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Good morning. My name is Robert Holleyman. I am the President and CEO of the Business Software Alliance.[1] The Business Software Alliance is an association of the world's leading software companies and their key hardware partners. BSA's members create approximately 90% of the office productivity software in use in the U.S. and around the world.

I thank the Committee for the opportunity to testify here today. The theft of intellectual property, commonly known as "piracy", is a matter of great concern to the business software industry. Piracy costs the industry billions of dollars in lost revenues each year. It reduces investment in creativity and innovation. And it harms national economies including our own.

In my testimony, I intend to give a brief overview of the contributions that the business software industry has made and continues to make to the global economy and to describe how piracy has undermined those contributions. I will next describe the evolving challenges the software industry faces with respect to piracy and explain the steps industry is taking to address these challenges. Finally, I will summarize the lessons that we have learned regarding how best to end piracy both here at home and abroad.

First, though, let me begin by thanking the members of the Committee for hosting this hearing. BSA and each of its member companies commend you for recognizing the software industry's important contributions to the global economy and the serious threat posed to the industry by software piracy.

Software Industry Contributions and the Impact of Piracy

Information technology has changed the world in which we live. It has made us more efficient, more productive and more creative. Software has been at the heart of this technology revolution. Software facilitates the dissemination of knowledge, drives global communication and promotes continued innovation. It helps us to solve problems and generate new ideas, gives us the power to create and to collaborate and fosters self-expression in a range of spheres.

The information technology sector, driven by the software industry, has also proven to be a remarkable engine for global economic growth. A recent economic survey (attached) by IDC, a major IT research firm, reports that worldwide the IT sector employs more than nine million people in high-wage, skilled jobs, raises more than $700 billion in taxes annually and contributes nearly a trillion dollars each year to global economic prosperity. Between 1996

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[1] The Business Software Alliance (www.bsa.org) is the foremost organization dedicated to promoting a safe and legal digital world. BSA is the voice of the world's commercial software industry and its hardware partners before governments and in the international marketplace. Its members represent one of the fastest growing industries in the world. BSA programs foster technology innovation through education and policy initiatives that promote copyright protection, cyber security, trade and e-commerce. BSA members include Adobe, Apple, Autodesk, Avid, Bentley Systems, Borland, Cisco Systems, CNC Software/Mastercam, Entrust, HP, IBM, Intel, Internet Security Systems, Intuit, Macromedia, Microsoft, Network Associates, RSA Security, SolidWorks, Sybase, Symantec, UGS and VERITAS Software.

and 2002, the IT sector grew 26%, creating 2.6 million new jobs and adding a cumulative $6 trillion to economies around the world. Each year, the packaged software sector alone contributes in excess of $180 billion to the global economy.

While these numbers testify to the economic force of the software industry, this sector has yet to reach its full economic potential. This is due, in large part, to piracy. In 2002 we measured the global piracy rate at 39%. In many countries the piracy rate exceeded 75%, reaching highs of over 90% in some markets. Although piracy levels in the U.S. historically have been low as compared to other countries, the figure is far from negligible. In 2002 the U.S. piracy rate was 23%. Nearly one in every four copies of business software in use in this country today is stolen. There are few industries that could endure theft of its products at this level.

Piracy inflicts significant financial harm on U.S. software companies. Piracy in the U.S. alone cost the software industry almost $2 billion in 2002. Worldwide, piracy led to estimated losses of over $13 billion. Those figures cover only the market for packaged PC applications. If our survey were expanded to cover the broader PC market, including operating systems, we would expect to see even higher dollar losses. Publishers invest hundreds of millions of dollars every year and immeasurable amounts of creativity in designing, encoding and bringing new products to market. They depend upon the revenue they receive from those products to obtain a return on their investment and to fund the development of new products. Piracy undermines this model.

Of course, the impact of piracy extends beyond lost sales. Pirates steal jobs and tax revenues as well as intellectual property. The IDC survey cited above found, as a general rule, that there is an inverse relationship between software piracy rates and the size of the IT sector as a share of the gross domestic product. As piracy is reduced, the software sector grows. This creates a ripple effect that stimulates other parts of the IT sector and of the economy overall. The equation is a basic one: the lower the piracy rate, the larger the IT sector and the greater the benefits. Putting this into real numbers, the IDC survey concludes that a 10 point reduction in the global piracy rate between 2002 and 2006 could deliver 1.5 million new jobs, $64 billion in taxes and $400 billion in new economic growth. In North America alone, benefits would include 145,000 new jobs, $150 billion in additional economic growth and more than $24 billion in tax revenues.

