FIRST ANNUAL BSA AND IDC GLOBAL SOFTWARE

PIRACY STUDY

BSA
Business Software Alliance

IDC
Analyze the Future

JULY 04

2004 PIRACY STUDY

Last year, the world spent more than $50 billion (US dollars) for commercial packaged software that runs on personal computers (PCs). Yet, software worth almost $80 billion was actually installed. For every two dollars' worth of software purchased legitimately, one dollar's worth was obtained illegally. The piracy rate — the number of pirated software units divided by the total number of units put into use — was 36 percent in 2003.

These are the results of this year's Business Software Alliance (BSA) study of global trends in software piracy. Although this is the 10th year in which BSA has studied software piracy around the globe, it is the first year in which the study has been conducted by IDC, the information technology (IT) industry's leading global market research and forecasting firm.

In the previous studies, the core input was software shipment data from BSA members and BSA member input on hardware shipments, the number of software applications running on PCs and local market conditions.

In this year's study, IDC used its proprietary statistics for software and hardware shipments, conducted more than 5,600 interviews in 15 countries to gain a better understanding of the amount of software running on computers and used IDC analysts to review local market conditions. With ongoing coverage of hardware and software markets in more than 65 countries, and with 60 percent of its analyst force outside the United States, IDC provided a deep and broad information base from which to develop the 2003 piracy rates.

By using market data as the basis for the study, IDC was also able to extend BSA's view of piracy beyond PC software to categories not covered in previous studies, such as operating systems, consumer-oriented software and local-language software. These additional categories expanded the universe of software covered by a factor of two.

The results confirm that software piracy continues to be a major challenge. Because of the change in study methodology and coverage, one cannot accurately compare last year's piracy rates to this year's rates. However, anecdotal information from IDC analysts in the field around the world would indicate that, in 2003, software piracy increased.

THE GLOBAL PICTURE

Figure 1 below shows the relative ranking by piracy rate of six global regions, which consist of 86 countries and six sub-regions as categorized by IDC.

The Asia Pacific region ranks lower in piracy than the other emerging regions, despite the fact that three of the top four pirating countries (Vietnam, China and Indonesia) are in the region. The reason for this is that two countries with relatively low piracy rates — Japan and Australia — bring down the average.

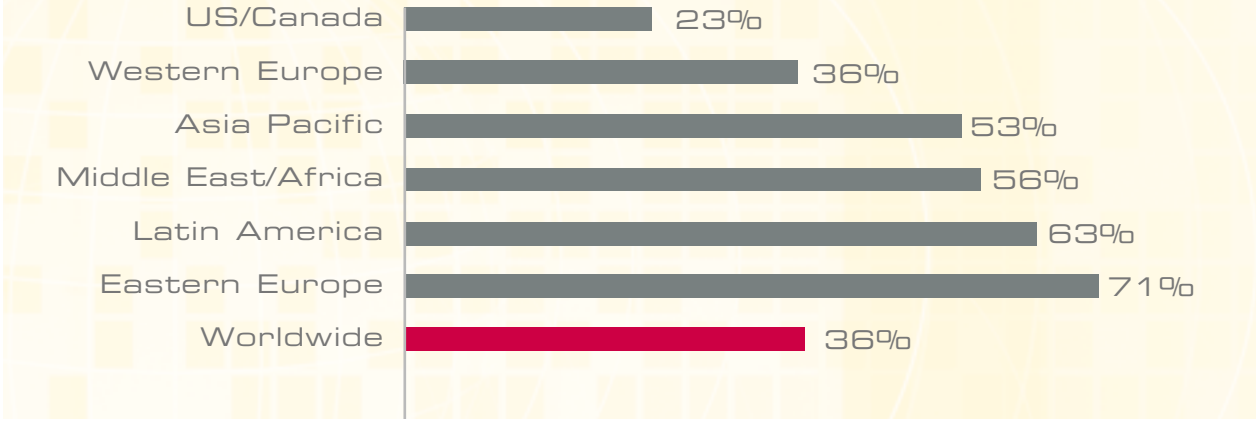
There are a number of factors that can contribute to regional differences in piracy — from software prices relative to income and the strength of intellectual property protection to the availability of pirated software and cultural differences. In addition, piracy is not uniform within a country; it varies from city to city, industry to industry and demographic to demographic.

