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SOFTWARE PIRACY IN SERBIA

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Abstract: Piracy has become a global phenomenon. Almost all products of the human mind have already been pirated or counterfeited. Some of the examples include counterfeited alcohol drinks, perfumes, medicines, books, money, and, without exception, computer software. As numerous factors affect piracy, cultural and economical among them, we can be almost certain that it would be impossible to completely eradicate it, but with some effort done by societies and individuals, it would be able to be reduced to an acceptable level. In addition to a historical overview of piracy in media which transfers information, this work shall discuss different types of software piracy, the current state of software piracy in Serbia today and in previous years.

Keywords: software, intellectual property, piracy, Serbia.

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1 Introduction

It would be wrong to think that piracy is a modern phenomenon. Counterfeiting and piracy are almost as old as the human race. Both of them very well date back in to the past, but the reason that they are presently so widespread can be due to the fact that modern technology enables copying of the original to be easily done. Some of the first examples of counterfeiting can be found in the time of Ancient Roman, when the producers of vines and liqueurs from Narbona in Southern France copied Italian amphora corks, and tried to sell their products as Italian, as Italian products had a better position in the market at that time (Žarković 2003).

Although it is very well known that Johannes Guttenberg's invention of movable type printing was not actually original, as similar technology had already been in use in China since the 11th century, it has still been one of the most epochal and the far-reaching inventions in the history of humanity and human culture (Фуруновић 2000). Until that moment books, as being media for the transmission of information, were expensive and not available to the public at large. Guttenberg's invention changed all that; books became less expensive and widely available, which had an effect on increasing literacy and, of course, on further development in science and technology. However, with Guttenberg's invention, new problems also arose. As the demand for books grew, competition between publishers became more serious. In those days, the author practically sold the right for publishing their particular work to a certain publisher, which meant that the first publisher to publish the book had the exclusive right for its publication. However, numerous other publishers started to republish books without seeking permission from the first publisher or author, and soon became serious competitors to the original publisher, thus harming their interests. Publishers who would do this gained greater profits, as they didn't have any expenses for preparing the manuscript for publication and didn't have to pay any fee to the author. Due to this, publishers started to form associations and demanded different privileges from their government, providing them not only the exclusive right to print and publish certain works, but also for prohibiting any republishing. In time, the authors joined the publishers' demands and the combined pressure finally led to the first written copyright law in England in 1710, also known as The Anne Stewart Law (Domazet 2007).The first regulations on copyright in continental Europe arose from the French revolution in 1789 (Stanković i Tešmanović 2007).

As science and technology have developed, so has newer media for the transmission and storage of information, and the possibility to copy and to unlawfully use copyrighted works has reached unimagined heights. To a certain extent, the history of piracy of media and the storage of information can be followed by looking at evolution of media itself.

At the end of the 19th and the beginning of the 20th century the very first means for sound and movement recording were invented. Thomas Edison presented the first recordable piece of media to the world – at first the recordable cylinders, and then disk shaped records and celluloid tape for the filming of movies. Engineers from Ampex drew up and built machines for recording onto audio and video magnetic tape, from which emerged a system known as Quadriplex in 1956 (Ganc i Ročester 2007). The evolution of these recording devices continued with great speed, and in 1975, the Japanese company Sony unveiled its Betamax system, and in 1979 the well known VHS system (Video Home System) was introduced by JVC (Milovanović 1991).

At the beginning of 1960s, Philips produced tape cassettes for dictaphones. Recording technology advanced and companies soon started to publish LP (Long Play) albums on cassettes. Philips was not able to predict that people would

start buying empty cassettes for the obvious reason of recording onto them by themselves. This was the beginning of a cultural shift from mass-media toward something more personalized – "I choose what and when to record, in which order and in what place" (Ganc i Ročester 2007).

