SECOND ANNUAL BSA AND IDC GLOBAL SOFTWARE

PIRACY STUDY

BSA®
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MAY 05

2005 PIRACY STUDY

Last year, the worldwide rate of personal computer (PC) software piracy decreased by one percentage point to 35 percent. This occurred despite an influx of new PC users from high piracy market sectors — consumer and small business — and the increasing availability of unlicensed software on Internet peer-to-peer (P2P) file-sharing sites.

Unfortunately, however, the value of pirated software increased as a result of the fact that the global PC software industry grew over six percent and the U.S. dollar fell by more than six percent against the world's other currencies. In 2004, the world spent more than $59 billion (U.S. dollars) for commercial packaged PC software. Yet, software worth over $90 billion was actually installed. For every two dollars' worth of software purchased legitimately, one dollar's worth was obtained illegally.

These are the results of this year's Business Software Alliance (BSA) study of global trends in software piracy, the second conducted by International Data Corporation (IDC), the information technology (IT) industry's leading global market research and forecasting firm.

For this study, IDC used proprietary statistics for software and hardware shipments, conducted more than 7,000 interviews in 23 countries to confirm software piracy trends (adding to 5,600 surveys conducted in 15 countries last year), and enlisted IDC analysts in over 50 countries 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 of the United States, IDC provided a deep and broad information base from which to develop the 2004 piracy rates.

The results confirm that software piracy continues to be a major challenge. Although piracy rates decreased in 37 countries, they increased in 34. In more than half the countries studied, piracy was above 60 percent. In 24 countries, the piracy rate exceeded 75 percent. Just over a third of the countries studied had a piracy rate under 50 percent.

THE GLOBAL PICTURE

Figure 1 shows the relative ranking by piracy rate of six global regions, which consist of 87 countries and six sub-regions as categorized by IDC.

The Asia Pacific region ranks lower in piracy than the other emerging regions[1] despite the fact that three of the top five pirating countries (Vietnam, China and Indonesia) are in the region. The reason for this is that two large countries with relatively low piracy rates — Japan and Australia — bring down the average.

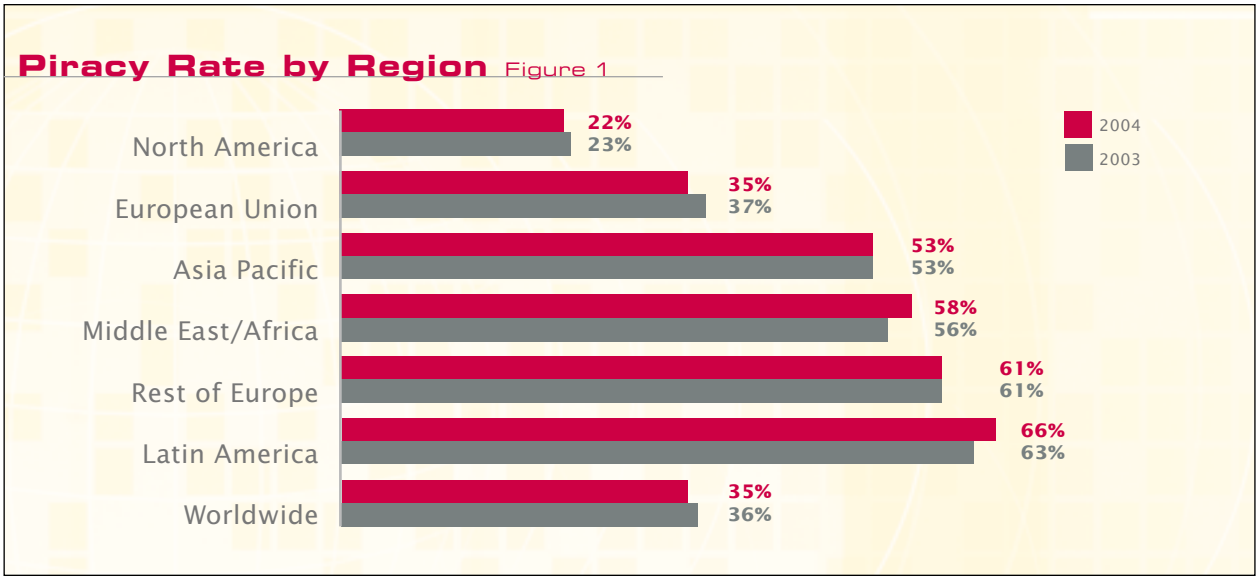
There are a number of factors that can contribute to regional differences in piracy — from the strength of intellectual property protection to the availability of pirated software and cultural differences. In addition, piracy is not uniform within a country; it varies from city to city, industry to industry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

Unfortunately, the high piracy regions are also the high market-growth regions. In the developed world, the IT market is growing by less than five percent today. By contrast, in high piracy countries such as China, India and Russia, the IT market is growing at a rate of 15 percent or more. The emerging markets in Asia Pacific, Latin America, Eastern Europe and the Middle East and Africa account for over one third of PC shipments today, but only a tenth of spending on PC software.