Unfortunately, the high-piracy regions are also the high market-growth regions. The IT market in the developed world is growing by less than 4 percent today; it is growing closer to 20 percent in high-piracy countries like China, India and Russia. The emerging markets in Asia Pacific, Latin America, Eastern Europe, the Middle East and Africa account for more than 30 percent of PC shipments today, but less than 10 percent of PC software shipments. If piracy in the high-piracy countries does not begin to drop, IDC predicts that the worldwide average will increase.

In fact, as the PC software market grows from $50 billion to more than $70 billion over the next five years, at current piracy rates, IDC predicts that the retail value of pirated software will grow to more than $40 billion.

Table 1 shows the 20 countries with the highest piracy rates and the 20 countries with the lowest piracy rates.

Piracy Rate by Region figure 1



Software Piracy Rankings table 1

Top 20 Pirating Countries

China	92%
Vietnam	92%
Ukraine	91%
Indonesia	88%
Russia	87%
Zimbabwe	87%
Algeria	84%
Nigeria	84%
Pakistan	83%
Paraguay	83%
Tunisia	82%
Kenya	80%
Thailand	80%
El Salvador	79%
Nicaragua	79%
Bolivia	78%
Guatemala	77%
Dominican Republic	76%
Lebanon	74%
India	73%

Bottom 20 Pirating Countries

United States	22%
New Zealand	23%
Denmark	26%
Austria	27%
Sweden	27%
Belgium	29%
Japan	29%
United Kingdom	29%
Germany	30%
Australia	31%
Finland	31%
Switzerland	31%
Norway	32%
Netherlands	33%
UAE	34%
Canada	35%
Israel	35%
South Africa	36%
Reunion	39%
Czech Republic	40%

Many of the countries in the top and bottom rankings will not be surprising. However, some are worth noting:

- India's software piracy rate of 73 percent may seem high, given its big business exporting custom-developed software[1]. While the government has enacted tough copyright laws and added amendments to help enforcement, pirated software is still widely available.
- France and Italy are *not* among the list of 20 countries with the lowest piracy rates, despite being major developed IT markets. On the other hand, both have significantly large numbers of small business and consumer PC users, which typically are segments with higher piracy.
- The United Arab Emirates (UAE) is the only Middle Eastern country with a relatively low piracy rate, 33 percent. This is attributable to deliberate attempts to adopt stronger intellectual property protections in the 1990s, when a new generation of policymakers came into power and began luring foreign investments.

Some other countries are notable for their absence on the lists. Once considered high-piracy locales, Taiwan, Ireland, Portugal and Puerto Rico, have rates below the median.

On the other hand, there are a number of countries with higher-than-the-median piracy rates. Of the 86 countries that IDC examined, one in five had a PC software piracy rate above 75 percent, and one in three had a piracy rate of 70 percent or more. More than half the countries had a piracy rate above 60 percent.

[1] India's IT exports are more than three times the size of its domestic IT market.

For every two dollars' worth of software purchased legitimately, one dollar's worth was obtained illegally.

THE IMPACT OF PIRACY

Software piracy has many negative economic consequences: local software industries crippled from competition with high-quality pirated software from abroad, lost tax revenues and jobs from lack of a legitimate market and costs of ineffectual enforcement. These costs reverberate up and down the supply and distribution chains.

In an April 2003 economic impact study conducted for BSA[2], IDC concluded that lowering piracy by 10 percentage points over four years would add more than 1 million new jobs and $400 billion in economic growth worldwide.

In this study, IDC took a very narrow view of the economic impact of software piracy and tabulated only the retail value of pirated software, labeled losses in Figure 2 and Table 2. These losses were calculated using the known size of the legitimate software market in a country or region and using the piracy rate to derive the retail value of the software that was not paid for[3].

Figure 2 shows the value of pirated software by region.