Reducing piracy delivers indirect benefits as well. Society benefits from new technological innovations. Consumers benefit from more choices and greater competition. Internet users benefit from new ways of communication and expanded creative content made available online. And national economies benefit from enhanced productivity leading to higher standards of living.

Piracy: Defining the Problem

In its simplest terms, "software piracy" generally refers to the reproduction or distribution of copyrighted software programs without the consent of the copyright holder. In most countries around the world, the law makes clear that when a person copies or distributes software, they must have authorization from the copyright holder through a license agreement or otherwise, unless the copyright law provides a specific exception for such activity. Otherwise, such activities constitute piracy.

Piracy of software can take several forms:

- **Organizational end-user piracy**

Counterfeiting of software and Internet piracy are significant concerns to the software industry, just as they are for the entertainment industry. However, the business software industry's worst piracy problem traditionally has involved its primary users – large and small corporate, government and other enterprises – that pirate our members' products by making additional copies of software for their own internal usage without authorization. We commonly refer to this activity as "organizational end-user piracy".

Organizational end-user piracy occurs in many different ways. In what is perhaps the most typical example, a corporate entity will purchase one licensed copy of software, but will install the program on multiple computers. Other forms of end-user piracy include copying disks for installation and distribution, in violation of license terms; taking advantage of upgrade offers without having a legal copy of the version to be upgraded; acquiring academic or other restricted or non-retail software without a license for commercial use; and swapping disks in or outside the workplace. Client-server overuse – when too many employees on a network have access to or are using a central copy of a program at the same time, whether over a local area network (LAN) or via the Internet – is another common form of end-user piracy.

It is impossible to describe the typical organizational end-user pirate. This activity goes on in enterprises large and small, public and private. While end-user pirates do not generally make copies for resale or commercial distribution, they nonetheless receive an unfair commercial advantage because the money that they save on legitimate software licenses reduces their operating costs and increases the profitability of their enterprise. In some cases, the piracy is attributable to negligence and poor asset management practices. Enterprises can also be victimized by unscrupulous computer manufacturers and dealers who install copies of software onto the internal hard drive of the personal computers they sell without authorization from the copyright holder. In many cases, however, organizational end-user piracy is undertaken willfully, with management fully aware and supportive of the conduct.

- **Counterfeiting**

Counterfeit software continues to pose a serious problem for BSA's members. The most flagrant software counterfeiters produce CD-ROMs that look very similar to those of the software publisher. These counterfeit CD-ROMs often bear reproductions of the manufacturer's logo and other labeling, and are distributed with counterfeit packaging, manuals, security features and other documentation. Sophisticated counterfeiters often replicate these CD-ROMs at dedicated pirate facilities, using the same type of equipment and materials used by legitimate software manufacturers. A single CD-ROM replication facility can produce more than a million discs every day, at a per-unit cost of less than two dollars. In other cases, counterfeit CD-ROMs have been traced to "legitimate" replicating plants that have contracted directly with counterfeiters.

Over the past several years, BSA has seen a dramatic increase in the amount of high quality counterfeit software imported into the U.S. from overseas, especially from Asia. International counterfeiting rings have become even more sophisticated in their methods of producing "look alike" software and components. For example, raids in Hong Kong uncovered evidence of advanced research and development laboratories where counterfeiters reverse-engineered the security features of at least one member company's software media. Another approach used by counterfeiters is to obtain genuine security features illegally, and use them on pirate copies of software. All of these activities are often connected with serious criminal organizations, as investigations in Asia, Europe, and Latin America have revealed. Compared to other similarly lucrative crimes like narcotics trafficking or arms dealing, software piracy is easy to pursue and low-risk; chances of getting

caught are slim and, if caught, penalties are often light. Even in the U.S., the criminal laws can and should be augmented to assure that counterfeiters who engage in practices like the illicit use of genuine security features can be brought to justice. Legislation like S. 2227 can serve as a model for other countries to follow in combating piracy, and we thank Senators Biden and Allen for sponsoring this important measure.

