

Black Warez: Software Piracy and Internet Distribution.

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This document describes the segment of Internet traffic devoted to the illegal distribution of commercially produced software. The information presented below is by no means 100% inclusive. Evolution runs quickly on the Internet. The pirate software arena is very dynamic. Strategies change monthly, innovations appear weekly. Sites operating one day are nowhere to be found the next.

Software piracy is the process of distributing software and not paying applicable usage fees.¹ What happens is that in certain countries, there is lax enforcement of copyright laws. Three such countries are the CIS, China and Germany. Individuals and groups obtain legitimate copies of commercially produced software titles, including gaming, word processing and graphic art packages. The sources include employees of the software vendor, and businesses or firms that have purchased a legitimate copy of the target software. The files are uploaded to a server on the Internet and the location made available to the global Internet public. In other cases, programmers called crackers develop software to either remove the time limit or generate valid registration keys for demonstration packages. The user simply downloads the trial or demo version of the desired software then applies the crack to get a full, working, unlimited version of for free. There are even lists of the serial numbers for various programs regularly posted to the Internet. Some outfits go so far as to actually produce counterfeit copies of commercial software and then sell the units. According to the [Business Software Alliance](#), pirated software has accounted for \$59 billion in losses for software companies over a five-year period. In 1999, it is estimated that losses due to illegal software distribution totaled \$12 billion. Of course, the software vendors recoup those losses via higher prices for those purchasing software legally.

Software piracy can be examined as a type of black market, or informal economy.² In black market economies, transactions of goods or services take place in such a way that no tax revenue is reported. Parallel economies exist in all societies. One theory is that black markets have surged because of industrialization. Now that wages are being paid, currency has become a more critical commodity. Negotiations now involve money as well simple exchanges of services. People are always looking for ways to lower expenses, avoid paying taxes and make more money. In some forms, the black market economy takes the shape of employees being paid off the books. Both the employer and worker have a lower tax bill. Usually, with black markets, there is a relationship between the market and the economic status of the people in the area. With warez, the operator must be technically proficient and have access to certain computing resources. Chances are that the entities involved are educated, with a middle to upper class lifestyle. Money is not at the top of their list of motivations. Then what are the motivations behind pirate software?³ For the end user, it

¹ Business Software Alliance (BSA), <http://new.bsa.org/usa/antipiracy/>

² http://www.western.edu/headwtrs/reader/essays/headwaters11_papers/mccall.html
http://www.fraserinstitute.ca/publications/books/underground/section_1.html

³ <http://netsecurity.about.com/compute/netsecurity/library/weekly/aa092000a.htm>

is obvious. Free software. The groups and individuals that provide access to warez like the challenge of cracking warez and the notoriety of being acknowledged as a major warez supplier. Often when visiting a warez site, one is admonished to vote for the site. There are web sites, like <http://www.top50sites.com/> or <http://www.warezhangout.com/>, that list warez sites based on vote count. These pirate software sites usually carry ads for pornography portals. Internet ad revenues are based on click throughs. The more traffic the warez site can garner, the more money is made from advertising. The warez site generates income based on the volume of traffic going after the bootleg files. In turn, the ranking sites get visitors because among the warez crowds it is known that the highest ranked sources have reliable links to software.

There are ever changing strategies used by both sides in the game of cat and mouse between the authorities and the warez sites. The challenges that the warez sites face are avoiding prosecution and finding space on web servers for the files. There are some dubious ISP's who routinely allow gray and black area activities to take place on their system. Most ISP's, however, actively seek out users who are violating the law. In my research for this discussion, I attempted to locate and access warez sites. Performing searches on the Internet was the best way to find illegal software. Portals like <http://www.deja.com/>, <http://www.remarq.com/> enable searches of the newsgroups for specified keywords. Search engines like HotBot or Metacrawler were instrumental in locating files. There is even a special spider that just searches FTP sites at <http://ftpsearch.lycos.com/>. Many of the URL's I tried were no longer available. When the ISP discovers improprieties, the pages are quickly removed from the server. Other warez distributors have the luxury of web space access on an Internet server, bypassing the ISP altogether. The 'privately' controlled sites were the most reliable in terms of links that still worked. Some of the warez sites I managed to find had impressive offerings to download. The FCC and other such organizations spend a lot of effort searching for illegal web sites. A way used by the warez houses to hide files from searches by enforcement agencies is to use graphic file extensions. For example, the file for Windows 2000 might be called win2000.gif. On the web, .GIF files are commonly used as the graphics format. The authorities will search for win2000.exe or win2000.zip but might not think to look up win2000.gif. Once the user has the .GIF file downloaded to disk, then a decompression utility can be run to extract the installation files. Another one of the methods that the pirates use to stay online are redirector services like Sling.to, Come.to and Kickme.to. The owner of the warez site gets an account with a redirector service. The location of the warez site is then publicized using the URL for the redirector account. Redirectors make it difficult to resolve the IP address of the warez site. Yet another situation is where the warez site is controlled by someone who has access to space on a web server. The latest innovation to get web space is usage of the online storage firms by the warez providers. Services like Idrive.com, Myspace.com and Driveway.com have become repositories for illegal copies of commercial software. Now the online storage houses are responding to FCC requests to locate and purge violators.