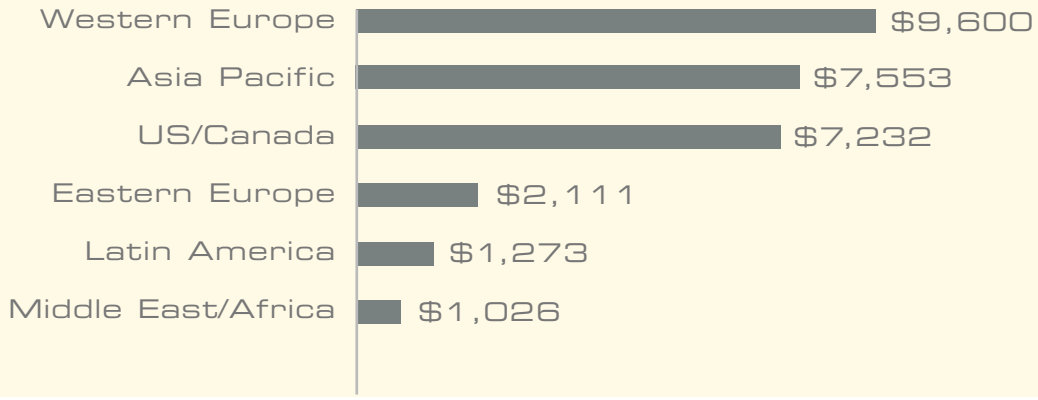
Western Europe, the United States and Canada experienced significant dollar losses with low piracy rates. This can be attributed to the size of the market. In big markets, small piracy rates can still add up to large losses.

One way to understand the relationship of piracy losses to the piracy rate is to look at the two

[2] Available at http://www.bsa.org/idcstudy

[3] The "retail" value of software that came bundled with a personal computer was considered to be the share of the retail price of the system attributable to software. Software that was legitimately free (such as shareware or some open source software) was not considered pirated.

Dollar Losses by Region ($M) figure 2

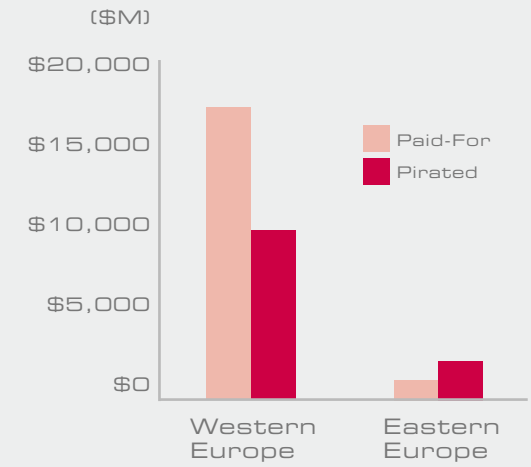


Europes, Western and Eastern. Figure 3 shows the legitimate software market compared to the pirated software market. The legitimate software market in Western Europe is almost 20 times the size of the legitimate software market in Eastern Europe, yet the losses from software piracy are only four times as much.

The message is that no country is immune from the impact of software piracy. Table 2 shows the countries with the greatest dollar-value of pirated software.

Piracy Rate vs. Losses

figure 3



Ranking by Software Piracy Losses table 2

Piracy of $100 Million or More

	$M		$M
United States	$6,496	Switzerland	$ 293
China	$3,823	Sweden	$ 241
France	$2,311	Belgium	$ 240
Germany	$1,899	Denmark	$ 165
Japan	$1,633	Indonesia	$ 157
United Kingdom	$1,601	Norway	$ 155
Italy	$1,127	Finland	$ 148
Russia	$1,104	South Africa	$ 147
Canada	$ 736	Thailand	$ 141
Netherlands	$ 577	Taiwan	$ 139
Brazil	$ 519	Malaysia	$ 129
Spain	$ 512	Turkey	$ 127
Korea	$ 462	Saudi Arabia	$ 120
Mexico	$ 369	Other CIS	$ 112
India	$ 367	Austria	$ 109
Australia	$ 341	Czech Republic	$ 106
Poland	$ 301	Hong Kong	$ 102

PIRACY TRENDS

Because this year's study covered more categories of software and used a different methodology to compute piracy rates and losses, the results from last year and this year are not comparable.

But is piracy getting better or worse?

Efforts continue by BSA and others to stem the growth of piracy, including implementation of education programs and policy initiatives to fight for stronger copyright laws and enforcement of those laws. These are effective inhibitors to piracy.

