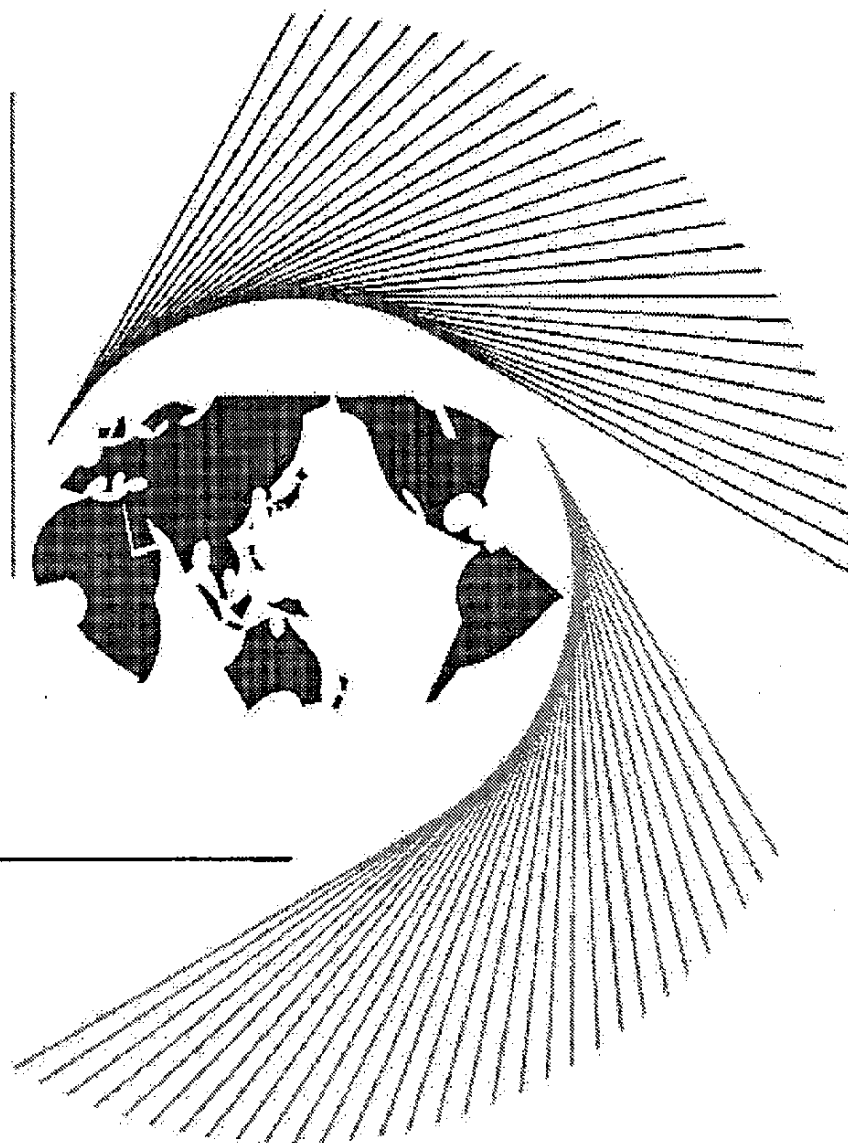


15-DPC-08

# Databases in Japan

## 2003



Database Promotion Center, Japan

Database Promotion Center, Japan (DPC) was established in 1984 with the information suppliers, users and related industrial circles, approved by the government. DPC is a non-profit organization aimed at the promotion, research, production and dissemination of database services worldwide.

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## Databases in Japan 2003

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**Special Article for 2003**

## Toward the Ubiquitous Database Society

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**Special Article for 2003****Toward the Ubiquitous Database Society**

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**1. Ubiquitous Computing Environment**

It is a peculiar, unfamiliar term, but “ubiquitous society” has become a fashionable expression in Japan. Ubiquitous means “omnipresent” or “being present everywhere at once.” Therefore, a ubiquitous society literally means a society that is everywhere at once, which does not make sense; this Japanese-coined English term will presumably go out of style before long.

The late Dr. Mark Weiser, Chief Technologist at the Xerox Palo Alto Research Center, began using the term “ubiquitous computing” in 1988.<sup>1)</sup> Looking back on the history of computers, we can see that for about 20 years after the birth of ENIAC (Electronic Numerical Integrator and Computer) in 1946, large computers dominated the era. It was firmly believed that the larger the computer was, the more efficiently it performed and the trend was to increase the size even further. By 1970, the development of the time-sharing system enabled many users to simultaneously use a single computer, which is similar to what we call an online system. At that point, medium-sized computers came on the scene to fill the gap left by large computers. In competition with Multics, a giant operating system for time-sharing, Unix was developed, minicomputers quickly became microcomputers, and by the 1980s we moved to personal computers or PCs for individual use. The IBM PC appeared in 1981, followed by NEC’s PC9801 in 1982.

What is next on the horizon? From the time-sharing system to individual personal computers, we are surely approaching an environment in which each one of us will be surrounded by many computers. This is what Dr. Weiser envisioned when he used the term “ubiquitous computing.”

Computers will literally be ubiquitous. In the near future, they will be diffused throughout society, and we will be living surrounded by computers, whether or not we are even aware of their presence. We will not only casually carry computers and use them in place of notebooks and movie cameras, but we will no longer perceive them as tools. In every sphere of our lives, computers in various forms will be a vital link; as they communicate with us, they will begin to understand our intent, provide assistance, and enrich our daily lives.

To realize this, large and small computers, and sensors (which are another form of computer), must be connected without any gaps or seams, and operate in a closely integrated manner.

Computers should become “invisible” entities that are embedded in our daily lives. The era in which computers assert their existence is coming to an end. Such was the philosophy of Dr. Weiser.

## 2. Supporting Technology

Several terms are similar in meaning to “ubiquitous computing environment,” such as mobile computing environment, pervasive computing and wearable computers. New terms are used without being clearly defined, and definitions expand according to convenience. Therefore, ascertaining strict differentiation is a difficult task, but not a high priority.

“IEEE Pervasive Computing,” a journal published last year by the Institute of Electrical and Electronic Engineers (IEEE) of the United States, states: “IEEE Pervasive Computing delivers the latest peer-reviewed developments in pervasive, mobile and ubiquitous computing to developers, researchers, and educators who want to keep abreast of rapid technology change. With content that’s accessible and useful today, the quarterly publication acts as a catalyst for realizing the vision of pervasive (or ubiquitous) computing, described by Mark Weiser nearly a decade ago.” (Source: <http://www.ieee.org/pervasive/about.htm>) Here, the use of terms is mixed. In actuality, the official name of this journal is “IEEE Pervasive Computing, Mobile and Ubiquitous Systems.”

Thus, while the terms are rather vague, there are definitely subtle differences.

First of all, without a mobile information environment, mobile telecommunication technology, and information network technology, there cannot be a ubiquitous computing environment. Ideally, the network would have seamless connections to miniscule sensors, small mobile phones, PDAs, portable personal computers, servers, as well as large computers, and would facilitate mutual communication. Of course, all devices and equipment should be capable of providing one-to-one (P2P) direct communication. Network computing in which clients make requests to servers is no longer adequate.

One view is that pervasive computing refers to an environment in which computers mostly in the form of sensors are ubiquitous, and does not give much thought to a mobile environment, but the use of this term is not clear. It sometimes refers to the technology that enables the user to freely use software from any computer and from a great distance via a network.

Wearable computing refers to wearing computers as if they were clothes and using them to expand the five senses. Because the user cannot help but be aware of the computer, wearable computing cannot be described as ubiquitous, but it can become an important element in the ubiquitous computing environment of the future.

As a missionary of ubiquitous computing, Dr. Weiser mentioned VR (virtual reality) technology as one example of what is not ubiquitous. With VR, the user wears all sorts of equipment and jumps into a computer-created environment whereas in a ubiquitous computing environment computers co-exist with humans in a normal living environment. Dr. Weiser also stated that multimedia technology is not ubiquitous, either. The term multimedia strongly suggests

such computer devices as display monitors, but a ubiquitous computing environment should be such that we are not aware of using the computers.

### 3. Volume and Life Span of the Digital Information Surrounding Us

Let us shift our perspective a little and reflect upon the amount of digital information that surrounds us.

Improvement of the cost-benefit ratio of computers has been dramatic. The first personal computer that I bought was the PC9801 in 1988. This unit was equipped with a 16-bit processor (clock time of 10 mega Hz), a main memory of 640 kilobytes, and a built-in external magnetic disk of 20 megabytes. Some time later, I bought an external magnetic disk of 100 megabytes for about 100,000 yen, feeling quite confident that I would never again be short of disk space.

Today, 15 years later, a laptop computer generally has the following performance level: a 32-bit processor (clock time of 1.2 giga Hz), a main memory of 1 gigabyte, and a built-in magnetic disk of 60 gigabytes as an external memory.

The other day, I purchased an externally attached magnetic disk of 120 gigabytes at a price of 50,000 yen, which at first seemed to be an implausible figure, but was indeed correct. This is a huge contrast to the price of an automobile, which has not appreciably declined from 15 years ago. In the beginning, personal computers were as expensive as automobiles, but now they have a far higher performance level and are priced in the 100,000 yen range.