The appearance of digital data was an additional stimulus for the growth of piracy. Although digital data had already existed for 50 years, as it had originated with the first computers, a widely accepted way for storing and distributing mass digital data did not exist almost until the 1980s. More precisely, in 1979 Philips and Sony joined forces to create a standard for the distribution of audio data commonly known as the CD (Compact Disc). The technical predecessor of the generally accepted CD standard was the Laserdisc, which appeared several years earlier, but had not been widely used. What the CD and Laserdisc shared in common was their use of laser beams to read information, but data was still stored in analog form. The analog VHS format held its precedence over digital films until the appearance of the DVD (Digital Versatile Disc). Until the mid 1990s and the appearance of home CD "burners", copyright issues for digital data had not been that prominent, as the only places where the discs could be copied were actual factories in which they were produced. Additionally, some pirate factories emerged whose technological process was not much different from the process used for legal production (Domanović 2004). Copying this kind of media became much less demanding, and copies did not lose any of the original's quality, as was the case with copying analog media. It was thereafter possible to create a huge number of copies that were the same quality in a very short period of time.

The Internet additionally complicated things. The dominant form of unlawful distribution of software for any purpose during the 1980s was known as the "ant trade" and it was performed mostly in "flea markets" (Drakulić i Drakulić 1999). This kind of business was started and run by professional gangs. During the 1990s, thanks to the Internet, new, more efficient ways for the distribution of unlawfully copied software emerged.

The term "software piracy" came into use during the late 1970s, i.e. with the development of the first personal computers. The original meaning of this term included the illegal copying and reselling of other people's programs, instead of buying and paying for them legally or creating the programs originally. The term was usually associated with the theft of software which was prepared for sale, i.e. on the market (Petrović 2004). Learning from their past experiences, companies which produced software almost from the beginning started different campaigns to warn users, not only of the harmful effects of piracy, but also of the legal consequences if they would chose to ignore the warnings and continue to perform such illegal activities.

2 Types of Software Piracy

The term piracy generally means any illegal use of determined content. When observed according to copyright law, this means the unlawful production, distribution, sale or any other type of unauthorized use of certain copyrighted works, without the author's permission or paid fees, legal licenses or legally permitted exceptions. This meaning of the term "piracy" also refers to computer programs.

There are different types of piracy and they range from individuals who exchange software trough improvised P2P networks (Peer-to-Peer), to the Russian mob and ex-Columbian drug lords who now have factories for the illegal production of copied CDs, as the piracy of digital media has become more lucrative than drugs (Ganc i Ročester 2007). Basically, all types of software piracy which are characteristic for modern cyberspace fall into one of five basic types (Spasić 2007).

1. End-user Piracy is the unauthorized copying of software by a company's workers and it can represent one of many different activities: installing a program from one licensed copy onto several computers; copying installation material and its distribution; upgrading without a legal copy of the program which is being upgraded; obtaining software which is not commercially available and its exchange in the workplace or elsewhere.

2. Client-server Overuse is when too many employees are using the same central copy of software, while a license allows only for a limited number of users.

3. Internet piracy is any unauthorized download of software from the Internet, it refers to online purchases. Internet piracy can take various forms: pirate web sites which offer software for free to download or in exchange for uploading new programs onto the Internet; Internet auctions which offer forged software created from regular distribution channels; P2P networks which allow the unauthorized exchange of software. A great number of people buying software over the Internet do not receive the goods they had paid for and others cannot have their money refunded when they discover that the software they have bought was actually counterfeit, as the Internet firms which are involved in these dishonest activities usually disappear very quickly. In addition, it is very hard to recognize pirated software on servers, since it is not possible to actually examine the offered product.

4. Hard Disc Loading refers to firms that illegally pre-load software onto the computers they sell. In the same category belong those firms which sell or install new software on computers in a company's workplace.

