers of drivers in the world, including Philips, Sony and Ricoh. Drivers labeled with other brand names such as Dell and Apple are always repackaged versions of the original brands.

Furthermore, since the number of polycarbonate producers is also small (Dow Plastic, Bayer Polyolefins, GE Plastics, among others), the production of blank CDs and DVDs could also be monitored. Optical grade polycarbonate is not that common, and replication uses a lot of it.

An element that would elude authorities' control is the packaging industry; CD and DVD cases can be purchased for as low as \$0.49 each. But only large groups such as Sony and Du Pont produce the plastic material used to make those cases.

According to Barry Rosenstock, president of Anchor Digital, a DVD production company, the New York market is flooded by replicated lowend pirated DVDs from Taiwan, mainly produced by Ritek, Primedisc and Optodisc, costing one-fourth of what other illegal DVDs may cost. Conversely, much of the piracy done in the U.S. is on CD-R and DVD-R, the recordable formats. Most DVD duplicators are made by Bravo, but there are also machines which are made by various companies. However, these almost always use Pioneer drivers to do the burning.

Katherine Cochrane, president of CD-Info, said that most made-in-the-U.S. piracy concerns CD-R/DVD-R, while pressed discs are imported, since it's very difficult to hide replicating equipment.

According to Tony Perez, director of the anti-piracy division of International Recording Media Association (IRMA), "Pirates seeking high volume production will not invest in expensive injection moulding equipment, but rather misrepresent themselves to legitimate replicators and get them to manufacture product." The duplication cost of a DVD is \$0.95 (for 5,000 items without cases) versus \$2.50 for a VHS tape.

Nine organizations fight piracy in the U.S., including the MPAA (video), RTAA (music), IRMA (duplication and recording), BSA (software), VSDA (video and CD retailers), IDS (Internet), in addition to the FBI and local police.

U.S. associations against audiovisual piracy:

* www.mpa.org/anti-piracy

* www.siaa.net/piracy/

* www.bsa.org/usa/antipiracy/

* www.riia.org/protect-campaign-1.cfm

* www.ifpi.org

* www.recordingmedia.org (Irma)

* www.idsa.com

* www.vsdas.org

* www.sdmi.org

RELATED ARTICLE: 2002 Statistics (source: IRMA)

Replication in the world:

* CD-Audio: 4.35 billion units

* DVD-Video: 1.32 billion units

Replication in North America:

* CD-Audio: 1.63 billion units

* DVD-Video: 630 million units

CD-R demand:

* 4.225 million worldwide

* 1.3 billion in North America

Home Video

* Rental: 103 million worldwide, 70 million in North America

* Sales: 1.183 billion worldwide, 650 million in North America

DVD Sales and Rentals: \$10 billion in the U.S.

(According to IRMA, 9.72 billion optical discs were replicated worldwide in 2000. IRMA lists 21 types of optical discs relevant to the piracy market, including CD-Audio, CD-Rom, CD-Video, DVD-Video, DVD-Rom and DVD-Audio).

Historical notes:

* The CD was introduced by Philips in 1979.

* The CD player was sold for the first time in Japan in 1982 by Sony (the CDP 101) and in the U.S. by Philips in 1983 (the CD 100). Philips used a Luciano Pavarotti recording for its early presentations.

* The first commercial U.S. CD was 52nd Street by Billy Joel.

* The CD-R was introduced in 1988.

* The DVD (digital versatile disc) player was first sold commercially in 1997.

* There are two main DVD formats: DVD-5 and DVD-9.

* Today, 40 million American families own a DVD player.

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THE MEDIA EQUATION

The Glut of Shows Unwatched

By DAVID CARR

Published: September 5, 2010

The great thing about modern technology is that you never have to miss anything on television. That's also the terrible thing about it.

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Last Sunday, I was traveling and did not see "Mad Men." As someone who cares about being in the know, when I got back on Monday, I wanted to catch up on the episode. Because I spend time on Twitter, I already knew that the episode included a creative session conducted in the nude, so I

wanted to see it for myself before I came across other spoilers.