In the context of such declining prices, a project team computed the amount of information with which we are inundated.<sup>2)</sup> According to the findings, from 1 to 2 billion gigabytes of information is created worldwide each year on such media as paper, film, optical disks, and magnetic disks. One giga is one billion, and so 1 billion gigabytes is gigabyte  $\times$  giga or  $10^9 \times 10^9 = 10^{18}$  bytes, that is, 1 exabyte. One to two exabytes of information is created worldwide each year, which comes down to 250 megabytes per person on this earth. The ratio of information on paper is very small at 0.0003%.

This figure includes the information stored on Internet homepages. As of 2000, 100 million personal computers worldwide were connected to the Internet, and there were about 1 billion homepages, which hold an estimated 50 terabytes of memory. But even that is only a miniscule part of 1 exabyte ( $10^6$  terabytes). Actually, e-mail comprises 11,000 terabytes per year, which is a far larger volume.

This is a stupefying volume. Even though a 100-gigabyte magnetic disk costs about 50,000 yen today, if we were to store all that information, we would need  $5 \times 100,000^7$  yen or about 500 billion yen. The project team forecasts that in 2005 a 1-gigabyte magnetic disk will cost US\$1, and at that point it would cost only about 100 billion yen to store all the information produced worldwide each year. This is the world we are now living in.

In relation to the volume, the life span of digital information is an important technological factor for databases. As noted for the references, Internet homepages are constantly changing, and therefore cannot serve as stable reference sources. E-mail has taken the place of letters and postcards, but many of us do not keep them for very long. Several other factors serve to shorten the life span of electronic documents and data. One is the life span of memory media itself. Only 50 years have passed since the computer was born, and hardly any type of media has been consistently used during this period. Application software also has a life span. Less than ten years ago nearly everyone in Japan was using the software "Ichitaro." Where is the huge volume of documents that was produced by Ichitaro? To create digital information that is reliable and that can be preserved for a long time period is an extremely important task. We must make sure that when future historians look back upon the information society of the early 21<sup>st</sup> century, they will not find a huge blank space.

#### 4. Databases in the Era of Ubiquitous Computing

When computers are everywhere around us, and become so integrated with our lives that we are no longer aware of their presence – at that time, what will become of databases?

As a database researcher, I look back on the past 20 years and realize that many of us overlooked something of great importance. That is, we underestimated the WWW and did not foresee its potential. At that time, database researchers were actively conducting research on distributed databases, and did not think that the WWW would develop in that direction.

However, the WWW has undergone amazing development, and is becoming an integral part of our daily lives. The habit of looking up information on the Internet is taking root. However, when we are trying to find information, we must use a search engine to figure out the possible location of the information, which can be obtained only through an address in the form of an URL. Even though there is an ocean of information on the other side of the network, the Internet is, in a certain sense, a passive system for supplying the information.

In a ubiquitous computing environment, the huge volume of digital information never simply waits on the other side. The computers surrounding the user would be capable of immediately perceiving the kind of information needed. If the user is drawing up a company document, various types of technology will work to detect the databases he needs. If a student is working on a question, the computer will perceive the question and detect and locate the appropriate databases. The method of "detecting" is an important research theme, but when the user is using electronic text, there are many handles. The system would find out where the needed information can be obtained, and extract that information from appropriate Web pages. In the Internet world, research has started on a Web service with information search technology that does not rely on URLs. The information obtained in this way is sorted out and presented to the user in an easily understandable form. That is to say, even though the databases would be ubiquitous, they would no longer be visible as databases.

Ubiquitous databases would provide the best information in the shortest time, without being aware of the existence of databases. It is not so much that databases can be used “any time, anywhere,” but that they will become “databases that we are not aware we are using” or “invisible databases.”

It will take time before such ideal databases are realized. In the meantime, database producers should strive toward developing a system where the user is “using databases without being aware of doing so”, rather than pushing databases upon them. We expect to see a system in which databases search for users on their own, and actively work for the users, in a seemingly invisible form.

#### [Reference homepages]

When we look up homepages on the Internet, we often find that they have disappeared or changed. So it is difficult to use them as a stable source of information. The homepages listed below were verified at the time this article was written.

- 1) <http://www.ubiq.com/hypertext/weiser/UbiHome.html> This is the late Dr. Mark Weiser’s homepage.
- 2) <http://www.sims.berkeley.edu/research/projects/how-much-info/index.html>

This is the homepage of the project team on information volume. There is also a Japanese-language page available.

## I. Trends in the Database Service Market in Japan

### 1. Size of the Database Market

#### (1) Scale of Sales of the Database Market

The "Survey of Selected Service Industries" conducted by the Ministry of Economy, Trade and Industry (METI) lists "database services" along with "custom-made software development services," "information processing services," "software products," and "facility management services" among information service businesses.

In 2001, the total sales of the information service industry as a whole grew to ¥13,703.9 billion (US\$112.80 billion) from ¥10,722.8 billion in the preceding year. Thus, total sales exceeded the major ¥10 trillion mark for the third year straight. It represented a dramatically large growth of 18.2% from the preceding year. Sales value reached a peak in 1992, but then declined until 1994. However, partly because of a change in the number of business establishments included in 1998, the total sales in that year grew dramatically by 29.2% from the previous year. In addition, while the pace of growth slowed down in 1999 and 2000, total sales again recorded a large growth in 2001.

Looking at the ratio of sales to type of business, "custom-made software development services," which comprises the major sector with 49.4% of total sales, grew by 8.4% from the previous year. "information processing services," which ranks second in sales, grew by 36.4% from the previous year, and "facility management services" rose sharply by 44.8%. This is believed to have occurred due to active IT investment such as outsourcing of building systems using networks, and of management and operations work. The biggest growth rate of 49.1% was registered by "software products," and much of it is attributed to the growth in game software, basic computer software, etc. (Table I-1, Figure I-1).

The overall sales of the information service industry again set a new historical record, continuing from the previous year, and the average total sales value per business establishment grew from ¥1,419 million in the previous year to ¥1,750 million in 2001.

The "database service" business (Figure I-2), having in 1996 achieved an upturn from the previous year, then grew for three consecutive years. While the sales revenues declined again in 1999, it registered increased revenue in 2000, and in 2001 the sales totaled ¥297.9 billion (US\$2.45 billion) and continued to grow by 1.8% from the previous year. The ratio of database sales to the sales of the information service industry overall, however, declined slightly from the previous year, from 2.7% to 2.2%.

The average sales value of database services per business establishment was ¥371.45 million in 2001 (compared to ¥368.64 million in 2000), registering a small increase.

According to the "Report on Selected Service Industries Statistics" conducted by the Ministry of Economy, Trade and Industry, which serves to provide advance indicators, the sales value of

databases compared with the same time period in the previous year began to decline in the latter half of 1998, and only started to grow again in 2001. It again declined in the 4<sup>th</sup> quarter of 2001, and continued to stagnate even in 2002. According to the forecast by the DI (Diffusion Index), it began to decline in the 2<sup>nd</sup> quarter of 2000, and bottomed-out in the 4<sup>th</sup> quarter of 2001. However, as with the information service industry overall, the business prospects do not appear that rosy.

Until 1999, sales of database services were classified into online and offline, but since 2000 they have been classified as "by the Internet" and "others," and database services "by the Internet" account for 41%, while "others" account for 59% of sales.

(I-2)

Table I-1 Annual Sales by Various Information Service Sectors

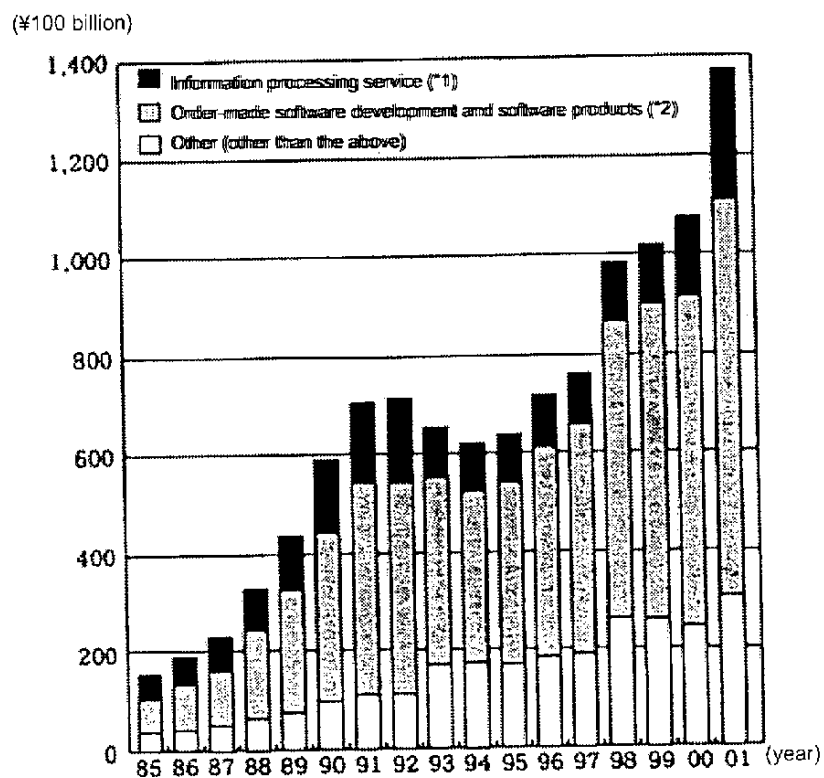
| Classification                               | 2000                           |              |                                         | 2001                           |              |                                             |
|----------------------------------------------|--------------------------------|--------------|-----------------------------------------|--------------------------------|--------------|---------------------------------------------|
|                                              | Annual sales<br>(¥100 million) | Ratio<br>(%) | Change from<br>the previous<br>year (%) | Annual sales<br>(¥100 million) | Ratio<br>(%) | Change from<br>the previous<br>year (%)(*3) |
| Total                                        | 107,228                        | 100.0        | 5.6                                     | 137,039                        | 100.0        | 18.2                                        |
| Information processing service (*1)          | 16,110                         | 15.0         | 34.8                                    | 26,114                         | 19.1         | 36.4                                        |
| Order-made software development service (*2) | 57,070                         | 53.2         | 3.8                                     | 67,634                         | 49.4         | 8.4                                         |
| Software product (*2)                        | 9,882                          | 9.2          | 10.9                                    | 14,827                         | 10.8         | 49.1                                        |
| Assigned system management                   | 7,958                          | 7.4          | 9.0                                     | 11,598                         | 8.5          | 44.8                                        |
| Database service                             | 2,916                          | 2.7          | 8.7                                     | 2,979                          | 2.2          | 1.8                                         |
| (through the Internet)                       | 1,351                          | 1.3          | -                                       | 1,214                          | 0.9          | ▲10.5                                       |
| (Others)                                     | 1,565                          | 1.4          | -                                       | 1,765                          | 1.3          | 12.5                                        |
| Researchers                                  | 2,921                          | 2.7          | ▲15.8                                   | 2,958                          | 2.2          | 1.3                                         |
| Others                                       | 10,372                         | 9.7          | ▲15.2                                   | 10,929                         | 8.0          | 3.3                                         |