Unfortunately, there are also forces acting to increase piracy. These include the economic slowdown in some geographies, the influx of new users in emerging markets — mostly consumers and small businesses — and the increased availability of pirated software, particularly over the Internet and from peer-to-peer (P2P) networks.

Without strong online copyright laws and enforcement of those laws, online piracy — via spam, auction sites and P2P systems — will continue to grow alongside increases in Internet usage. By the end of last year, there were 700 million Internet users. By the end of 2007, there will be more than a billion. Many of these new users will come from emerging markets; China alone will add almost 90 million new Internet users over the next three years.

Online piracy is facilitated by increases in transmission speeds, since faster connections enable users to send and download larger files (such as software programs) more quickly. Today, there are 70 million broadband households. By the end of 2007, there will be an additional 100 million.

While IDC field research has provided helpful data on the piracy problem, it is not sufficient enough to quantify the exact amount by which piracy might have gone up in 2003. However, based on continued feedback and anecdotal information from IDC analysts in the field, IDC believes piracy worldwide went up one to two percentage points from 2002 to 2003.

A compilation of piracy rates and losses for 2003 follows in Table 3.

Online piracy is facilitated by increases in transmission speeds, since faster connections enable users to send and download larger files more quickly.

2003 Global Software Piracy table 3

Region	Country	Piracy Rates	Piracy Losses ($M)
Asia Pacific	China	92%	$3,823
	Vietnam	92%	$41
	Indonesia	88%	$157
	Pakistan	83%	$16
	Thailand	80%	$141
	Other AP	76%	$37
	India	73%	$367
	Philippines	72%	$55
	Malaysia	63%	$129
	Hong Kong	52%	$102
	Korea	48%	$462
	Singapore	43%	$90
	Taiwan	43%	$139
	Australia	31%	$341
	Japan	29%	$1,633
	New Zealand	23%	$21
	Regional Average/Total	53%	$7,553
Eastern Europe	Other CIS	91%	$112
	Ukraine	91%	$92
	Russia	87%	$1,104
	Romania	73%	$49
	Other EE	72%	$61
	Bulgaria	71%	$26
	Croatia	59%	$44
	Lithuania	58%	$17
	Poland	58%	$301
	Latvia	57%	$16
	Estonia	54%	$14
	Slovenia	52%	$32
	Slovakia	50%	$40
	Hungary	42%	$96
	Czech Republic	40%	$106
	Regional Average/Total	71%	$2,111
Latin America	Paraguay	83%	$9
	Other LA	81%	$7
	El Salvador	79%	$4
	Nicaragua	79%	$1
	Bolivia	78%	$11
	Guatemala	77%	$9
	Dominican R	76%	$5
	Honduras	73%	$3
	Venezuela	72%	$55
	Argentina	71%	$69
	Panama	69%	$4
	Costa Rica	68%	$17
	Ecuador	68%	$11
	Peru	68%	$31
	Uruguay	67%	$10
	Chile	63%	$68
	Mexico	63%	$369
	Brazil	61%	$519
	Colombia	53%	$61
	Puerto Rico	46%	$11
	Regional Average/Total	63%	$1,273

Continued on page 8

2003 Global Software Piracy table 3

Continued from page 7

Region	Country	Piracy Rates	Piracy Losses ($M)
Middle East/Africa	Other ME	92%	$51
	Zimbabwe	87%	$6
	Algeria	84%	$59
	Nigeria	84%	$47
	Tunisia	82%	$29
	Other Africa	81%	$83
	Kenya	80%	$12
	Lebanon	74%	$22
	Morocco	73%	$57
	Egypt	69%	$56
	Kuwait	68%	$40
	Turkey	66%	$127
	Jordan	65%	$15
	Oman	65%	$11
	Bahrain	64%	$18
	Qatar	63%	$13
	Mauritus	61%	$4
	Cyprus	55%	$8
	Saudi Arabia	54%	$120
	Malta	46%	$2
	Reunion	39%	$1
	South Africa	36%	$147
	Israel	35%	$69
	UAE	34%	$29
	Regional Average/Total	56%	$1,026
US/Canada	Canada	35%	$736
	United States	22%	$6,496
	Regional Average/Total	23%	$7,232
Western Europe	Greece	63%	$87
	Italy	49%	$1,127
	France	45%	$2,311
	Spain	44%	$512
	Ireland	41%	$71
	Portugal	41%	$66
	Netherlands	33%	$577
	Norway	32%	$155
	Finland	31%	$148
	Switzerland	31%	$293
	Germany	30%	$1,899
	Belgium	29%	$240
	United Kingdom	29%	$1,601
	Austria	27%	$109
	Sweden	27%	$241
	Denmark	26%	$165
	Regional Average/Total	36%	$9,600
World Total	All Regions	36%	$28,794