Compilation CD-ROMs also pose a problem. These CDs typically contain a large selection of software programs published by different software companies. Compilation CDs are typically sold for very little money (relative to the value of the legitimate software) at swap meets, flea markets, mail order houses, and over Internet auction and software web sites. Compilation software can be replicated using a relatively inexpensive (less than $1000) CD recorder which, when connected to a personal computer, employs a laser to "burn" installed software programs onto a blank disc. Although compilation CDs do not exactly replicate the packaging and logos of genuine software, unsophisticated consumers are often led to believe that compilation CDs are legitimate promotional products.

- **Internet piracy**

The Internet is the future of global communication and commerce. It creates tremendous opportunities for faster, more efficient and more cost-effective distribution of information, products and services across the globe. As technology innovators, BSA's members are at the forefront of these developments. Software is not only sold and delivered over the Internet, but also comprises a key component of the Internet infrastructure and provides the basic tools used to offer virtually any good or service online.

Unfortunately, in addition to creating significant social and economic opportunities, the borderless and anonymous character of the Internet makes it an ideal forum to engage in criminal conduct. As we have seen, the emergence of the Internet has added a new dimension to software piracy by permitting electronic sales and transmission of illegal software on a global scale. Instead of pirated copies being sold one at a time, millions of pirated copies can be downloaded every day. Geography no longer matters. A pirate based in Washington, D.C. can sell to someone in Australia or Norway with ease. Internet users can readily employ a search engine to find both legitimate and illegitimate sellers of software and the resulting transaction can take place in the privacy of their home or office. The ability of Internet pirates to hide their identities or operate from remote jurisdictions often makes it difficult for right holders to find them and to hold them accountable.

Over the past two years, BSA's Internet investigators have witnessed the global spread and growth in the online piracy of software. Today, computer users can and do download infringing copies of BSA members' products from hundreds of thousands of locations on the Internet – from websites in China to shared folders on peer-to-peer systems in France. Pirated software is available on auction sites in Brazil and is offered through spam email solicitations that originate in Russia. To cite but one figure, during the month of February, BSA's Internet crawler system identified 173,992 infringing software programs being offered in 149 different countries

There are three primary forms of Internet piracy: (i) the transmission and downloading of digitized copies of pirated software, through web sites, IRC channels, newsgroups and peer-to-peer systems; (ii) the advertising and marketing of pirated software on auction and mail order sites and through e-mail spam, involving delivery on physical media through the mails or other traditional means; and (iii) the offering and transmission of codes or other technologies used to circumvent copy-protection security features. There are, of course, many variations on these general themes. All of these activities cause significant harm to our industry, as they do to other creative sectors.

Among these variants of Internet piracy, peer-to-peer piracy (P2P) has been the subject of significant public debate over the past two years. BSA takes P2P piracy very seriously. We are engaged in concerted action to address this threat. While BSA and its members deplore this activity, however, we believe it is essential to distinguish the illegal uses of the technology from the technology itself. There is no doubt that P2P technologies have been abused to spread illegal content including pirated software, pornography and personal information. At the same time, however, P2P technologies have also created exciting new opportunities for legitimate users. One of the earliest examples of P2P technology is the SETI@Home project, which uses over 4 million computers worldwide to search radio signals captured from space for signs of intelligent life. Stanford is using P2P technology to help find cures for diseases such as Alzheimer's, cystic fibrosis and BSE (mad cow disease). Software companies are also looking to P2P technologies to undertake routine tasks such as distributing updates for installed software including anti-virus and firewall software; in this way, software can be constantly updated in response to new Internet threats.

- **Industry Efforts against Piracy**

The Business Software Alliance and its individual members devote significant financial and human resources to preventing piracy worldwide. Our efforts are multi-faceted.