(\*1) Classified as "on-line and off-line data processing services" until 1999.

(\*2) Classified as "software development/program production, etc." until 1999.

(\*3) The scope of the survey was expanded in 2001 to cover all business establishments nationwide, including those outside city districts and wards. Therefore, the figures in comparison with the previous year have been tabulated with due consideration given to the place in time.

Source: "Survey of Selected Service Industries," METI

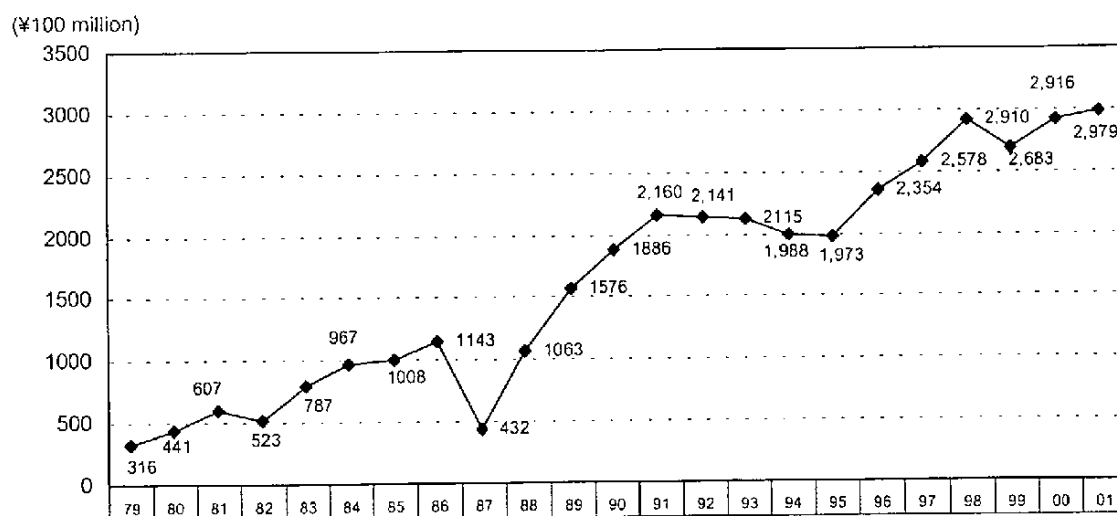


(\*1) Classified as "on-line and off-line data processing services" until 1999.

(\*2) Classified as "software development/program production, etc." until 1999.

Source: "Survey of Selected Service Industries," METI

Fig. I-1 Trends in Annual Sales of the Information Service Industry (1985-2001)



Note: Parts of the service classification were revised in 1987, and "Information Supply Service" was renamed as "Database Service."

Source: "Survey of Selected Service Industries," METI

Fig. I-2 Trends in Annual Sales of Database Service Industry

## 2. Distribution of Commercial Databases

### 2.1 Number of Accessible Databases and Participating Firms

The "Directory of Japanese Databases," which has been published annually by the Ministry of International Trade and Industry (now reorganized into the Ministry of Economy, Trade, and Industry) since FY 1982, provides indices by field, media, and service corporations, as a directory of the commercial databases that are available in Japan. The entries are based upon reports submitted by service corporations, and 186 corporations reported in FY 2001. The figure for the previous year was 176 firms. As was shown in the preceding paragraph, the number of reporting firms is lower than that of database services firms in the "Survey of Selected Service Industries," because the latter increased the scope of business establishments by changing the business classification to include "database services by the Internet." It is a matter of some concern that the business establishments that mainly work with database services tend to be in a gradual decline. In the breakdown of firms, producers (60, against 50 in the previous year), producers/distributors (48, against 50 in the previous year) and information search brokers (22, against 23 in the previous year) make up about 70% of the total. When firms engaged concurrently in other businesses are included, there are 144 producer companies that comprise three-fourths of all reporting companies.

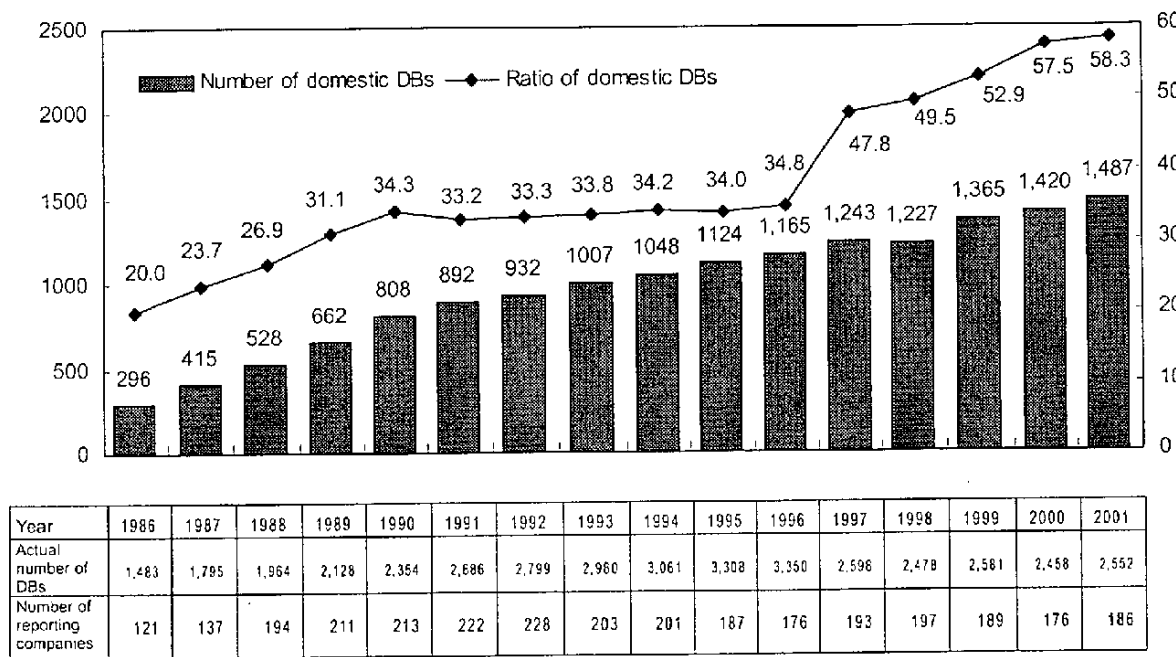
The total number of commercial databases reported by the 186 reporting companies was 2,552, which represents an increase of 3.8% over the previous year. The number of databases grew steadily until 1996, but decreased from 1997 and remained essentially stagnant until 2001. However, the average number of databases provided by reporting firms has been growing (Fig. I-3).

In addition, looking at the trends in the numbers of overseas and domestic databases, it may be seen that the ratio of overseas databases, which made up nearly 80% in earlier years, began to decline steadily from FY 1996, and was surpassed by domestic databases in FY 1999. In FY 2001, domestic databases made up nearly 60% of the total.

### 2.2 Distribution of Databases by Field

Considering the available databases by field, "general" covers 896 databases (up 2.2% from the previous year), "natural science and technology" 731 databases (up 9.3% from the previous year), "social science and cultural science (humanities)" 156 databases (up 15.6% from the previous year), "business" 714 databases (down 0.7% from the previous year) and "other" 55 databases (down 5.2% from the previous year). Thus, the "business" field has been declining. (Table I-2) Looking at the trend by ratio of fields over the past ten-year period, it can be seen that the trend for the "business" field to decline and for the "general" field to grow has continued, and the two reached about the same level in FY 1997. From FY 1999, the "general" classification has continued to maintain its lead (Table I-3).