STUDY METHODOLOGY

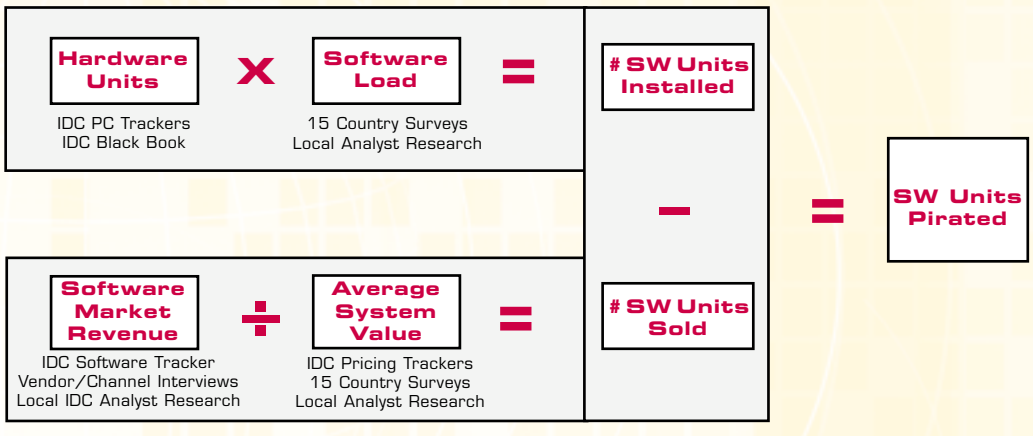
IDC and previous studies conducted for BSA used the following basic research architecture to measure piracy rates and dollar losses.

1. Determine how much packaged software was put into use in 2003.
2. Determine how much packaged software has been paid for during the year.
3. Subtract one from the other to get the amount of pirated software.

Once the amount of pirated software is known, the piracy rate can be determined as the percentage of total software installed that was pirated.

Figure 4 shows the general method IDC used to determine how much software was added in 2003 and how much was paid for. The text under each box refers to the sources of the data inputs.

Methodology At-A-Glance figure 4



Note: All inputs and output reflect CY 2003 software (SW) activity.

Expanded Software Categories Examined

One of the major differences between this year's study and those in previous years is in the software categories measured.

In previous studies, only business applications software (such as general productivity or office software, professional applications and utilities) were examined.

In this year's study, IDC also examined operating systems and consumer applications such as PC gaming, personal finance and reference. As a result, this year's study looks at a market that is significantly larger than the market studied in previous years.

For instance, in 2002, the published value for pirated PC software of $13.1 billion and piracy rate of 39 percent would imply a $20.5 billion market for non-pirated software. This year, the market for non-pirated PC software in the IDC study was more than $50 billion.

This examination of a larger universe in this year's study had some minimal impact on piracy rates, but it has a significant impact on the calculation of the value of software losses. If the market studied is twice as big, losses will be twice as big given the same piracy rate.

The Step-by-Step Process

The following information provides a more detailed description of IDC's methodology process and its definition of terms.