Having set my DVR — I subscribe to the FiOS television service from Verizon — for just such a circumstance, my wife and I plopped down on Monday night for a little time with Don and Peggy. I hit play, and then the screen went blank. After several more attempts, I called in the household's chief technology officer.

"You recorded the high-def channel," said my 13-year-old daughter Maddie, adding that seeing as I own a cheap set from Costco, it wasn't going to play.

Check, but not checkmate. Verizon has an on-demand service, but as it turns out "Mad Men" doesn't show up for a few days. Starting to feel desperate, I thought for a moment about hopping on the laptop and searching BitTorrent for an illegal copy, but given that I make a living creating original content for a large media company, stealing from another one did not seem like a good idea.

Then I remembered iTunes. Right there for \$2.99, Season 4, Episode 6, "Waldorf Stories." As I took the iPad downstairs to put it closer to the wireless signal, I told my wife it was going to take about 30 minutes to download. When I got back upstairs, she was already asleep and I shrugged and settled in for a little me time with the Mad Men. I woke up in the middle of the night with the iPad perilously balanced on my less-than-flat midsection, wondering what I had missed.

That was Monday. By Wednesday, Steve Jobs, the sensei of all consumer desires, had announced the resurrection of Apple TV. For \$99, I could buy a new geegaw from Apple that would allow me to rent, not buy, television shows for 99 cents that would play on devices that won't fit on my stomach, like big flat-screen televisions. (Then again, for the time being only Fox and ABC are doing television business with Apple, so it would not have ended my search for "Mad Men.")

Apple is hardly alone. Amazon, Netflix and Google are getting in the television game. And all of them want to make sure that I have the means to dial up the programming I want at a time of my choosing on a device of my selection. Everyone wants to make sure

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that I never miss a thing.

But maybe I should. Television, which was once the brain-dead part of the day, had become one more thing that required time, attention and taste. I have fond memories of the days when there were only three networks and I could let my mind go slack as I half-watched Diane and Sam circle each other on "Cheers," because that was pretty much the only thing on.

Did watching those shows raise my cultural I.Q. or put me in the thick of social media discussions over whether Snooki was actually the author of her own place in the cultural narrative? Um, no. But neither did it turn me into a cool hunter, worried about missing something, or a technologist, juggling devices and platforms the minute I got home.

In the dawning era of an always-on database of television, even shows I missed on purpose now find me. It was always a source of iconoclastic pride that I never saw a single episode of "Seinfeld" or "Friends" back when they were in their prime, but in the era of multiplying channels and ubiquitous choices, those shows have now hunted me down.

The media world today is less the paradox of choice than the inundation by options. Right now, waiting patiently next to my television, I have "The Girl With the Dragon Tattoo," "Sin Nombre" and "Sunshine Cleaning." The latter two movies have been sitting there for months, and I can't remember the last time I used the DVD player for something not related to work.

My DVR is groaning at 79 percent of capacity, including that episode of "Deadliest Catch" from two months ago in which the captain dies. I ordered up episodes of "The Good Wife" for my iPad after hearing about it from friends and seeing that it got lots of Emmy nominations, but when I settled in on a long airplane ride to catch up, some guilty time with "Hot Tub Time Machine" got in the way.

That both recent and ancient television is, or will soon be, a few clicks away just adds to a buffet of media of all types I can't possibly finish. My iTunes library would not fit on my new iPad because I have about 75 gigabytes of music, 20,000 songs or so, many of which I have yet to hear.

Our ability to produce media has outstripped our ability to consume it. The average photograph now gets looked at less than once simply because there is almost zero cost and effort to producing one.

And gone now is the guilty pleasure of simply staring at something mildly entertaining. We don't watch TV anymore as much as it seems to watch us, recommending, recording and dishing up all manner of worthy product. Yes, it's the New Golden Age of Television, but I miss the old idiot box. It made me feel less stupid.