The boldest advertise bootleg copies of software on cd-rom, but their numbers are shrinking. With the advent of cable modem and DSL, users have the speed and bandwidth to download hundreds of megabytes of files using the PC in their homes. No more need to risk getting ripped off by a guy selling home made cd copies. Special programs have been developed that defeat protection schemes like DeCSS. Coupled with the infiltration of cd writing technology, software titles can be easily and cheaply duplicated for mass distribution. The current concerns involve DVD. DVD recording technology is on the market, and along with it, software to crack DVD content protection

schemes. The content providers and recording technology vendors have been negotiating on the best methods to employ to minimize the anticipated piracy of DVD titles. The plan is that a combination of law enforcement and novel protection schemes will successfully stem the tide of free software.⁴

Glossary of Internet terms:

Address: The full and exact input needed to reach a given Internet site.

ARPAnet: Precursor to the Internet - for transfer of research information. This was a text-only tool, but with ftp.

Beta: Most common usage is "the program is in beta (test)" - meaning that the program is ready for stress-testing by the general public as a final bug-check before it goes on sale.

Dial-up Account: An agreement with a Service Provider that your computer may call up through their system and access the Internet.

DNR: Domain Name Registration.

Domain: In the URL, "www.lifesprings-resources.com", the prefix "lifesprings-resources" is the domain. The "www" prefix indicates that it is part of the World Wide Web, the public, commercial and graphic part of the internet.

FAQ's: Frequently Asked Questions - a collection of answers to common questions that your customers may have.

FTP: File Transfer Protocol. Tells your computer to be ready to copy files. The actual process is to log you on to a remote computer, and often requires passwords in order to allow the access to copy and download files from the other server to your own machine.

Home Page: May mean the index.html, or introductory starting point to a website, or refer to a smaller, more specific site that is hosted on another domain.

Host: One of the big computers (or a service including several big computers) which is connected to the backbone of the internet 24 hours/day, 365 days/year and stores websites so that they are available for public viewing.

HTTP: HyperText Transfer Protocol. This is programming language for "use hypertext language in order to read a home page".

Internet: A network consisting of other networks and using a common protocol.

⁴ DVD Forum, <http://www.dvdforum.org/>

IP: Internet Protocol - The standard way of doing things on the Internet. A computer with dial-up access goes through an "IP stack" that "remembers" it is coming from a PC (or MAC, or Unix) language and translates on the fly from Internet Protocol back to the User's program language.

Intranet: A Local Area Network and/or a Wide Area Network that uses HyperText Transfer Protocol in order to offer "local" information to the user in the same format and with all of the communications possibilities of the internet.

Links: Usually seen as underlined text in color, these are "hot" if clicking them takes you to a different page. A website may link to its own sub-pages or to other sites around the world.

Newsgroup: A Bulletin Board System that distributes articles to subscribers on a particular topic.

Portable Document Format (PDF): The standard for electronic distribution of documents. PDF is the best way to keep the look and feel of the original document intact. PDF files are compact, cross platform and can be viewed by anyone with a free Acrobat Reader program. ([download here](#))

Server: The computer that directs the flow of data within a network or to the Internet.

TCP/IP: Transfer Control Protocol/Internet Protocol

TELNET: "teleports" the user into a remote network.

URL: Universal Resource Locator, or the "address". Usually, that which follows "http://".

Website: All of the pages, graphics, files, and links under a domain.

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