Within the "general" field, databases such as "recreational, leisure and facility guides" and "domestic culture and home life," which appeared to be directed to users at large, have declined slightly, but they have roughly maintained the same level as in the previous year. As databases directed toward business establishments remain stagnant in sales in the economic recession, databases directed toward user strata at large are steadily growing.



\* The actual number of DBs in the table includes DBs compiled overseas. The ratio in the graph indicates the ratio of domestic DBs.

Source: "Directory of Japanese Databases," METI

Fig. I-3 Trends in the Number of Domestic Databases (actual numbers)

Table I-2-a Changes in Distribution of Databases by Field (actual numbers)

| FY                             |                                                   | 1991 | 1992 | 1993 | 1994 | 1995  | 1996  | 1997 | 1998 | 1999 | 2000 | 2001 |
|--------------------------------|---------------------------------------------------|------|------|------|------|-------|-------|------|------|------|------|------|
| General                        | Subcategory                                       |      |      |      |      |       |       |      |      |      |      |      |
|                                | General                                           | 70   | 69   | 69   | 75   | 82    | 78    | 76   | 62   | 68   | 72   | 70   |
|                                | Newspapers, journals and news                     | 287  | 322  | 373  | 412  | 469   | 444   | 393  | 390  | 401  | 348  | 364  |
|                                | Who's who/Organizations                           | 72   | 68   | 75   | 73   | 82    | 80    | 73   | 65   | 67   | 70   | 60   |
|                                | Government administration                         | 39   | 38   | 46   | 48   | 54    | 59    | 46   | 36   | 36   | 34   | 37   |
|                                | Laws                                              | 56   | 63   | 67   | 80   | 76    | 77    | 46   | 49   | 49   | 51   | 50   |
|                                | Politics                                          | 40   | 43   | 46   | 40   | 36    | 34    | 6    | 5    | 5    | 2    | 1    |
|                                | Health and sports                                 | 14   | 15   | 27   | 27   | 33    | 35    | 27   | 24   | 38   | 36   | 36   |
|                                | Travel and scheduling                             | 7    | 8    | 9    | 8    | 8     | 8     | 12   | 10   | 10   | 9    | 8    |
|                                | Recreation, leisure and facility guides           | 37   | 39   | 49   | 52   | 63    | 64    | 68   | 41   | 100  | 97   | 95   |
|                                | Domestic culture and home life                    | 9    | 12   | 20   | 24   | 29    | 31    | 45   | 48   | 50   | 55   | 53   |
|                                | Dictionary and supplementary files                | 31   | 33   | 26   | 30   | 29    | 28    | 24   | 22   | 23   | 23   | 23   |
|                                | Place names, maps and addresses                   | 12   | 11   | 7    | 5    | 5     | 8     | 19   | 20   | 31   | 48   | 66   |
|                                | Others                                            | 47   | 42   | 57   | 53   | 62    | 55    | 42   | 35   | 37   | 32   | 33   |
|                                | Subtotals                                         | 721  | 763  | 871  | 927  | 1,028 | 1,001 | 877  | 807  | 915  | 877  | 896  |
| Natural science and technology | General                                           | 74   | 73   | 61   | 58   | 68    | 68    | 68   | 62   | 59   | 59   | 63   |
|                                | Patents                                           | 79   | 82   | 93   | 95   | 112   | 137   | 118  | 120  | 124  | 138  | 140  |
|                                | Medicine, pharmaceuticals, biotechnology, biology | 164  | 164  | 178  | 152  | 196   | 216   | 191  | 185  | 184  | 178  | 213  |
|                                | Chemistry                                         | 111  | 101  | 106  | 106  | 121   | 121   | 96   | 77   | 69   | 79   | 78   |
|                                | Physics                                           | 6    | 6    | 7    | 7    | 7     | 7     | 7    | 6    | 6    | 8    | 8    |
|                                | Mathematics                                       | 4    | 4    | 3    | 3    | 3     | 3     | 4    | 4    | 4    | 4    | 3    |
|                                | Electricity, electronics and information          | 114  | 130  | 128  | 128  | 134   | 138   | 36   | 39   | 55   | 41   | 58   |
|                                | Machinery                                         | 16   | 18   | 15   | 19   | 21    | 22    | 14   | 9    | 9    | 9    | 10   |
|                                | Construction (civil engineering, architecture)    | 17   | 18   | 19   | 18   | 22    | 24    | 18   | 21   | 24   | 32   | 35   |
|                                | Space, earth and marine                           | 22   | 28   | 31   | 32   | 35    | 32    | 12   | 10   | 12   | 11   | 11   |
|                                | Nuclear power                                     | 4    | 4    | 4    | 4    | 8     | 7     | 7    | 5    | 5    | 5    | 5    |
|                                | Environment and pollution                         | 46   | 48   | 55   | 51   | 55    | 53    | 21   | 22   | 16   | 14   | 13   |
|                                | Energy and resources                              | 33   | 41   | 48   | 61   | 62    | 61    | 17   | 17   | 18   | 18   | 12   |
|                                | Agriculture                                       | 12   | 13   | 12   | 14   | 14    | 14    | 15   | 13   | 13   | 11   | 13   |
|                                | Meteorology                                       | 12   | 12   | 12   | 5    | 4     | 5     | 9    | 7    | 4    | 3    | 4    |
|                                | Metals and materials                              | 39   | 38   | 38   | 33   | 38    | 38    | 31   | 25   | 25   | 30   | 35   |
|                                | Food                                              | 9    | 8    | 12   | 12   | 15    | 13    | 7    | 8    | 8    | 8    | 8    |
|                                | Fibers, lumber and pulp                           | 5    | 5    | 4    | 4    | 4     | 4     | 5    | 5    | 6    | 8    | 6    |
|                                | Others                                            | 28   | 23   | 19   | 17   | 21    | 22    | 14   | 12   | 12   | 13   | 16   |
|                                | Subtotals                                         | 795  | 816  | 845  | 819  | 940   | 985   | 690  | 647  | 653  | 669  | 731  |

(Continued on next page)

Source: "Directory of Japanese Database," METI

**Table I-2-b Trends in Distribution by Category of Databases Accessible in Japan**  
(actual numbers)

| FY                          |                                           | 1991  | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  |
|-----------------------------|-------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Social and cultural Science | Subcategory                               |       |       |       |       |       |       |       |       |       |       |       |
|                             | General                                   | 8     | 9     | 10    | 6     | 12    | 13    | 12    | 10    | 24    | 23    | 26    |
|                             | Education                                 | 12    | 12    | 12    | 10    | 11    | 9     | 5     | 4     | 3     | 2     | 3     |
|                             | Sociology                                 | 11    | 7     | 7     | 6     | 6     | 7     | 6     | 6     | 6     | 6     | 7     |
|                             | Population statistics                     | 28    | 32    | 34    | 39    | 40    | 43    | 50    | 55    | 60    | 76    | 84    |
|                             | Law                                       | 2     | 1     | 2     | 2     | 2     | 2     | 4     | 2     | 1     | 3     | 7     |
|                             | History and political science             | 2     | 2     | 4     | 5     | 5     | 6     | 2     | 2     | 2     | 2     | 4     |
|                             | Arts (movies, music)                      | 9     | 8     | 10    | 8     | 11    | 10    | 6     | 6     | 9     | 8     | 6     |
|                             | Psychology                                | 3     | 2     | 2     | 1     | 1     | 1     | 5     | 5     | 6     | 5     | 7     |
|                             | Linguistics                               | 3     | 2     | 2     | 2     | 2     | 2     | 4     | 4     | 5     | 5     | 5     |
|                             | Philosophy                                | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 0     | 0     | 0     |
|                             | Religion                                  | 8     | 8     | 8     | 7     | 6     | 6     | 1     | 2     | 2     | 2     | 2     |
|                             | Others                                    | 6     | 6     | 5     | 7     | 8     | 7     | 4     | 4     | 4     | 3     | 5     |
|                             | Subtotals                                 | 93    | 90    | 97    | 94    | 105   | 107   | 100   | 101   | 122   | 135   | 156   |
| Business                    | General                                   | 95    | 93    | 109   | 110   | 105   | 118   | 118   | 116   | 114   | 89    | 91    |
|                             | Marketing and products                    | 130   | 132   | 120   | 121   | 133   | 139   | 116   | 97    | 105   | 67    | 68    |
|                             | Economy (overseas)                        | 86    | 73    | 71    | 68    | 71    | 70    | 48    | 38    | 33    | 20    | 16    |
|                             | Economy (Japan)                           | 86    | 89    | 87    | 92    | 84    | 79    | 101   | 120   | 112   | 120   | 125   |
|                             | Corporate finance and profiles (overseas) | 238   | 235   | 256   | 267   | 257   | 257   | 165   | 161   | 142   | 108   | 104   |
|                             | Corporate finance and profiles (Japan)    | 78    | 88    | 88    | 92    | 82    | 79    | 80    | 87    | 85    | 90    | 89    |
|                             | Accounting and management                 | 13    | 15    | 16    | 17    | 31    | 29    | 19    | 17    | 17    | 11    | 12    |
|                             | Finance, securities and foreign exchange  | 156   | 156   | 154   | 161   | 168   | 196   | 153   | 166   | 151   | 145   | 128   |
|                             | Energy industry                           | 8     | 15    | 15    | 13    | 17    | 19    | 5     | 4     | 4     | 2     | 2     |
|                             | Communications and broadcasting           | 33    | 28    | 38    | 53    | 65    | 62    | 4     | 4     | 4     | 3     | 3     |
|                             | Agriculture, forestry and fisheries       | 9     | 9     | 5     | 4     | 4     | 4     | 4     | 3     | 2     | 2     | 6     |
|                             | Chemical industry                         | 10    | 10    | 15    | 13    | 12    | 12    | 10    | 9     | 8     | 8     | 10    |
|                             | Labor                                     | 7     | 6     | 9     | 13    | 13    | 17    | 11    | 12    | 16    | 18    | 23    |
|                             | Education                                 | -     | -     | -     | -     | -     | -     | 0     | 0     | 1     | 1     | 2     |
|                             | Architecture and construction             | 6     | 6     | 5     | 5     | 8     | 7     | 3     | 0     | 1     | 0     | 0     |
|                             | Transportation                            | 22    | 23    | 27    | 27    | 27    | 26    | 8     | 7     | 10    | 10    | 9     |
|                             | Sales and services                        | 15    | 15    | 15    | 16    | 15    | 13    | 1     | 2     | 5     | 5     | 6     |
|                             | Distribution and real estate              | 9     | 9     | 7     | 5     | 4     | 5     | 5     | 5     | 5     | 5     | 5     |
|                             | Others                                    | 61    | 57    | 69    | 83    | 78    | 71    | 24    | 19    | 17    | 15    | 15    |
|                             | Subtotals                                 | 1,062 | 1,059 | 1,106 | 1,160 | 1,174 | 1,203 | 875   | 867   | 832   | 719   | 714   |
| Others                      |                                           | 15    | 71    | 61    | 61    | 61    | 54    | 56    | 56    | 59    | 58    | 55    |
| Grand totals                |                                           | 2,686 | 2,799 | 2,980 | 3,061 | 3,308 | 3,350 | 2,598 | 2,478 | 2,581 | 2,458 | 2,552 |