First, we are engaged in extensive educational efforts, designed to increase public understanding of the value of intellectual property and to improve overall awareness of copyright laws, on a global basis. For example, in March BSA launched "Netrespect", a free educational resource to encourage responsible Internet behavior amongst young people. This initiative, first rolled out in Ireland, responds to a growing need to promote cyber education, beginning with encouraging teenagers to value creativity, respect intellectual property and practice responsible computer behavior. In the U.S., BSA offers parents, teachers and students a variety of free materials and tools on cyber ethics, including its curriculum, "Play It Safe In Cyberspace." The curriculum is available for free download at www.PlayitCyberSafe.com and was co-produced by the children's publisher Weekly Reader. Since its initial distribution in 2002, the curriculum has reached more than 13 million kids, parents and teachers. In addition to our broad-reach educational campaigns, BSA offers many tools to facilitate compliance. Among other resources, we provide guides and technologies that assist end-users in ensuring that their installed software is adequately licensed. We likewise offer tips to consumers so that they can be confident that the software they acquire on-line is legitimate.

Second, we work closely with national and international bodies to encourage adoption of laws that strengthen copyright protection and promote an environment in which the software industry can continue to innovate. BSA has provided input into the most important international agreements protecting intellectual property, including the World Intellectual Property Organization's Copyright Treaty and the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). We are active at the national level as well, both in the area of law reform and through the provision of training and other assistance to public authorities including police, prosecutors and judges. And we have worked directly with governments worldwide, including the U.S. Government, to adopt and implement software asset management programs in order to prevent software piracy in the public sector and to set an example for the private sector to follow.

Finally, where appropriate, BSA undertakes enforcement actions against those involved in the unlawful use, distribution or sale of its members' software. On the Internet, for example, BSA conducts a far-reaching "notice and takedown" program. Operating on the basis of referrals from members, complaints from consumers and infringing activity identified through our own proactive searches, BSA's team of Internet investigators identifies infringing sites and takes action to have these sites removed or disabled. Last year alone, BSA sent tens of

thousands of notices to Internet service providers. BSA's members have also filed suit against individuals offering pirated software for free download and over auction sites. BSA also engages in civil litigation against corporate end-users who are using our members' products without authorization. To this end, and consistent with the WTO TRIPs Agreement, we conduct civil "ex parte" (surprise) searches against corporate targets across the globe. We also work closely with local, national and international law enforcement bodies to protect the intellectual property rights of our members.

Of course, technology plays a role in protecting intellectual property rights as well. Content owners must take responsibility to ensure that their works are not easily subject to theft, rather than rely wholly on others to protect their intellectual property. Accordingly, BSA's members have invested hundreds of millions of dollars and thousands of engineering hours in developing technologies to protect content and intellectual property. Our companies have worked diligently, voluntarily and cooperatively with content providers and consumer electronics companies to create systems that will foster the legitimate distribution of digital content. Experience clearly demonstrates, however, that there is no silver bullet technological solution that will solve the problem of piracy. Nor are government mandates the answer. Technology develops most effectively in response to market forces; government mandates would stifle innovation and retard progress.

The Role of Government

The ability of countries to reap high economic benefits from the software sector is highly dependent on their ability to promote protection and enforcement of intellectual property rights. Multilateral and bilateral trade alliances must be fully backed by governments' firm commitment to respect and enforce intellectual property rights within the public and private sectors; to treat the manufacture and sale of counterfeit software as a crime warranting tough enforcement and penalties; and to ensure that its laws and enforcement regimes adequately address all forms of piracy. This Committee can help promote this commitment to intellectual property protection by:

> ➢ ensuring that governments worldwide fulfill their obligations under the WTO TRIPs Agreement by adopting and implementing laws that provide for effective enforcement against piracy;

> ➢ encouraging implementation of the WIPO Copyright Treaty and strong criminal enforcement of the measures therein; and

> ➢ urging countries to dedicate resources to the investigation and prosecution of piracy in all its forms, as well as to training, technical assistance and mutual cooperation.

- **Strong, workable enforcement regimes, as required by TRIPs**

While substantive copyright protections are essential to bring piracy rates down, experience has demonstrated that these protections are meaningless without adequate mechanisms to enforce them. The 1994 World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) provides the framework for such mechanisms.