5. Software Counterfeiting is the illegal copying and sale of products protected by copyright with the intention to imitate an authentic product. Software counterfeiting occurs where there is an obvious intention to imitate the copyrighted product. This type of software piracy usually takes one of two forms:

a. *End-user Copying*: Friends who exchange discs or organizations that do not report the actual number, but rather, a smaller number of the actual software installed. Although the exchange of software between friends may seem like a perfectly innocent activity, it still represents a violation of intellectual property laws, and thus a risk to software users. An interesting situation has now occurred with the appearance of the first social networks, such as Facebook, Myspace, etc., where the number of "friends" can exceed tens of thousands. In this case, a simple exchange between friends can have serious consequences for the producer's profit on the software.
b. *Counterfeiting:* Different ways of duplicating and distributing illegally copied software. Many counterfeiting groups are tied to organized crime that are engaged in the counterfeiting and packaging of software and, for such a purpose, use very advanced technology. Software packaged in this way is sold as more or less the exact imitation of the legal software. When such activity is performed on a large scale, counterfeiting becomes a serious criminal activity. Software piracy has become part of money laundering mechanisms, which of course extends further to the arms trade, gambling, extortion and prostitution.

Also, technology used by counterfeiters is becoming better every day so that even experienced users cannot differentiate legal software from the forgery. The possibility for fraud increases with the growth of popularity in trading over the Internet since the buyer does not have the possibility to see the product before it reaches them. Forgers usually attract customers by offering very low prices for the products they sell; however, risks for users are numerous: untested software already copied many times from a potentially infected hard disc, a product without any technical

support, a product without any warranty, a product for which the user does not have any legal right, a product which cannot be upgraded, etc...

As has been mentioned earlier, the appearance of the Internet has led to the unprecedented ability for the distribution of pirated software. For example, file exchanging on the Internet is often connected with the usage of the term "warez". This is a parody of the term "wares" (Ganc и Ročester 2007). So called "warez" groups are actually secret organizations on the Internet, which are composed of individuals and organized groups that use the Internet for the large scale illegal distribution of copyrighted software. Members of these so called "warez" groups are usually very skilled in "obtaining" new software products and their further worldwide distribution. In these kinds of groups certain individuals (known as "providers") have access to copyrighted software, video games, movies, music files, etc., often even before such titles are publicly released to the public at large. In addition, some of these members (known as "protection breakers") use their technical knowledge and skills to bypass or "break" the protection on copyrighted digital media, and others (known as "couriers") spread their pirated software on different file servers over the Internet, so that others can access it, reproduce it and distribute it even further. This way of distributing illegal material seriously endangers the business of software producers and, for this reason, the actions which are undertaken for the protection of copyrighted software are usually aimed against these kinds of groups.

3 The State of Piracy in the World

The Business Software Alliance (BSA), an international organization, was founded in 1988 as an association of business software producers, with the goal to educate users about software copyright and information safety, trade, electronic business, and to fight against software piracy. Some of its members include: Adobe, Apple Computers, Autodesk, Compaq, Dell, IBM, Inuit, Macromedia, Microsoft, Novell, Symantec and others. Presently, the BSA has developed programs in some 80 countries.

The International Data Corporation (IDC), an international analytic house performs a global study about levels of piracy for the BSA every year. Due to the fact that this study has been done for more than a decade, it has become itself an object of numerous studies, thus making software piracy the most observed and studied type of piracy. The methodology which is used by the IDC in making this study is rather complicated. Basically, it is based on an assessment of how many software packages are installed on personal computers in one country, comparing that number afterwards to the total number of packages delivered by companies.

In short, the global piracy study for 2008[1] showed that software piracy, in spite of efforts undertaken by governments and software producers to stop the illegal use of computer software, is still a serious problem in every country, and is slowing down economic recovery, long term growth and development. During 2008, levels of piracy dropped about half (precisely in 57) countries out of 110 included in the study. In 36 countries, the level remained the same, and rose only in 16 countries. The total percent of software piracy on the world level is now 41%, which is an increase of about 3% in regard to previous years. Worldwide revenue losses for software companies broke the $50 billion barrier for the very first time in 2008.