Source: "Directory of Japanese Database," METI

Table I-3 Trends in Distribution of Databases by Field (actual numbers)

| Field                          | FY1991 | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  |
|--------------------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| General                        | 26.8   | 27.3  | 29.2  | 30.3  | 31.1  | 29.9  | 33.8  | 32.6  | 35.5  | 35.7  | 35.1  |
| Natural science and technology | 29.6   | 29.2  | 28.4  | 26.8  | 28.4  | 29.4  | 26.6  | 26.1  | 25.3  | 27.2  | 28.6  |
| Social and cultural science    | 3.5    | 3.2   | 3.3   | 3.1   | 3.2   | 3.2   | 3.8   | 4.1   | 4.7   | 5.5   | 6.1   |
| Business                       | 39.5   | 37.8  | 37.1  | 37.9  | 35.5  | 35.9  | 33.7  | 35.0  | 32.2  | 29.3  | 28.0  |
| Others                         | 0.6    | 2.5   | 2.0   | 1.9   | 1.8   | 1.6   | 2.2   | 2.3   | 2.3   | 2.4   | 2.2   |
| Total                          | 100.0  | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Total number of databases      | 2,686  | 2,799 | 2,980 | 3,061 | 3,308 | 3,350 | 2,598 | 2,478 | 2,581 | 2,458 | 2,552 |

|                    |      |      |      |      |      |      |      |      |      |      |      |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|
| Business (revised) | 52.9 | 51.8 | 52.1 | 53.7 | 52.1 | 51.6 | 51.6 | 53.3 | 50.4 | 46.3 | 44.6 |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|

Source: "Directory of Japanese Database," METI

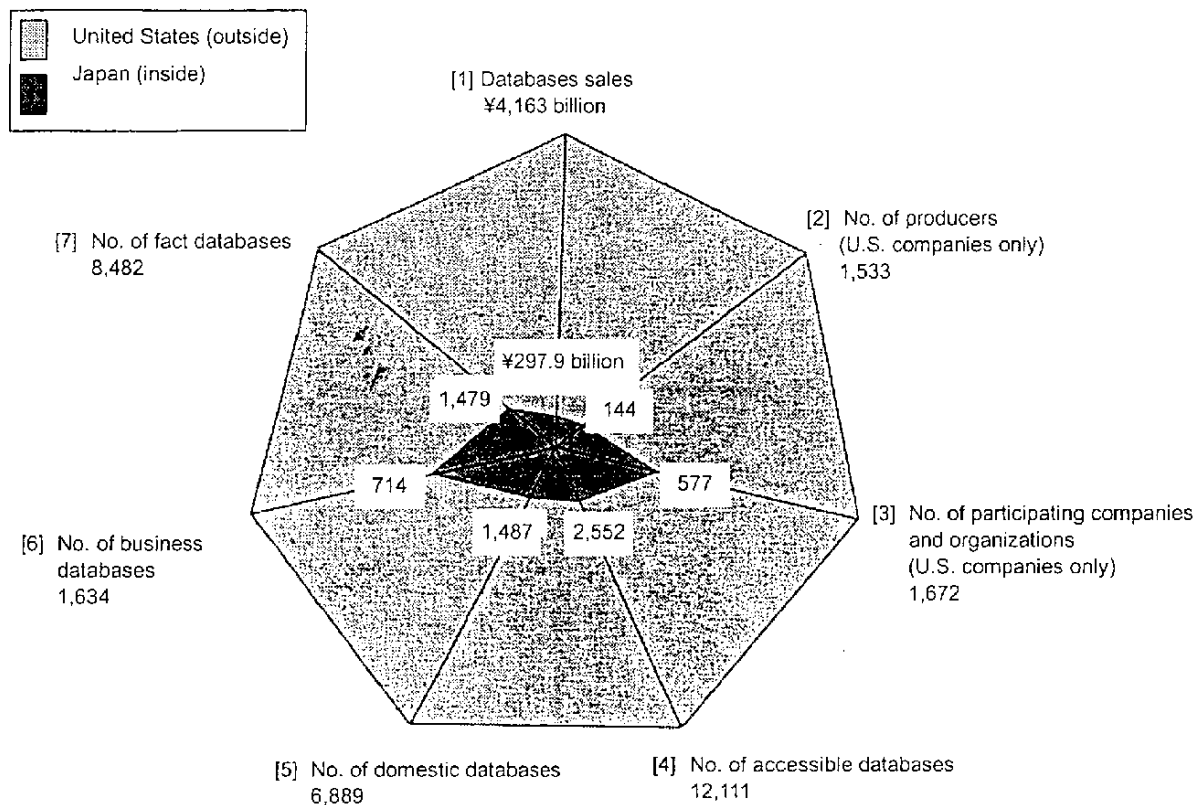
Note: "Business" was revised because "Newspapers/journals/news" and "Who's Who and organizations" are frequently used in the business field, and so these were added to the business field and the figures were revised and tabulated accordingly.

### 3. Comparison of the Database Situation in Japan and the United States

Comparing the database situation in Japan and the United States, Fig. I-4 shows the scale of the database market in those two countries. The outside graph represents the situation in the United States, while the inside graph represents the situation in Japan. The following seven items were used for comparison.

- [1] Database sales
- [2] Number of producing firms
- [3] Number of participating firms and organizations
- [4] Number of accessible databases
- [5] Number of domestic databases
- [6] Number of business databases
- [7] Number of fact databases

Of these seven, the figures for items [1] through [3] show the scale of the database industry, and they can be regarded as barometers of the industry's power. Items [4] through [7] show the distribution of databases, and indicate the size of the database market. With regard to item [6] on the number of business databases in the United States, the method was adopted of tabulating only the data compiled for United States databases for 2000, shown in Table I-4, and this method was also followed for 2001. As can be seen in Fig. I-4, the United States still maintains an overwhelming superiority in terms of database industrial power and distribution of databases.



Note 1: Of the database sales in [1], the figures for the United States were converted from those of Simba Information Inc. at the exchange rate of US\$1 = ¥121.49. The sales are the sum of items for business use and items for consumer use (including the Internet and CD-ROM). The total represents total worldwide sales of information business companies with their head offices in the United States. Therefore, sales of companies such as Reuters, Reed Elsevier, etc. are excluded. The figures for Japan were taken from the 2001 edition of "Survey of Selected Service Industries."

Note 2: The figures for the United States for [2] through [7] were tabulated from the 2002 edition of "Gale Directory of Databases" Vol. 1 (Online) and Vol. 2 (CD-ROM), based upon an article by Martha E. Williams. The figures for Japan were tabulated from the 2001 edition of "Directory of Japanese Databases" and the 2001 edition of "Survey of Selected Service Industries."

Note 3: The figures for [4] through [7] are based upon actual numbers.

Fig. I-4 Graphical Comparison of Database Situation in the United States and Japan (2001)

### 3.1 Comparison of Database Industry Power

Comparing the database industry's power in Japan and the United States, the gap is overwhelmingly larger than the gap in the distribution situation. Database sales have been affected by the slowing down of the United States economy in the latter half of 2000 after a protracted expansion that began in March 1991. Thus, while sales of databases in the United States increased by 6.1% from the previous year on a yen basis, it declined by 5.9% on a dollar basis. Therefore, the gaps in the actual bases have begun to narrow somewhat.