PC shipments

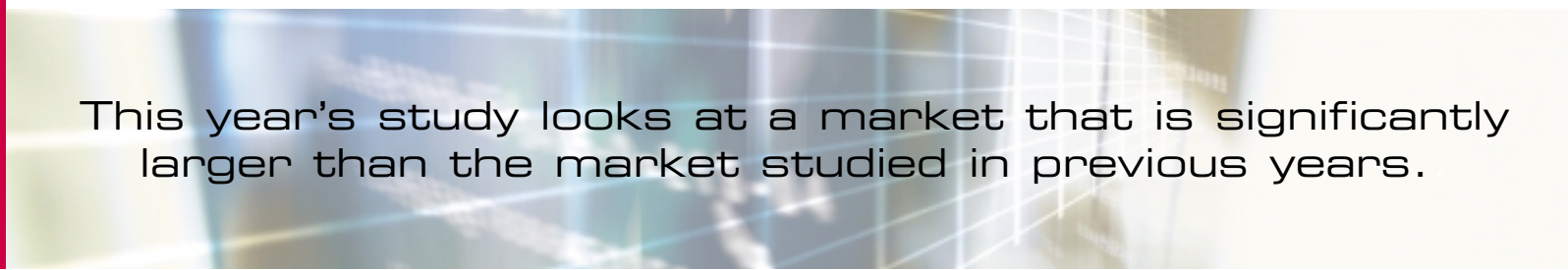
These are needed to determine the total amount of software put into use in 2003. Quarterly, IDC collects detailed PC shipment tracking data on 60+ countries. For the additional 30+ countries and markets, the data was either collected in-country or modeled regionally based on IDC's rest-of-region estimates. The basic tracking data is generated from suppliers, including local suppliers. IDC's definition of a PC includes desktops, laptops and tablets, but excludes hand-helds and PCs used as servers, either singly or in clusters.

PC installed base

The installed base is captured as part of IDC tracking exercises.

Software revenues

These are captured annually in 60+ countries by IDC software analysts around the world. Revenues are gathered from interviews with in-country suppliers and cross-checked with global numbers and financial statements. For the countries not normally covered by IDC, the data were either collected in-country or modeled regionally based on IDC's rest-of-region estimates.



Software shipments (legitimate)

These were derived using average system values estimated country-by-country and regional analysis for five software categories (e.g., collaboration, office, security, operating systems, other). Prices were gathered from IDC's pricing trackers, local research and interviews with the channel. They included adjustments for OEM and channel-loaded software as well as software from local suppliers. Software unit shipments were derived from taking revenues and dividing by the average system value. These shipments represent the legitimate software installed during the year.

Software load

This is the amount of software units installed and/or pre-installed (OEM) on PCs during the year. To obtain the number of software units for each type of hardware platform, we surveyed consumers and businesses in 15 countries: China, Malaysia, Taiwan, Spain, Romania, Brazil, Bolivia, Chile, Colombia, Mexico, Costa Rica, Dominican Republic, Guatemala, Kuwait and the United States. The results of these surveys were used to populate IDC's input models for the other countries. Within the software load, IDC accounted for:

- Software running on new computers
- New software running on existing computers
- Software obtained from retired computers
- Software obtained for free as shareware or open source
- Software running on Windows and non-Windows OS

Total software base

This is the total amount of software, legitimate and pirated, installed during the year. It is obtained by multiplying the number of PCs getting new software during the year by the average number of software packages per PC that were installed in 2003.

Pirated software

This is this difference between paid-for or legitimate packaged software units and the total software base.

Piracy rate

The is the percentage of the total packaged software base that is pirated.

Regional piracy rate

This is the piracy rate for the region based on the amount of pirated software in the region divided by the total amount of software installed in the region during 2003.

Value of pirated software

This is the retail value of pirated software. It is calculated using the size of the legitimate software market and the piracy rate[4].

[4] The actual formula is this: Value of Pirated Software = (Legitimate Market)/ (1 - Piracy Rate) – Legitimate Market

By using this calculation, IDC derived what should be considered the end-user spending value of pirated software. For shrink-wrapped software sold in stores, it is the retail price, and for factory- or channel-loaded software, it is the share of retail system value attributed to that software.

IDC's value of pirated software represents the "losses" to the total industry, including the channel, retailers and local in-country software vendors.

Business Software Alliance
1150 18th Street, NW
Suite 700
Washington, DC 20036
T. 202.872.5500
F. 202.872.5501

BSA, Asia
300 Beach Road
#25-08 The Concourse
Singapore 199555
T. +65.6292.2072
F. +65.6292.6369

BSA, Europe
79 Knightsbridge
London, SW1X 7RB
United Kingdom
T. +44-(0)20.7245.0304
F. +44-(0)20.7245.0310

www.bsa.org