4 The Situation in Serbia

It seems that in Serbia there are very few serious and detailed studies about the types and levels of software piracy. Apart from some newspaper reports and studies on this phenomena in profes-

[1] available at: http://global.bsa.org/globalpiracy2008/studies/globalpiracy2008.pdf

sional legal journals, the BSA's activities and their reports are very good sources for obtaining a general picture. However, the most detailed description of the state of software piracy in Serbia can be found in the "Special 301 Report" which has been produced for the U.S. Trade Representative by the International Intellectual Property Alliance (IIPA) for over 20 years. The IIPA is an international alliance for the protection of intellectual property rights; it was founded in 1984 in the USA to represent interests of copyright industries and to develop standards for the efficient protection of these rights, as well as to stop the unauthorized and illegal use of copyrighted materials. The IIPA is a coalition of seven trade associations representing some 1,100 companies which produce and distribute copyrighted material worldwide. Other members of the IIPA, in addition to the BSA, are: the AAP (The Association of American Publishers), the ESA (The Entertainment Software Association), The Independent Film & Television Alliance, the MPAA (The Motion Picture Association of America), The NMPA (The National Music Publishers Association) and the RIAA (The Recording Industry Association of America).

Since the USA is the biggest exporter of copyrighted material, it certainly has the largest interest to ensure legal protection in as many countries as possible. Due to this, every year in April the IIPA reports to the U.S. Trade Representative about the state of piracy in the world and its endangerment to US interests, proposing an introduction of economic sanctions towards countries in which piracy levels surpass a certain threshold. On the basis of this report, the U.S. Trade Representative sends its "Special 301 Report" to Congress on the state of intellectual property rights protection throughout the world, with substantial proposals for introducing economic sanctions against countries which are the biggest offenders, while other countries that have been detected to poorly protect intellectual copyright are placed on a "Watch List", making them candidates for eventual economic sanctions.

Serbia (together with Montenegro) appeared 4 times on this report, on the "Watch List" for 2003, 2004, 2005 and 2006. After the State Union of Serbia and Montenegro broke apart in 2006, the IIPA has not recorded either country. Data for years before 2003 practically does not exist.

4.1 The State of Piracy in Serbia during 2001 and 2002

Although it is very hard to find data for these years, one investigation from 2001 showed that pirated operating systems were installed on 99% of all computers in Serbia (Žarković 2003). This all changed the next year when leading software producers entered the Serbian market. The very same year, Microsoft signed a strategic partnership agreement with the Serbian Government, which led to the licensing of some 30,000 computers in the administration and more than 50,000 in schools and academic institutions. During the campaign that Microsoft carried out in Yugoslavia, and which lasted from September to the end of December 2002, a great number of business firms and companies took the opportunity to legalize their software. On this occasion 110,000 different licenses were signed, and, as a result, Microsoft's software was installed onto some 35,800 computers. Also during the campaign, Microsoft established a call center in Belgrade where registered users of Microsoft software could ask for technical support, to obtain information and to activate or exchange purchased products. In October 2002, Microsoft announced that their operating system Windows XP Professional and software package Office 11 would be translated into Serbian. This was a precedent Microsoft made for Yugoslav market especially; until that time Microsoft's common practice was to produce localized versions of their operating systems only when the overall number of users reached a critical point (Žarković 2003). It was

estimated that, with the legalization of Microsoft's software products, piracy in Serbia dropped to 75%, although there were some reports that estimated that the percentage of computers that had pirated software installed dropped to 60% during the first part of Microsoft's campaign. In our opinion, the first number is closer to the truth.

As the Serbian market opened up for software company organizations, the BSA and the IIPA finally obtained enough data to analyze the real state of protection of intellectual property in Serbia and Montenegro.

4.2 The State of Piracy in Serbia in 2003

The "Special 301 Report" for 2003[2] stated that Serbia and Montenegro had very serious problems with the protection of copyrighted materials. Most copyright sectors had problems with the production, distribution, sale and export of illegal optical discs, VHS piracy as well as widespread piracy of business and entertainment software. As one of the reasons for the high level of piracy in Serbia (almost 100%), the Report names the former Yugoslav government (led by Slobodan Milosevic). According to the Report the former government openly encouraged piracy of Western copyright products as an act of patriotism. After the 1999 war on Kosovo, the new federal government broke with its old traditions of government-encouraged piracy. Nevertheless, infringed copyrighted materials were still widely available throughout the country and sold in kiosks, retail stores and open markets. It was very hard to find any retail store which sold only legal material. There were around 50 kiosks, practically all of them openly selling thousands of illegal cassettes and optical discs containing music, movies and software near the Serbian Ministry of Trade, Tourism and Services in front of the SKC (the Student Cultural Center) on Generala Ždanova street in the very center of Belgrade. Internet piracy was also a significant problem, with numerous warez sites offering pirated games for download, as well as a source of videogame software for burn-to-order operations. Pirate optical disc manufacturing plants were operating both in Serbia and in Montenegro. In addition to the massive local sale of illegal material, pirated CDs produced in Serbia and Montenegro were also exported to neighboring countries, such as Bosnia and Herzegovina, Croatia, Greece, Romania, Slovenia and Turkey.