However, the September 11 mass terror attack that occurred in the United States in 2001 has had considerable impact on the world economy, and the future development of the database market in both Japan and the United States is not clear.

In comparison with the United States, where the foundation of the database services industry has been established over a long period, the database industry in Japan has not yet been firmly grounded. For this reason, it is difficult for a firm to maintain a viable business solely with database services, as evidenced by the fact that most Japanese database services firms are concurrently engaged in other fields. In addition, with the economic deflation of recent years, fewer firms are entering the market today. Given the balance between investment cost and demand, overall financial tightening, and general business stagnation, the future of the Japanese database industry does not now appear to be so bright, and it will be a very difficult task to narrow the gap between the two countries. The American database industry constantly grows faster than Japan's, and the widening gap in content should be seen as a gap in the ability to make use of information. Thus, efforts must be redoubled to develop Japan's database industry.

Databases compiled in the United States are distributed not only to meet domestic demand but also throughout the world, and this fact is reflected in the figures that express the database industry's power. This should be kept in mind.

### **3.2 Comparison of the Database Distribution Situation**

With regard to the distribution situation, the gap is not as large as that in industry power, and the gap between Japan and the United States has not changed much since 2000. As mentioned in the preceding paragraph, the IT business of the United States has been declining somewhat, but the decline in Japan has been even sharper than in the United States.

However, with regard to the number of domestic databases, the gap between Japan and the United States expands and shrinks from year to year, making it difficult to identify a clear trend. One reason may be that while nearly all of the databases compiled in Japan are supplied to the domestic market, U.S. databases use English, the de facto world language, and with the U.S. being the center of global economic activities its databases have a worldwide market.

**Table I-4 Strength of the U.S. Database Industry Relative to Japan (2001)**

(Japanese database industry = 1)

| Criteria                                             | United States |      |
|------------------------------------------------------|---------------|------|
|                                                      | 2001          | 2000 |
| (1) Database sales                                   | 14.0          | 13.5 |
| (2) No. of producers                                 | 10.6          | 11.0 |
| (3) No. of participating companies and organizations | 2.9           | 2.9  |
| (4) No. of accessible databases                      | 4.7           | 4.7  |
| (5) No. of domestic databases                        | 4.6           | 5.2  |
| (6) No. of business databases                        | 2.3           | 2.5  |
| (7) No. of fact databases                            | 5.7           | 5.6  |

Note: The source and tabulation method are the same as for Fig. I-4.

The number of participating firms in (3) is tabulated for Japan by using the sum total of "independent business establishments" and "head office."

## II. Trends in the Database Service Industry

### 1. Introduction

This chapter describes the supply of database services and its future trends, based upon the results of the "Survey on the Status of Japanese Database Services: Vendors Edition," which was conducted by the Database Promotion Center, Japan, in October 2002. This survey was conducted by distributing a questionnaire to 188 companies, of which 119 companies responded, giving a response ratio of 63.3%.

### 2. Business Mode of Database Service Providers

According to this survey (October 2002), the general business type of database service providers is the "information processing and supply business" with 42.9%, followed by the "newspaper and publishing business" with 16.8%, "other services" with 14.3%, and "public services" with 13.4%, which is a small decrease. "Public service" includes (public) survey and research organs, etc. "Other services" include the food service industry, hotel businesses, services for business establishments, think tanks, advertising, and other services. Starting with this survey, business type classifications were partly changed. A few responses were also received from commercial businesses, and companies in other manufacturing. From this, it can be seen that companies from a broad range of businesses are participating in the database service business.

According to the "Directory of Japanese Databases" (FY 2001), in terms of the business mode of database service providers, the full-time producer companies make up 32.3% (vs. 28.4% in the previous year), and the producer companies that concurrently serve as distributors make up 25.8% (vs. 28.4% in the previous year). These two types of companies comprise 58.1% (vs. 56.8% in the previous year), or well over half of the total. In addition, companies that are fully engaged in providing information search broker services are placed third, with 11.8%.

### 3. Positioning of Database Services

Given the large number of database service providers that are concurrently engaged in other businesses, the survey asked how these providers assess the importance of database services to their company. 46.1% of the responding vendors said that "it is now the company's main business" (Fig. II-1). At the same time, 47.0% responded "it will be the main business in the future." This indicates that these vendors see the database business expanding in the future in comparison with the present situation. However, in the previous survey (October 2001), "main business now" was 43.7% and "main business in the future" was 50.5%. Thus, the ratio of "main business now" increased

somewhat, while that of "main business in the future" declined from the previous survey. Moreover, the response "we do not anticipate that it will be our main business in the future" has increased. Thus, there has not been a major positive shift in the attitudes of database service vendors. It is not clear whether this is due to the difficulties of envisioning a bright future socially and economically, or due to causes related to the database service industry itself. Nevertheless, given the severe business environment in recent years, it is certain that companies which engage in database services alone will have a difficult trading situation.

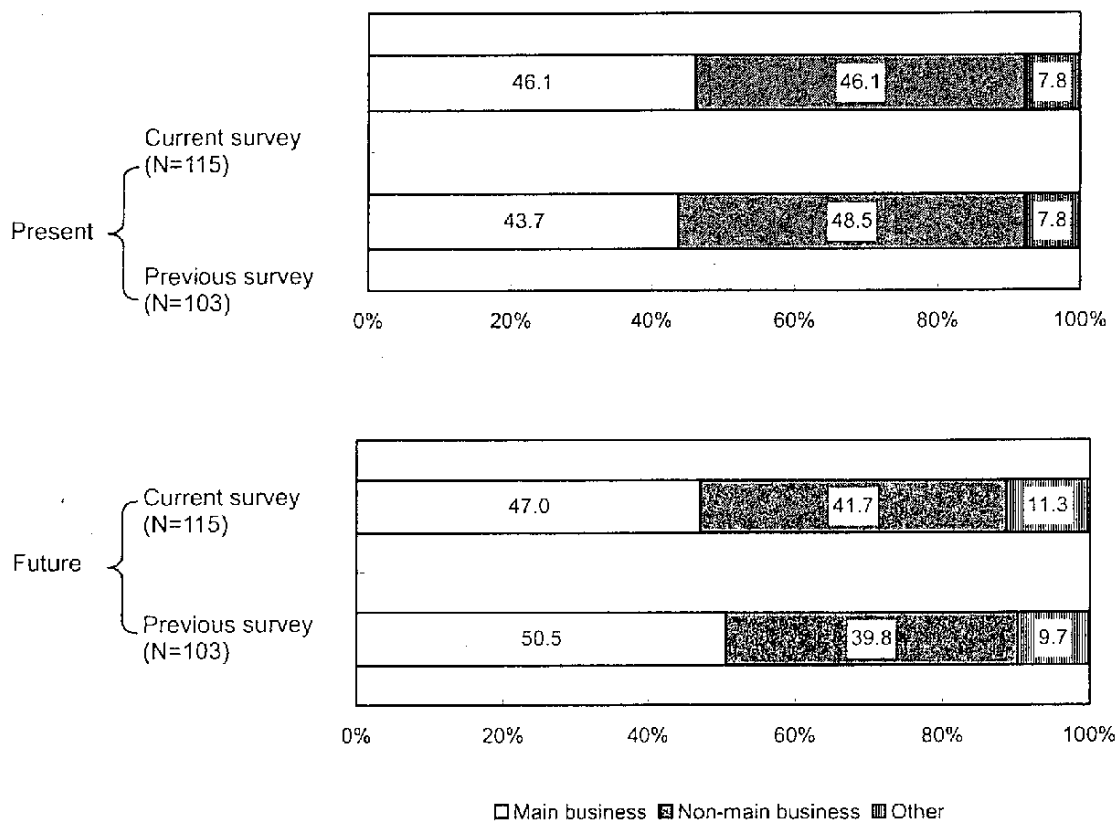


Fig. II-1 Positioning of Database Business

## 4. Sales of Database Services

### 4.1 Ratio of Database Sales to Total Company Sales

In comparison with the question in the preceding paragraph regarding whether vendors consider database services to be a main business or not, which is a subjective indicator of intentions and potential among vendors, the ratio of database sales to total company sales is an important objective index of the situation.

As Fig. II-2 shows, the ratio of total sales is 28.8% on average, which is an increase of 2.4 points from the previous survey. Looking at the distribution of vendors by sales ratio, the largest group reported "under 1%" with 30.1% of vendors, followed by "50-70%" with 17.2%, "5-10%," "15-50%," and "over 90%" with 11.8% respectively, and "1-5%" and "10-15%" with 7.5%. The sum total of vendors with a ratio under 10% was 49.4%, up 5.3 points from the previous survey.

Taking the ratio of sales alone, it appears as if the ratio of database service business is on a rising trend, but the fact that vendors with a low sales ratio of less than 10% increased from the previous survey makes it difficult to see a clear trend.