Globally, businesses and consumers will spend more than $300 billion on PC software over the next five years, according to IDC estimates. Given the current piracy rates, IDC predicts that, during the same five-year period, almost $200 billion worth of software will be pirated.

[1] The emerging regions are Latin America and the Middle East and Africa. Asia Pacific is also lower than the aggregate of all Eastern European nations, some of which are in the European Union and some of which are not.

Piracy Rate by Region Figure 1



Software Piracy Rankings Table 1

20 Countries With the Highest Piracy Rates

	2004	2003
Vietnam	92%	92%
Ukraine	91%	91%
China	90%	92%
Zimbabwe	90%	87%
Indonesia	87%	88%
Russia	87%	87%
Nigeria	84%	84%
Tunisia	84%	82%
Algeria	83%	84%
Kenya	83%	80%
Paraguay	83%	83%
Pakistan	82%	83%
Bolivia	80%	78%
El Salvador	80%	79%
Nicaragua	80%	79%
Thailand	79%	80%
Venezuela	79%	72%
Guatemala	78%	77%
Dominican Republic	77%	76%
Lebanon	75%	74%

20 Countries With the Lowest Piracy Rates

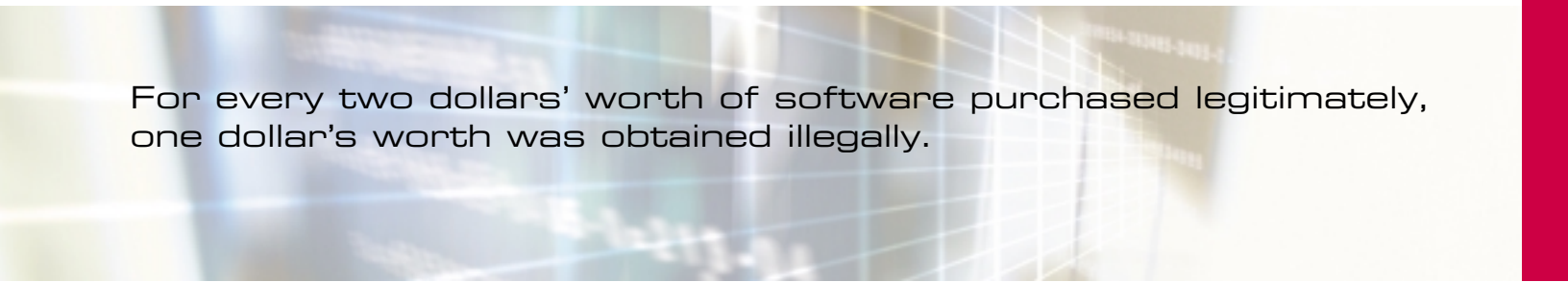
	2004	2003
United States	21%	22%
New Zealand	23%	23%
Austria	25%	27%
Sweden	26%	27%
United Kingdom	27%	29%
Denmark	27%	26%
Switzerland	28%	31%
Japan	28%	29%
Finland	29%	31%
Germany	29%	30%
Belgium	29%	29%
Netherlands	30%	33%
Norway	31%	32%
Australia	32%	31%
Israel	33%	35%
UAE	34%	34%
Canada	36%	35%
South Africa	37%	36%
Ireland	38%	41%
Portugal	40%	41%

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

This year, Ireland and Portugal join the ranks of those countries with the least piracy, although that label is slightly deceptive because their rates — like those of Canada and South Africa — still exceed the world average. They replace Reunion and the Czech Republic, which were on the list last year. Among the top pirating countries, Venezuela is new to the list, and India, which was at the very bottom of last year's list, is no longer on the list but still ranks high with 74 percent piracy.

Some key observations may be made about several countries in this year's study, notably:

- In Venezuela, piracy rose seven percentage points over the previous year to 79 percent. While PC shipments doubled in 2004, software revenues grew by less than 10 percentage points.
- India, whose IT exports are more than triple the size of its domestic IT market, still has a piracy rate of 74 percent — despite the strength of its world-class software development skills and government efforts to quell piracy. This is a major inhibitor to the growth of a local packaged software industry.