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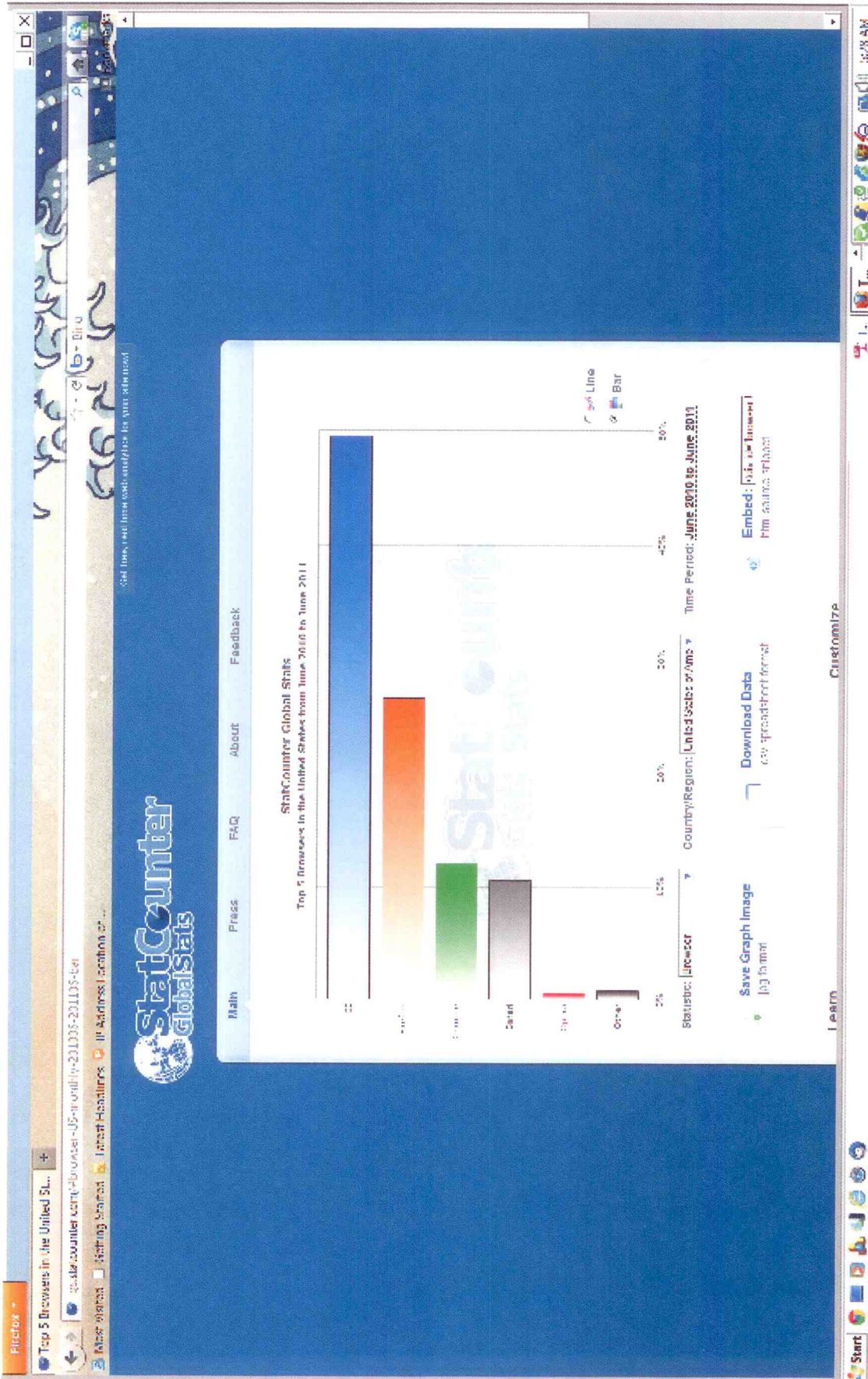