One of the reasons for the high piracy levels the Report named the inadequacy of the Yugoslav Copyright Act and other regulations for the protection of intellectual property, and also the Serbian/Montenegrin judiciary and other elements of law enforcement that were inadequate and showed no interest in giving priority to intellectual property protection. For the same reason, foreign investment in the copyright industry in Serbia and Montenegro had been disabled, so the USA and other foreign and local copyright holders suffered millions of dollars in losses. For example, the recording industry reported a piracy level of 95% with losses to the U.S. music industry amounting to $14 million in 2002. For this reason, international pressure and close attention by the US government were necessary for Serbia and Montenegro to avoid becoming the new Bulgaria or Ukraine in the Balkan region, considering that both of these countries were considered as being world leaders in the production of pirated optical media.

According to the 2003 Report 301, the actions the Government of Serbia and Montenegro had to take to improve its regime of copyright protection in 2003 were:

Insert the instruments of ratification to two WIPO treaties (the World Intellectual Property Organization) – the WIPO WCT (the WIPO Copyright Treaty) and the WIPO WPPT (the WIPO Performances and Phonograms Treaty),

[2] available at: http://www.iipa.com/special301_TOCs/2003_SPEC301_TOC.html

both from 1996 which represent international legal norms for the prevention of access to protected works, and which basically regulate their use on the Internet and other digital networks (both of which had already been approved by the parliament of Serbia and Montenegro);

Amend the 1998 copyright law to include high-level substantive protection and effective enforcement mechanisms, especially for the online environment;

Adopt optical media regulations to combat and control illegal optical media production and distribution;

Instruct enforcement agencies on how to make the fight against piracy a priority and set goals to ensure for active criminal investigations, raids and prosecutions;

Improve administrative anti-piracy efforts to close down kiosks and other retail stores which were engaging in the selling and distribution of pirated materials;

Strengthen border enforcement to prevent the import/export of pirated goods, including optical media products;

Improve judicial training on copyright matters so that courts would be able to expeditiously and effectively enforce all aspects of copyright law.

At the end of 2001, the biggest action against Serbian/Montenegrin media pirates was carried out, in which police and representatives from the ministries of finance, trade and culture were involved. Trade inspectors alone confiscated 35,360 CDs, 16,801 audio cassettes and more than 2,000 video cassettes (Žarković 2003).

One other case attracted even more attention. The biggest seizure of pirate discs ever in Europe took place in Belgrade on the 6th of July in 2002, when police seized about 750,000 pirate CDs which were located in a rented warehouse belonging to "Jugoexport" in the municipality of Zvezdara. There, Belgrade city police discovered a "General Disc Technology" plant for the production of counterfeit music CDs. As a safeguarding measure, the equipment and the pirated material were sealed off on location in the warehouses of the CD plant. The owner later broke into his premises where the seized discs were stored, released the pirated CDs onto the market and, thusly, any evidence about infringement of copyright and trademark regulations disappeared. The damage suffered by various copyright holders (songwriters, performers and phonogram producers) ran in the millions of dollars, and, in this particular case, it was estimated that the Yugoslav State lost the equivalent of $1.5 million in tax revenue on the sale of the 750,000 illegal optical discs alone. Another question which arose from this case is: why SOKOJ (The Serbian Music Authors' Association) as the rights holders representative, had not been properly informed about the infringement of their clients' rights, and why they were denied access to the pirated discs so that they could pursue a civil lawsuit on behalf of the authors and phonogram producers whose discs were pirated (Žarković 2003). Although this case is not directly linked to software piracy, it serves as an illustrative example of the weakness of legal mechanisms during this period. Immediately after the publication of this Report, the Serbian government took its first serious step against copyright infringement and founded an anti-piracy commission.