- Italy and France continue to lead established European nations in piracy losses. Some of this is structural. Both countries have a higher-than-average proportion of the PC-using base in the small business sector, which typically has a higher piracy rate than do the medium and large business sectors.

- Ireland, ranked 21st among the low piracy rate countries last year, is now ranked 19th. Continual efforts at education and enforcement have paid off; Ireland's status as a major distribution point for legitimate software shipped into Europe puts additional pressure on businesses to lower piracy.

- The United Arab Emirates (UAE), with a 34 percent piracy rate, is the only emerging economy listed among the top 20 low piracy nations. This is attributable to deliberate attempts to adopt stronger intellectual property protections during 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. Taiwan, Portugal, Puerto Rico and South Africa — once considered high piracy locales — now have rates below the median.

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 one million new jobs and $400 billion in economic growth worldwide. As the software industry becomes bigger, those benefits increase.

In this year's study, IDC has taken a very narrow view of the economic impact of software piracy and has tabulated only the retail value of pirated software — labeled losses — in Figure 2 (page 5) and Table 2 (page 6). These industry losses from piracy 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]

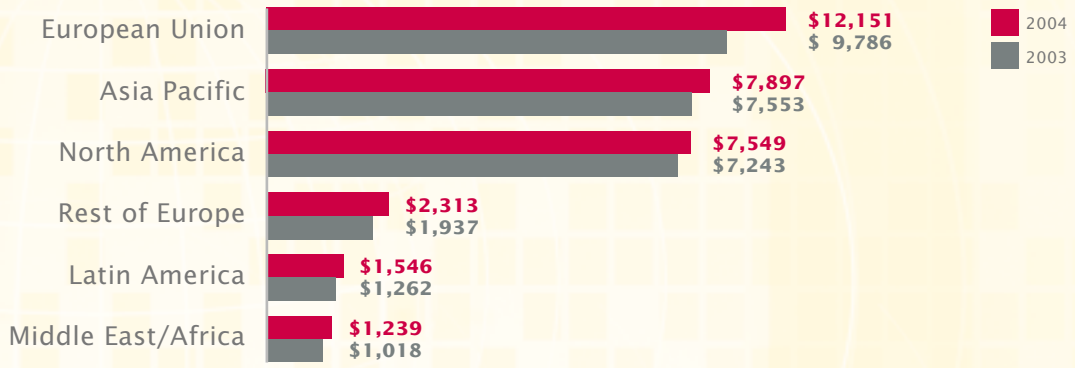
Figure 2 (page 5) shows the value of pirated software, or industry losses, by region.

The European Union, United States and Canada experienced significant dollar losses, yet had relatively low piracy rates. This is in part because their markets are so large. In such enormous markets, even small piracy rates can add up to large losses.

[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



One way to understand the relationship of piracy losses to the piracy rate is to compare the developed world[4] with emerging markets. Figure 3 shows the legitimate software market compared to the pirated software market. The legitimate software market in the developed world is seven times the size of the legitimate software market in emerging markets, yet the losses from software piracy are only twice as much.

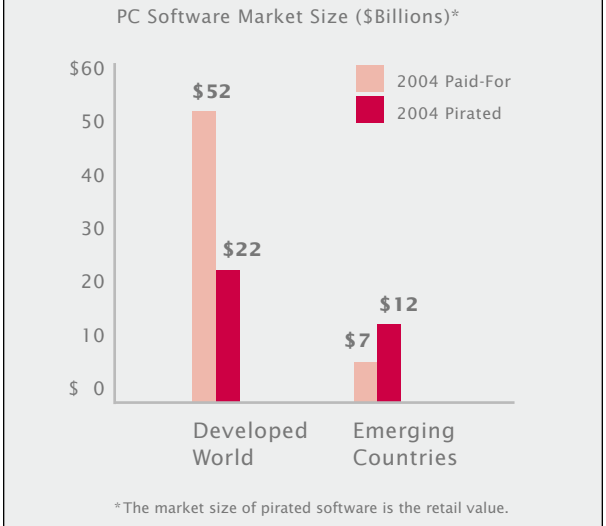
Within the European Union, piracy rates should fall over time among the 10 new members as they acclimate to the intellectual property protection policies of the rest of Europe.