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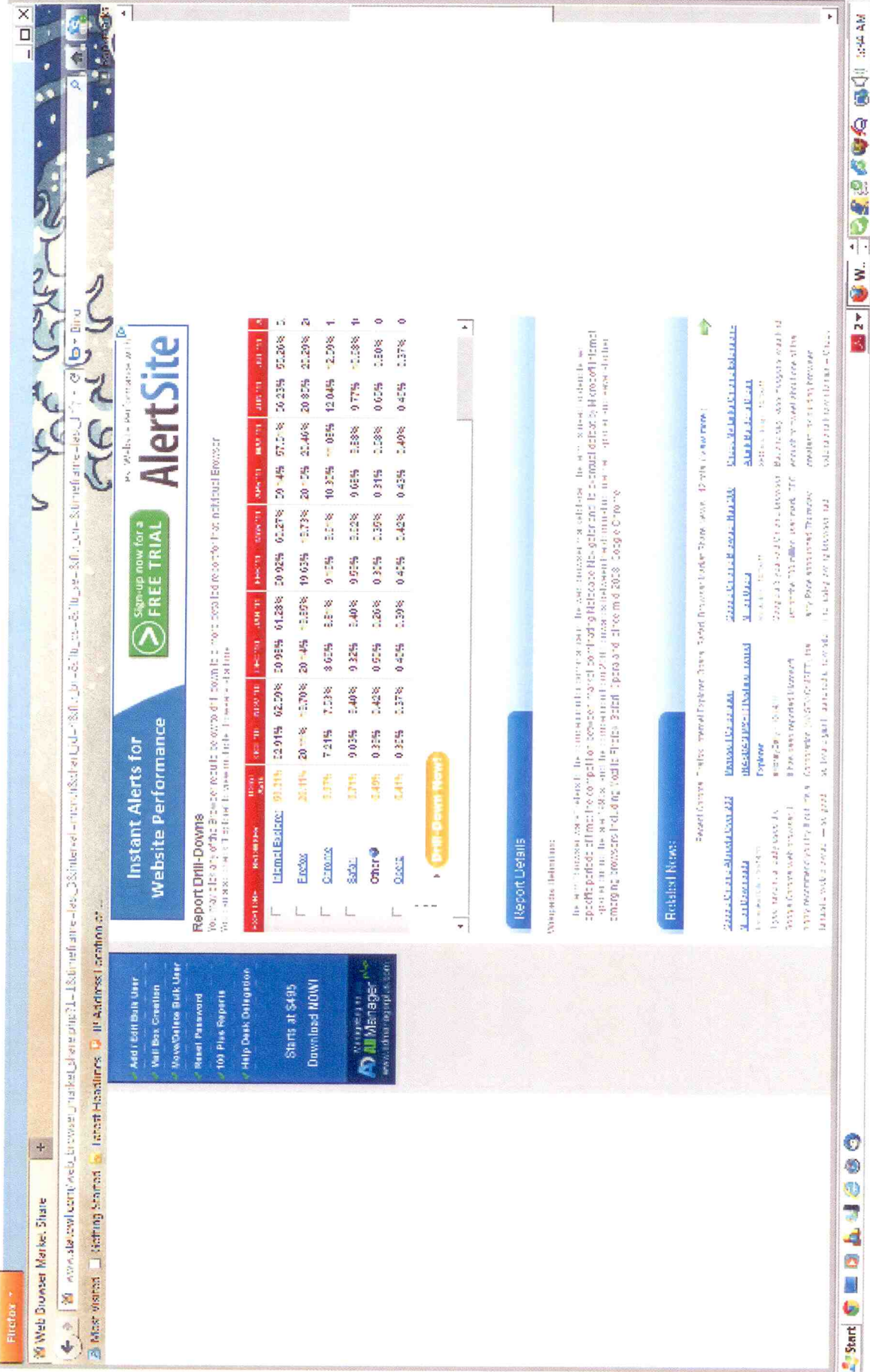
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What is BitTorrent?

BitTorrent is the global standard for delivering high-quality files over the Internet. With an installed base of over 160 million clients worldwide, BitTorrent technology has turned conventional distribution economics on its head. The more popular a large video, audio or software file, the faster and cheaper it can be transferred with BitTorrent. The result is a better digital entertainment experience for everyone.

BitTorrent is a protocol (a set of rules and description of how to do things) allowing you to download files quickly by allowing people downloading the file to upload (distribute) parts of it at the same time. BitTorrent is often used for distribution of very large files, very popular files and files available for free, as it is a lot cheaper, faster and more efficient to distribute files using BitTorrent than a regular download.