4.3 The State of Piracy in Serbia in 2004

The "Special 301 Report" for 2004[3] was somewhat shorter and mostly reported on the problems of the lack of adequate legislation and effective enforcement. The Report stated that the Federal Intellectual Property Office had prepared draft amendments for copyright regulations, since these regulations were in conflict. Namely, in cases of criminal copyright infringement, the Copyright Law and the Penal Code of the Repub-

[3] available at: http://www.iipa.com/special301_TOCs/2004_SPEC301_TOC.html

lic of Serbia covered the same criminal act in a conflicting manner in respect to both procedure and penalty. Under the Copyright Law, the offence could not be prosecuted *ex officio*, while under the Penal Code, the same offense could be prosecuted *ex officio*. Furthermore, the penalties for the same criminal act differed in the Copyright Law and the Penal Code – the maximum sentences were three years and eight years, respectively. The BSA reported that this conflict resulted in significant confusion and delay in the enforcement of cases. Furthermore, the Market Inspectorate currently did not have the necessary legislative authority to enforce copyright law. Although police, prosecutors and customs officials lacked the necessary equipment and expertise to conduct raids, perform investigations, and commence cases against copyright infringers, the founding of a special inter-ministerial anti-piracy commission led to some spectacular enforcement actions against blatant street trade in pirate copyright products, especially in Belgrade. However, the initiative gradually lost its steam and most points of the action plan remained unfulfilled.

4.4 The State of Piracy in Serbia in 2005

The "Special 301 Report" for 2005[4] was almost identical to that for 2003, although some positive movements can be found. As a sign of a positive development, the first two criminal convictions against software infringers were issued. During the preceding year, a new copyright act was passed and it had just begun to be applied; therefore, it was too early to estimate its effectiveness. Since the amended text of the Copyright and Neighboring Rights Law was not any more in conflict with the Penal Code, it was to be expected that it would speed up court cases. Recommendations mentioned in this Report were largely related to legal enforcement, as well as to taking more actions against the street sale and the export/import of pirated materials. The market was still flooded with all sorts of pirated products. Although the number of retail stores selling only legitimate goods increased, a large number of street sellers (of illegal materials) were still seriously damaging the development of a legitimate market.

The network of street sellers was very well organized. All of them offered almost the same titles and type of products, which suggested the presence of a network of centrally run sources of pirated products. The most frequently used carrier for pirated music, movies, and software was the CD-R (CD-Recordable). A raid was conducted on February 6th, 2005 at Belgrade's SKC which netted 18,000 items and made 55 arrests. The Report also stated that the Serbian Ministry of Interior took all necessary actions, as some 600 actions were taken against the pirates. However, prosecutors failed and did not follow trough after the actions of the police either because of the general lack of interest and experience or because it was easier to hide behind the perceived inconsistencies in legal regulations. In fact, from the 600 anti-piracy actions mentioned before, most of them against street sellers, only 10 (i.e. 1.5%) ended up in court.

The Report for 2005 further stated that piracy in Serbia and Montenegro was not limited to distribution or retail stores. There was at least one factory involved with the mass production of pirated optical discs for supplying not only the local market, but also for export.

4.5 The State of Piracy in Serbia in 2006

Together with standard recommendations of what needed to be improved in their struggle against piracy, the "Special 301 Report" for 2006[5] especially emphasized the need for Serbia

[4] available at: http://www.iipa.com/special301_TOCs/2005_SPEC301_TOC.html

[5] available at: http://www.iipa.com/special301_TOCs/2006_SPEC301_TOC.html

to implement its High Tech Crime Law, adopted during 2005. The need for the adoption of optical disc regulations, which would help in regulating their production and distribution and provide adequate mechanisms for control and copyright protection, was also stressed.