In the end, no country is immune from the impact of software piracy. Table 2 (page 6) shows the countries with the greatest dollar value of pirated software.

[4] Assumed here to be the United States, Canada, Western Europe, Australia, New Zealand and Japan.

Legitimate vs. Pirated Market

Figure 3



Ranking by 2004 Software Piracy Losses Table 2

Piracy of $100 Million or More

	$M		$M
United States	$6,645	Sweden	$ 304
China	3,565	Denmark	226
France	2,928	South Africa	196
Germany	2,286	Norway	184
United Kingdom	1,963	Indonesia	183
Japan	1,787	Thailand	183
Italy	1,500	Turkey	182
Russia	1,362	Finland	177
Canada	889	Taiwan	161
Brazil	659	Malaysia	134
Spain	634	Czech Republic	132
Netherlands	628	Austria	128
India	519	Hungary	126
Korea	506	Saudi Arabia	125
Australia	409	Hong Kong	116
Mexico	407	Argentina	108
Poland	379	Ukraine	107
Belgium	309	Greece	106
Switzerland	309		

Whether piracy goes up or down is the result of a complex equation that includes education and enforcement on one hand and, on the other hand, new users coming into the market, easier access to pirated software and/or new external factors such as shifting political conditions.

PIRACY TRENDS

This is the second year in which IDC has studied global piracy using the same methodology and encompassing the full, PC packaged software market. Previous studies conducted by BSA used a different methodology and covered only business software, excluding operating systems.

Now, with two years under the new methodology and over 12,000 surveys completed, we can begin to get a perspective on the broader issue of piracy in the worldwide PC software market. Whether piracy goes up or down is the result of a complex equation that includes education and enforcement on one hand and, on the other hand, new users coming into the market, easier access to pirated software and/or new external factors such as shifting political conditions.

Nevertheless, one thing seems clear: piracy will not diminish if nothing is done about it. Piracy rates are decreasing in some countries and, at the same time, increasing in others. In 36 countries or sub-regions, the piracy rate increased. In 39, it decreased. In 18, piracy stayed the same. Although the average world piracy rate went down a single percentage point, the median is still above 60 percent. In the 12,000 surveys of consumers and businesses conducted by IDC in support of this study, more than twice as many respondents felt that piracy was getting worse than felt it was getting better.

Efforts continue by BSA and others to stem the growth of piracy, including implementation of educational programs, policy initiatives to strengthen 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 P2P networks.

Without strong online copyright laws and enforcement of those laws, Internet piracy — via warez sites, spam, auction sites and P2P systems — will continue to grow alongside increases in Internet usage. During 2004, an additional 75 million people began using the Internet, bringing the total number of global Internet users to almost 800 million, according to IDC. By the end of 2008, 1.2 billion people will be online. The fastest growing Internet populations are those in the emerging countries; China alone will add 100 million new Internet users over the next four years.

Online piracy is facilitated by increases in transmission speeds, since faster connections enable users to send and download large files, such as software programs, more quickly. According to IDC's estimates, in 2004, 25 million more households worldwide gained broadband access, expanding the total number of broadband households to just under 100 million. By the end of 2008, close to 200 million households will have broadband connections.

A compilation of piracy rates and losses for 2004 follows in Table 3.

2004 Global Software Piracy Table 3

Region/Country	2004	2003	2004 Losses ($M)	2003 Losses ($M)
Asia Pacific				
Australia	32%	31%	$ 409	$ 341
China	90%	92%	3,565	3,823
Hong Kong	52%	52%	116	102
India	74%	73%	519	367
Indonesia	87%	88%	183	158
Japan	28%	29%	1,787	1,633
Malaysia	61%	63%	134	129
New Zealand	23%	23%	25	21
Pakistan	82%	83%	26	16
Philippines	71%	72%	69	55
Singapore	42%	43%	96	90
South Korea	46%	48%	506	462
Taiwan	43%	43%	161	139
Thailand	79%	80%	183	141
Vietnam	92%	92%	55	41
Other AP	76%	76%	63	37
Average/Total	**53%**	**53%**	**$ 7,897**	**$ 7,553**
European Union				
Austria	25%	27%	$ 128	$ 109
Belgium	29%	29%	309	240
Cyprus	53%	55%	9	8
Czech Republic	41%	40%	132	106
Denmark	27%	26%	226	165
Estonia	55%	54%	17	14
Finland	29%	31%	177	148
France	45%	45%	2,928	2,311
Germany	29%	30%	2,286	1,899
Greece	62%	63%	106	87
Hungary	44%	42%	126	96
Ireland	38%	41%	89	71
Italy	50%	49%	1,500	1,127
Latvia	58%	57%	19	16
Lithuania	58%	58%	21	17
Malta	47%	46%	3	2
Netherlands	30%	33%	628	577
Poland	59%	58%	379	301
Portugal	40%	41%	82	66
Slovakia	48%	50%	48	40
Slovenia	51%	52%	37	32
Spain	43%	44%	634	512
Sweden	26%	27%	304	241
United Kingdom	27%	29%	1,963	1,601
Average/Total	**35%**	**37%**	**$ 12,151**	**$ 9,786**
Rest of Europe				
Bulgaria	71%	71%	$ 33	$ 26
Croatia	58%	59%	50	45
Norway	31%	32%	184	155
Romania	74%	73%	62	49
Russia	87%	87%	1,362	1,104
Switzerland	28%	31%	309	293
Ukraine	91%	91%	107	92
Other CIS	90%	91%	121	112
Other EE	72%	72%	85	61
Average/Total	**61%**	**61%**	**$ 2,313**	**$ 1,937**