TRIPS requires that intellectual property rights enforcement regimes meet specific "results-oriented" performance standards. Specifically, each member's enforcement regime must "permit effective action against infringement" and "constitute a deterrent to further infringements." Moreover, enforcement procedures cannot be "unnecessarily complicated or costly," or "entail unreasonable time limits or unwarranted delays." Thus, in assessing TRIPs compliance, it is critical to review and monitor all aspects of a country's enforcement

regime, including the adequacy of procedural remedies and penalties, as well as their effectiveness in deterring piracy.

In addition to establishing general standards for enforcement, TRIPs specifically requires that countries provide an effective civil system of enforcement, provisional remedies to preserve evidence, extensive customs procedures to stop infringing goods at the border, and criminal penalties for counterfeiting and piracy. Given the emergence of organized criminal counterfeiting operations, it is imperative that all governments fulfill their obligation under the WTO TRIPs Agreement to enact and enforce strong criminal remedies against piracy, including tough, effective penalties. Moreover, to combat rampant piracy among corporate end-users, these criminal laws must be supplemented by civil remedies that allow software publishers to obtain civil "ex parte" search orders and adequate damages, without significant judicial delays or overly burdensome bond requirements.

- **Full and faithful implementation of the WIPO Copyright Treaty**

In direct response to the growing threat of Internet piracy, the international community in 1996 adopted the WIPO Copyright Treaty to ensure protection of copyrighted works in the digital age. The Treaty came into force just over five years later, in March 2002, following ratification by 30 member countries. Among other measures, the WIPO Treaty (i) makes clear that a copyrighted work can be placed on an interactive network only with the consent of the relevant right holder; (ii) makes clear that the Berne Convention's reproduction right applies to electronic uses of works; (iii) protects all forms of expression of computer programs; and (iv) prohibits "hacking" of technical protections that have been applied to works. These measures ensure that authors' rights will be respected in cyberspace.

The United States was one of the first countries to implement the WIPO Copyright Treaty by enacting the Digital Millennium Copyright Act (DMCA). In addition, Congress has enacted legislation that criminalizes online distribution of pirated software and increases penalties for Internet piracy. To ensure that these laws have real impact, U.S. law enforcement agencies have elevated the priority given copyright offenses including Internet piracy, resulting in important prosecutions against criminal pirates and counterfeiters. Following on these measures, the number of Americans on the Internet has nearly doubled, from 70 million people to 137 million. The copyright industry has expanded at a rate of 10% each year. And last year, copyright industries contributed $535 billion dollars to the U.S. economy − more than 5% of the gross domestic product.

Similar measures are urgently needed need on a global basis. While many countries have taken steps toward improving and enforcing laws in this regard, much more remains to be done.

- **Dedicated resources to fight piracy**

Ending the theft of intellectual property is a low priority in many countries. Piracy investigations are often delegated to law enforcement units with little or no training in intellectual property crime and given local rather than national attention, in competition with many other types of crime for attention and resources. Although copyright crimes often involve cross-border activities, there is frequently a lack of coordination among various countries' law enforcement agencies when investigating and prosecuting pirates. Even where procedures for cross-border coordination do exist, such procedures can be cumbersome and ineffective.

To ensure effective action against piracy, national authorities should establish specialized intellectual property enforcement units at a national rather than local level, who can react quickly and knowledgeably to incidents of IP crime. Better training of law enforcement and

the judiciary is equally important, to ensure these bodies are equipped to deal with these cases. Likewise, better cross-border cooperation among police and other government officials, and improved availability of evidence and judgments for cross-border use, are also essential.

In this regard, BSA would like to take this opportunity to thank Senator Allen for the amendment he sponsored to the foreign assistance bill. This amendment authorizes the Secretary to pursue various activities to combat piracy in non-OECD countries and calls for the appropriation of $5 million for the training of law enforcement and judicial authorities and the provision of assistance to these countries in complying with international treaties on copyright. Efforts like these promise to reduce global piracy and protect American industry and American innovation.

Conclusion

Software contributes profoundly to the world in which we live. It allows us to share, to create and to innovate in ways previously unimaginable. Software-driven productivity strengthens national economies, including our own, and makes them more competitive and more prosperous. Unfortunately, piracy prevents the software industry from realizing its full potential. We urge the U.S. Government and other governments worldwide to help us solve this problem. We thank you for the efforts made to date.

Thank you again for the opportunity to testify here today. I look forward to your questions and to continued dialogue on this important topic in future.