At that time, the state of piracy in Serbia did not change significantly. There were still factories producing pirated optical media and street sales were also booming. The BSA reported that the basic problem for its members was optical media piracy (at the retail level) and end user piracy. Some Internet piracy existed as well, but it did not yet reach the problematic levels as optical disc piracy had. The Report emphasized that lowering the software piracy rate in Serbia and Montenegro could contribute positively to the local economy. In contrast to business software, entertainment software piracy (computer games) increased Internet piracy through the hosting of illegal sites in Serbia and Montenegro. These illegal "warez" sites offered not only video game software to download for free, but also served as a source of video games for burn-to-order operations.

Regarding actions taken against software pirates, the BSA reported that its cooperation with Serbian enforcement authorities had continued to improve. The authorities had been taking *ex officio* actions in software cases, police raids had been performed, and the BSA had seen positive results from judicial hearings. Judges willingly received information on software piracy through printed material with instructions on how to recognize pirated software and about software licensing types. The BSA reported that in 2005 there were 76 criminal proceedings on software cases. Some positive results were underlined in the BSA report for 2005; in 12 verdicts that had been reached by judges, the accused were found guilty in criminal proceedings, which was a significant improvement compared to the results obtained in 2004. Although there were convictions, deterrent level penalties were not issued. Monetary fines were the most common penalty, and sentences of imprisonment (rarely issued) were suspended.

At this time, the BSA was becoming more involved in different educational seminars, as well as in different conferences on the protection of intellectual rights, as was organized by the American Chamber of Commerce in Serbia on the 19th September, 2006, entitled "New Challenges in Intellectual Property Protection". The conference was opened by Michael Polt who was at that time the US ambassador to Serbia and Montenegro. Attending the conference were representatives from the Serbian Ministry of Interior, the Ministry for International Economic Relations, the Ministry of Finance, prosecutors and judges from Belgrade, tax and market inspectors, representatives from the Intellectual Property Office and the Economic Chamber of Belgrade.

In Serbia for 2005, one activity of the BSA stood out from others: The goal of an action called "Secret Buyer" was to uncover piracy among firms which sold computers with preinstalled pirated software. On the basis of criminal suspicion and together with the police department, 6 firms which configured and sold computers were checked, and for all of them evidence was found proving they had sold computers that had illegal software installed from some of the following producers: Adobe, Microsoft, Autodesk, Macromedia. Criminal charges were brought against those responsible in these firms, and two of them decided to settle out of court.

In addition to this, the BSA took large scale action by issuing a questionnaire kindly asking users in some 300 suspected firms to deliver proof that they had licenses for the software they use. If they did not reply to this questionnaire, or failed to provide proof, they would then receive a warning letter from the BSA, stating that if they did not answer it, criminal charges to proper state agency would be filed. Thanks to this action, Microsoft reached out of court settlements with the following firms: Serbian Object Laboratories (Belgrade),

Softline (Belgrade), Extreme (Kučevo), Bitinfo centar (Mladenovac), Polimark (Belgrade), Zelenilo (Pančevo) and Marijević (Novi Sad).

4.5 The State of Piracy in Serbia in 2007

Although the Law on Special Permission, which has the goal of preserving intellectual property rights, was adopted in 2006, it was not fully enforced until the end of 2007, and therein, the active struggle against all forms of piracy in Serbia had not actually begun. Since this law gave inspectors the necessary power to start controlling the legality of software, the BSA started to train them so that they could distinguish legal from pirated software.

According to the BSA Annual Piracy Study for 2007, the rate of software piracy in Serbia was 76%, which was an improvement from the previous year by 2%. It was estimated that, because of such a high piracy rate, the local economy suffered losses of approximately 72 million US dollars, mostly through unpaid taxes. However, in this analysis, the activities of tax inspectors and the actions of the Special prosecutor's office for prosecuting high tech crime were not taken into consideration.