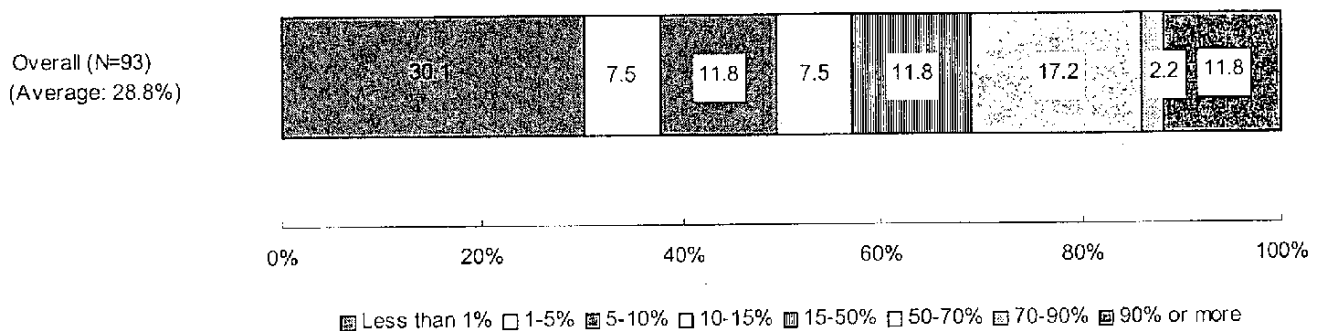


Fig. II-2 Distribution of Ratio of Database Sales to Company's Gross Sales

#### 4.2 Ratio of Sales of Domestic and Overseas Database Services

The sale of domestic databases comprised 84.8% of database sales overall, which is a decrease from the previous survey (90.3%) (Fig. II-3). The overall (average) ratio of sales of overseas databases is 15.2%. However, looking at the providers shows that vendors whose ratio of sales of database services makes up less than 10% are 74.0% of the total, which shows a big disparity as in the previous year. Thus, it can be said that a limited number of vendors account for a large amount of sales. After the survey was started in 1988, the ratio of sales of domestic databases stayed above the 85% level in most years, but this year's figure is slightly under that. However, for the database service providers listed in the "Directory of Japanese Databases," domestic databases continue to be the main part of their database sales.

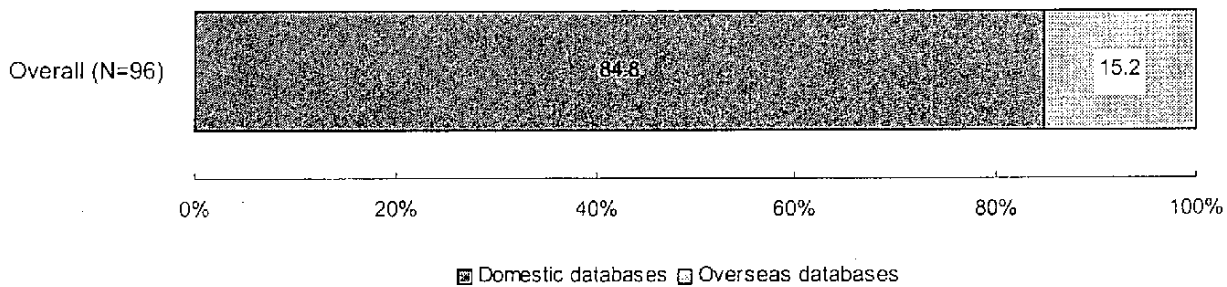


Fig. II-3 Ratio of Database Sales (Domestic and Overseas)

#### 4.3 Ratio of Sales of Databases by Method of Supply

In this section, the ratio of sales of database services by method of supply is examined. Considering the development of the usage environment of recording media, the category of "MO/DVD" was changed to "DVD" alone, and the survey findings tabulated.

As Fig. II-4 shows, for domestic databases, "Internet for personal computer" continued to dominate "Online" as in the previous survey, and again ranked at the top. When combined with "Internet for mobile phones and PDAs," the ratio of the Internet overall increased by 13.1 points from 28.6% (in the previous year) to 41.7%. This verifies the fact that provision of database services through the Internet has just about become the mainstream. "Online" maintained a share of about 50% until several years ago, but with the wide diffusion of the Internet it has dropped to 16.8% from 27.7% last time, and the declining trend has continued. On the other hand, while "CD-ROM" declined by 3.5 points from the previous survey to 24.4%, it surpassed "Online" to keep its second position as a method of supply. Together with DVD it makes up one-fourth of the total, and so can certainly be considered the major medium for supplying database services offline.

#### 4.4 Rate of Growth of Database Service Sales in Comparison with the Previous Year

Based upon the figures provided by the 89 responding companies in this survey, database services sales increased by 12.7% on average from the previous year, a slower rate than the 15.5% growth last time (Fig. II-5).

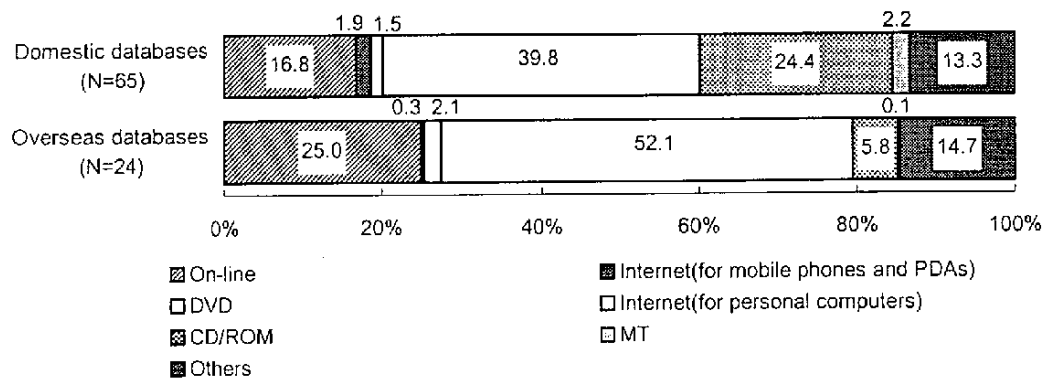


Fig. II-4 Ratio of Database Sales by Method of Supply

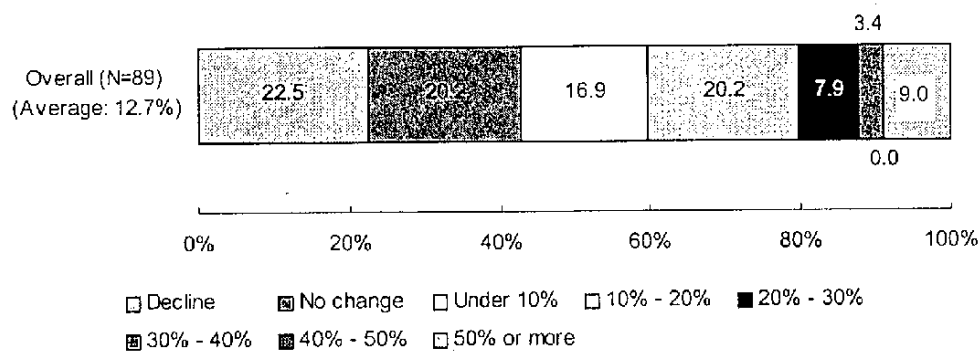


Fig. II-5 Distribution of Year-on-Year Changes in Database Sales

## 5. Media with High Expectations

### 5.1 Promising Media

The database service supply media which is expected to grow the most in the future continues to be the Internet, even though it has already passed the first round of diffusion. The rate grew slightly to 88.8% in this survey, but it was at the top and continued to leave the second-ranking media and others far behind, showing that very high expectations are still being placed upon it (Fig. II-6). In addition, "mobile phones" made a big jump from 10.6% last time to 55.2% in this survey. Their appeal as a mobile terminal appears to have risen dramatically, thanks to the increase in communication capacity, high-resolution display, and other functional improvements. "Mobile computers and PDAs" remain at about the same level. "Car navigation services" jumped also from 0.0% last time to 13.8% in this survey.

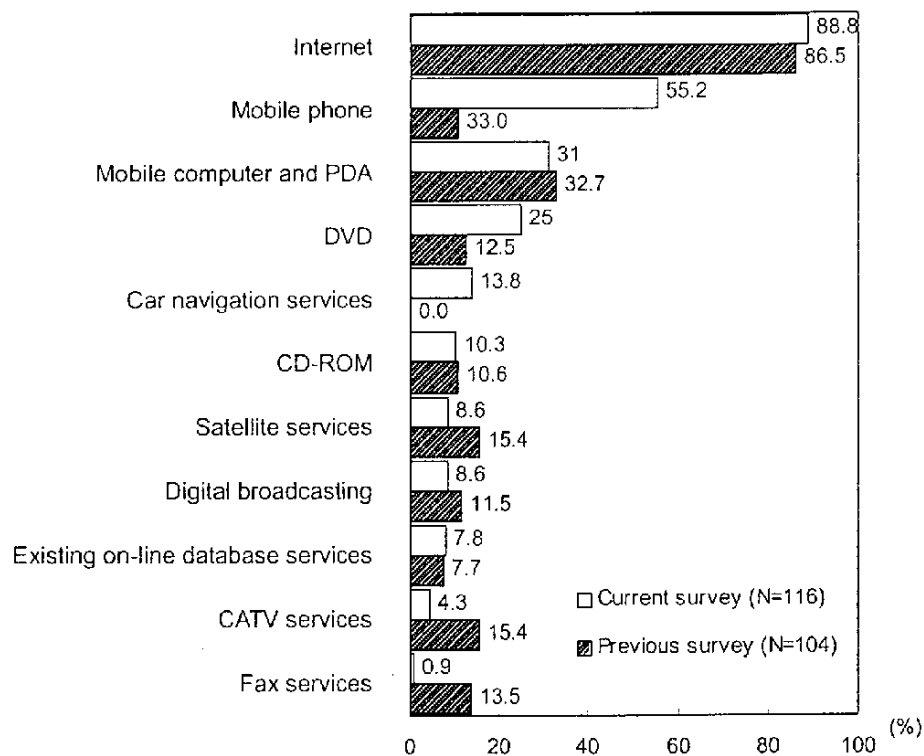


Fig. II-6 Media with Higher Growth Potential (multiple replies)