BitTorrent Mainline is a client. A 'client' in this case is a computer program that follows the rules of a protocol. For example, HTTP (HyperText Transfer Protocol) is the protocol used to download web pages and other content - like this page - and your HTTP client (or browser) is the program you use to get those web pages. Some popular browsers include Microsoft Internet Explorer, Mozilla Firefox, Safari, and Opera. To an extent, they all work the same way because they follow the same set of rules. The BitTorrent Mainline client will give you access to the world of content on the protocol in a lightweight, fast and reliable package.

How do I download files using BitTorrent?

Just like you need a URL like 'www.google.com' to go to a web site and download content, you need a 'torrent file', a small file that tells the BitTorrent client the necessary info to download the content you want. This is generally obtained from a torrent website. Many websites offer torrents as one method of downloading files. For example, [OpenOffice.org](#), a free alternative to Microsoft Office, can be downloaded using BitTorrent. Other sites, like [legaltorrents.com](#), offer torrents of all kinds of things - these sites are just repositories of torrents and usually don't actually create any of the content available. They're known as **indexes** or **trackers** - there is a subtle difference between the two. ([The Wikipedia article on BitTorrent trackers](#) explains the difference.)

Once you've obtained the torrent file from wherever, you simply need to import it into BitTorrent. There are several ways of doing this.

- Click **File** then **Add Torrent** in BitTorrent (or press CTRL+O) and locate the torrent file.
- Double-click the torrent file. (*Only works if you've associated .torrent files with BitTorrent - BitTorrent asks you if it should do this the first time you run it. If you clicked 'No', you can do this by going to*

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Options, then **Preferences** in BitTorrent, then clicking **Associate with .torrent files** under **Windows Integration**.)

- (advanced) Click **File** then **Add Torrent from URL** in BitTorrent (or press CTRL+U), and enter a URL from which the .torrent file can be obtained.

But before you start downloading, make sure you've followed the [BitTorrent Connection Guide](#).

It doesn't take long and will help ensure that your torrent experience is faster and more consistent.

BitTorrent finished downloading, but now it says it's Seeding. What does that mean?

Seeding is where you leave your BitTorrent client open after you've finished your download to help distribute it (you distribute the file *while* downloading, but it's even more helpful if you continue to distribute the full file even after you have finished downloading). Chances are that most of the data you got was from seeds, so help give back to the community! It doesn't require much - BitTorrent will continue seeding until the torrent is removed (right click the torrent, then hit **Remove**). Proper practice is to seed until the ratio of upload:download is at least 1.00.

Can I really download *anything*?

BitTorrent is purely a content distribution method, just like a web browser, and similarly, does not incorporate any technology to monitor or restrict your activity. There is also nothing in BitTorrent that prevents anyone from seeing your IP address. Take care to follow your country's laws concerning copyrighted content.

How do I know that someone isn't sending out viruses on BitTorrent?

In short, you don't. You should treat something downloaded with BitTorrent just like any file downloaded from the internet - that is, if you don't trust the source of the file, then you should use caution when opening it. If the torrent site you obtained it from offers comments, be sure to read those first. But regardless of the comments, running a virus scan on the downloaded files is usually a good idea. BitTorrent guarantees that the content you download is not altered from when the torrent was originally created, but if the source files used to create the torrent were already infected, this will provide no protection!

Where can I find out more?

This guide and the [User Manual](#) is a good place to start. There is also a lot of BitTorrent reference information available on the internet, and [searching for "bittorrent" on Google](#) is a good start. The following sites are particularly useful:

- [Brian's BitTorrent FAQ and Guide](#) - a great resource to all things BitTorrent, with far more info than this page, though some of it is a bit technical.
- [BitTorrent FAQ](#) - Provides a list of common questions and answers and solutions to a number of common problems.
- [BitTorrent User Manual](#) - The main documentation for BitTorrent. Explains everything related to the client. Press F1 while viewing the BitTorrent window, or go to Help -> BitTorrent Help.
- [The BitTorrent specification](#) - Technical information on the way BitTorrent works.

- [BitTorrent.org](#) - a forum for developers to exchange ideas about the direction of the BitTorrent protocol.

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@BitTorrent

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