The BSA was especially satisfied with the cooperation of government officials in Serbia, i.e. their will to efficiently protect intellectual property rights. For example, the judge of the District Court in Belgrade, Zoran Đorđević, remanded two men in custody who were suspected of selling pirated products on the street (these same men were already under probation for the same act). In mid May of 2007 and on the basis of a request by the Special Department of District Prosecutors Office for battling high tech crime, police arrested two men who were selling copied discs from street stands in Belgrade. At that time, police seized well over 2,000 optical discs from them. The same parties had prior convictions and were fined and put under probation, but they were also very well known to the police because of prior convictions for other criminal activities. The BSA regarded this as a very important decision which represented a turning point in the protection of intellectual property in Serbia. Since the judge remanded them into custody, the court has shown that the climate in Serbia has changed and that there would be little tolerance, not only for the street sale of pirated materials, but also for any kind of copyright infringement. This tendency in the Serbian judiciary was confirmed by 12 convictions and 7 out of court settlements for the infringement of intellectual property rights. Most of these sentences were probation or a fee, with the obligatory seizure and destruction of all pirated software. During 2007, more criminal charges were raised and 40 court appearances in court were conducted.

All of these steps were encouraging and were indicators of stable progress in the fight against piracy in Serbia, which would make it more attractive to foreign investment, and which would further lead to the opening of new jobs in the information sector, as well as in other industries, and would contribute to keeping young professionals in the country, which would lead to the further progress of Serbia.

4.7 The Situation in Serbia in 2008

At the end of September 2008, the BSA made a public announcement of the results of its "Secret Buyer Action". This action showed that the level of software piracy in distribution channels, during the summer of 2008, was only about 10% of preinstalled computers and it was mostly oriented toward individual buyers. Since 2007, the level of this same type of piracy had been more than 40%. This was a significant improvement and change in the computer equipment market. Additionally, more and more firms which sold computers and equipment to companies and organizations were offering exclusively legal software. BSA's research further showed that the number of computers on the market without installed operating systems or any other software was also increasing, but that has the ability to turn out either way.

Namely, the appearance of a large number of "stripped" computers can open further possibilities for the installation of pirated software. Also, intensified activities by tax inspectors and the Special Prosecutor's Office Against High-tech Crime had apparently successful results which were able to be seen in the Global Software Piracy Study for 2008. In a semiannual report of the Ministry for Trade and Services from the 7th of July to the 31st of December 2008[6] it was stated that, in trying to prevent copyright infringement, some 11 tons or 280,000 pieces of pirated optical media that were seized by inspectors while inspecting companies and public areas were destroyed by recycling.

In the aforementioned BSA Global Study for 2008, it was stated that a fall of software piracy of about 2% for Serbia had been recorded for three years in a row. In spite of this, monetary losses for the Serbian public economy rose to 99 million dollars. Additionally, Serbia was among the countries with the biggest fall in piracy levels for the previous 5 years. Serbia held the 6th place together with Brazil, Mexico, Egypt, Jordan, Australia, Singapore, India and Morocco, which all recorded a fall in piracy levels of 6%. The study also gave an overview of the state of piracy in Serbia for the period of 2004-2008, as well as total losses due to software piracy, in millions of dollars.

Year	Level of Piracy	Losses
2004	80%	85
2005	80%	95
2006	78%	59
2007	76%	72
2008	74%	99

5 Conclusion

The BSA on its Internet site states 5 principles which could help, if properly carried out, to reduce software piracy and eventually improve economic growth.

Educating the public and raising awareness about the value of intellectual property and the risks of using unlicensed software.

Improvement of the Law for the Protection of Intellectual Property by applying WIPO obligations to ensure a better and more efficient fight against digital and Internet piracy.

Creating strong mechanisms for its application which have been ordered by the WTO trough the TRIPS agreement (Agreement on Trade-Related Aspects on Intellectual Property Rights), including more rigorous anti-piracy laws.

Devoting significant resources of administrative bodies to solving these problems, including national crime fighting services in the field of copyright law, as well as international cooperation and training local police and judiciary staff.

The practical application of policy for software resources management and demands that the public sector use exclusively legal software.

Abiding by these principles and enforcing stronger intellectual property rights would bring many benefits to Serbia. A climate in which foreign investors feel that they can place their product on the market without fear of piracy (especially in the field of information technology), would enable Serbia to use its own potential in the software development sector.

[6] http://www.mtu.gov.rs/dokumenti/izvestajmtu2008.pdf

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