Region/Country	2004	2003	2004 Losses ($M)	2003 Losses ($M)
Latin America				
Argentina	75%	71%	$ 108	$ 69
Bolivia	80%	78%	9	11
Brazil	64%	61%	659	519
Chile	64%	63%	87	68
Colombia	55%	53%	81	61
Costa Rica	67%	68%	16	17
Dominican Republic	77%	76%	4	5
Ecuador	70%	68%	13	11
El Salvador	80%	79%	5	4
Guatemala	78%	77%	10	9
Honduras	75%	73%	3	3
Mexico	65%	63%	407	369
Nicaragua	80%	79%	1	1
Panama	70%	69%	4	4
Paraguay	83%	83%	11	9
Peru	73%	68%	39	31
Uruguay	71%	67%	12	10
Venezuela	79%	72%	71	55
Other LA	79%	81%	6	7
Average/Total	**66%**	**63%**	**$1,546**	**$1,262**
Middle East/Africa				
Algeria	83%	84%	$ 67	$ 59
Bahrain	62%	64%	19	18
Egypt	65%	69%	50	56
Israel	33%	35%	66	69
Jordan	64%	65%	16	15
Kenya	83%	80%	16	12
Kuwait	68%	68%	48	41
Lebanon	75%	74%	26	22
Mauritus	60%	61%	4	4
Morocco	72%	73%	65	57
Nigeria	84%	84%	54	47
Oman	64%	65%	13	11
Qatar	62%	63%	16	13
Reunion	40%	39%	1	1
Saudi Arabia	52%	54%	125	120
South Africa	37%	36%	196	147
Tunisia	84%	82%	38	29
Turkey	66%	66%	182	127
UAE	34%	34%	34	29
Zimbabwe	90%	87%	9	6
Other Africa	84%	81%	124	84
Other ME	93%	92%	70	51
Average/Total	**58%**	**56%**	**$1,239**	**$1,018**
North America				
Canada	36%	35%	$ 889	$ 736
Puerto Rico	46%	46%	15	11
United States	21%	22%	6,645	6,496
Average/Total	**22%**	**23%**	**$7,549**	**$7,243**
World Total	**35%**	**36%**	**$ 32,695**	**$28,794**

STUDY METHODOLOGY

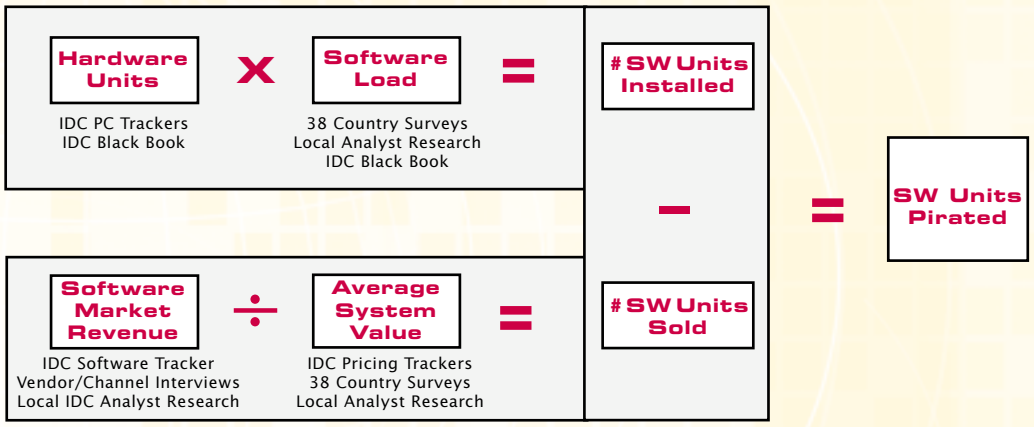
IDC and previous studies conducted for BSA used the following basic research architecture to measure piracy rates and dollar losses.

1. Determine how much packaged software was put into use in 2004.
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 2004 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 outputs reflect CY 2004 software (SW) activity.

Expanded Software Categories Examined

In the 2003 and 2004 studies, IDC examined operating systems and consumer applications such as PC gaming, personal finance and reference. As a result, both studies look at a market that is significantly larger than the market studied in previous years. In previous studies, only business applications software (such as general productivity or office software, professional applications and utilities) was examined.

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. In 2003, the market for non-pirated PC software was more than $50 billion, and in 2004, it was almost $60 billion.

This examination of a larger universe has minimal impact on piracy rates but a dramatic 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.

Year-to-Year Comparisons

The basic market-based methodology generated the 2004 piracy rates, but as an additional quality control input, IDC conducted 7,000 surveys in 23 countries during 2004 to gain insight into consumer and business perceptions about the direction of software piracy. This additional input helped corroborate the findings generated by the piracy models.

It is important to note that the software market sizing for 2004 is captured in local currency by IDC and converted to U.S. dollars using the average exchange rate for that year. In the study, piracy losses were estimated by using the average exchange rate for the study year. Any comparison between 2003 and 2004 losses should take this into account.

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 2004. Quarterly, IDC collects detailed PC shipment tracking data on more than 65 countries. For the additional 20-plus countries and markets, the data were either collected in-country or modeled regionally based on IDC's rest-of-region estimates. The basic tracking data are generated from suppliers, including local suppliers. IDC's definition of a PC includes desktops, laptops and tablets, but excludes handhelds 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 more than 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, and 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 by local suppliers. Software unit shipments were derived by taking revenues and dividing by the average system value. These shipments represent the legitimate software installed during the year.

Software load

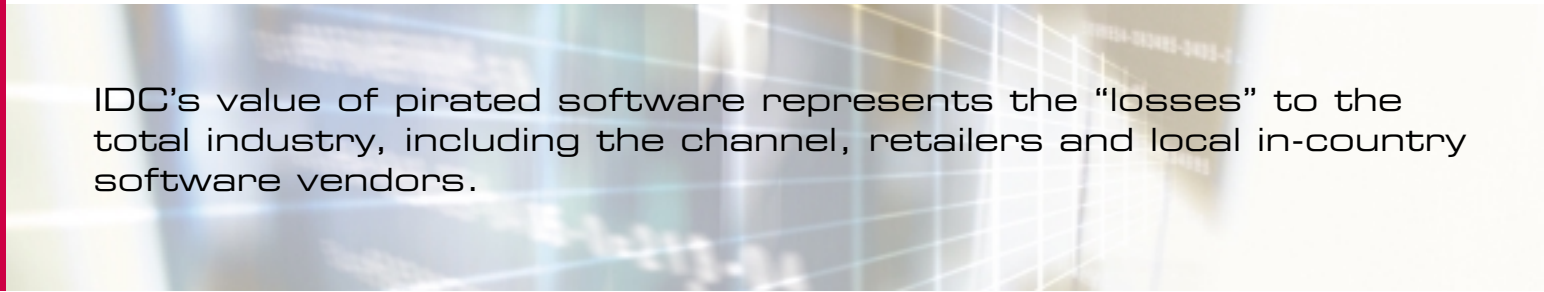
This is the number of software units installed and/or pre-installed (OEM) on PCs during the year. To obtain the number of software units for each type of hardware platform, in 2003, we surveyed consumers and businesses in 15 countries: Bolivia, Brazil, Chile, China, Colombia, Costa Rica, Dominican Republic, Guatemala, Kuwait, Malaysia, Mexico, Romania, Spain, Taiwan and the United States. The results of these surveys were used to populate IDC's input models for the other countries. For 2004, IDC updated its models based on local country research and interviews with users and the channels.

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



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

multiplying the number of PCs receiving new software during the year by the average number of software packages per PC that were installed in 2004.

Pirated software

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

Piracy rate

This 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 2004.

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. The actual formula is: 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.

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