## 5-2 Promising Types of Data to be Supplied in the Future

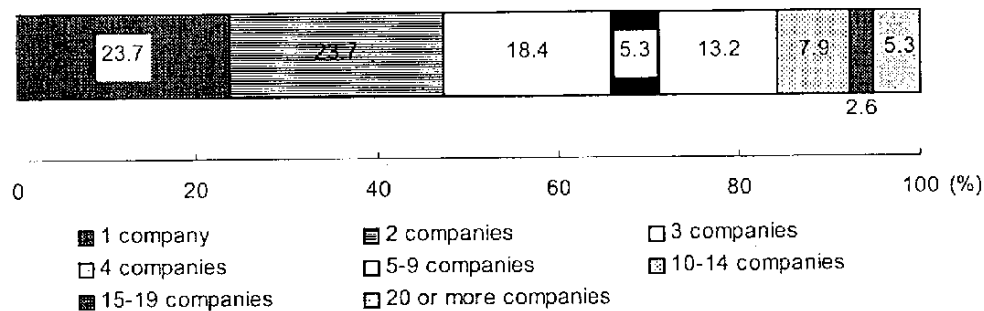
On the content of services that are thought to be promising for database services in the future, 26 companies responded with descriptions of definite types of data and contents. Cumulatively, 45 types of data were mentioned; listing from the top down, they were "text data" (46.2%), "graphics/images" (42.3%), "numerical data" (34.6%), and "multimedia" (34.6%).

## 6. Distribution of Databases

With regard to the method of distributing databases, a producer may develop a database and also distribute it, or may rely on other companies for distribution. The first mode is "producer-distributor" or a producer which also serves as a distributor.

Out of 79 companies that responded this time, 87.4% said "our company distributes databases for itself," while the remaining 12.7% do not distribute for themselves but "assign distribution to other companies." 38.0% of the companies both "distribute for themselves and rely on other companies." It is evident from these figures that in Japan many companies concurrently serve as both producers and distributors of database services.

Among the companies that rely on other companies, the average number of other companies used for distribution was 5.6 companies, which is about the same as in the previous survey (5.1 companies).



(Average number of companies requested to distribute: 5.6 companies)

Fig. II-7 Number of Database Distributors Consigned by Producers (N=38)

## 7. Problems with Database Construction

When producers were asked what they consider to be the problems in building databases, there was still a high level of concern about the high cost as shown in Fig. II-8, and in particular there was an increase in responses citing "difficulties in recouping the initial investment." While the "concerns about system security" declined somewhat from the previous survey, they are still at a high level. In particular, because the business environment for database producers has not yet improved, it can be foreseen that it will be difficult building databases that can become promising new products. Thus, it is acutely felt to be the "difficulties in recouping the initial investment" and "high maintenance cost," that is, the high cost of databases, that are providing problems for services at present. At the same time, it is critical that a full-scale effort for effective security measures must be undertaken.

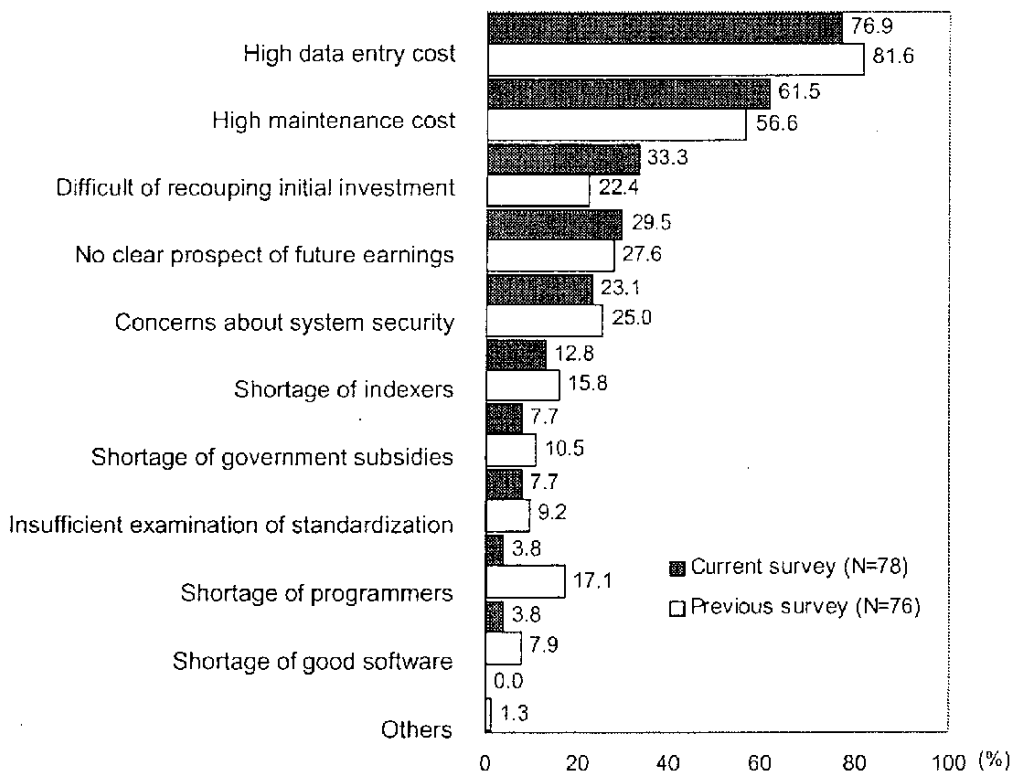


Fig. II-8 Awareness of Problems in Database Construction (multiple replies)

## 8. Making Use of Public Data

The national government and other public bodies develop and make public a huge volume of statistical data and bibliographical information (white papers, replies to advisory councils, collections of laws and ordinances, etc.). These databases provide high reliability and have become important sources of information. Of the producer companies that responded, 38 out of 79, or 48.1%, said that they "make use" of such public data as source data.

Regarding the type of public data these producers use, in the area of text data "Kampo" (The Official Gazette of the Japanese Government) was used by 35.1% which is less than in the previous survey (48.6%), while "Government white papers, commission and council reports" rose to second place with 32.4% which is roughly on the same level as in the previous survey (31.4%). "Local government data" at 16.2% registered a sharp decline from the previous survey (34.3%). Taken together, it can be seen that there continues to be a high level of need for government-related data (Fig. II-9).

In terms of numerical data, as shown in Fig. II-10, "general business/industry" (32.4%) continues to maintain its top position in this survey, followed by "corporate information" and "domestic economy, business situation, finance," ranking second with 27.0% each. They are followed by "population, employment and labor" (18.9%) and "international accounts and trade" (16.2%). For the past several years, "general business/industry" has been at the top, and numerical data deals mostly with economy-related matters down to the fifth rank, "international accounts and trade." Nor has the order of ranking changed. Thus, it may be inferred that about the same level of need exists each year.

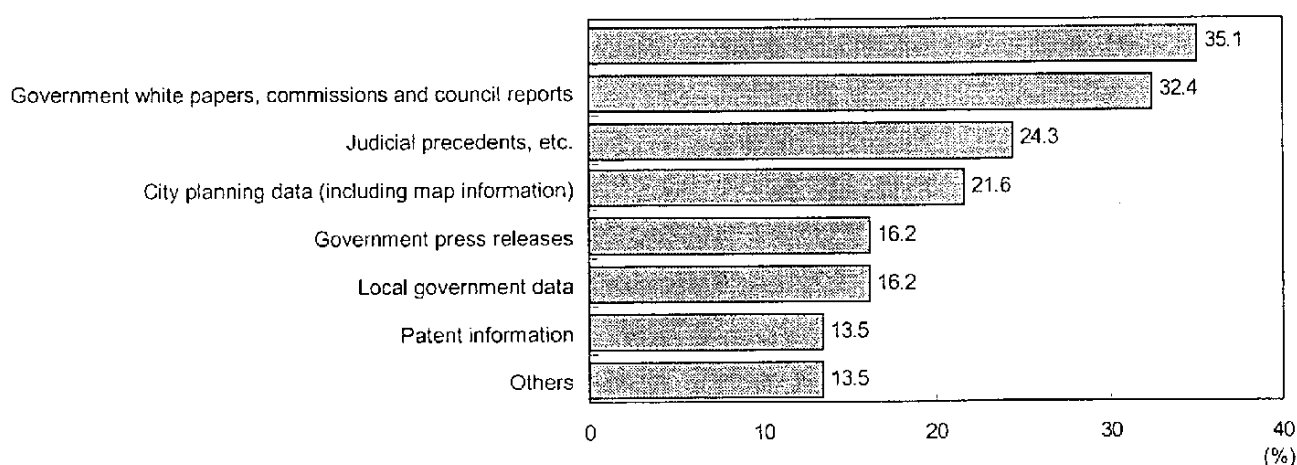


Fig. II-9 Types of Public Data Used Now [Text Data] (N=37 multiple replies)

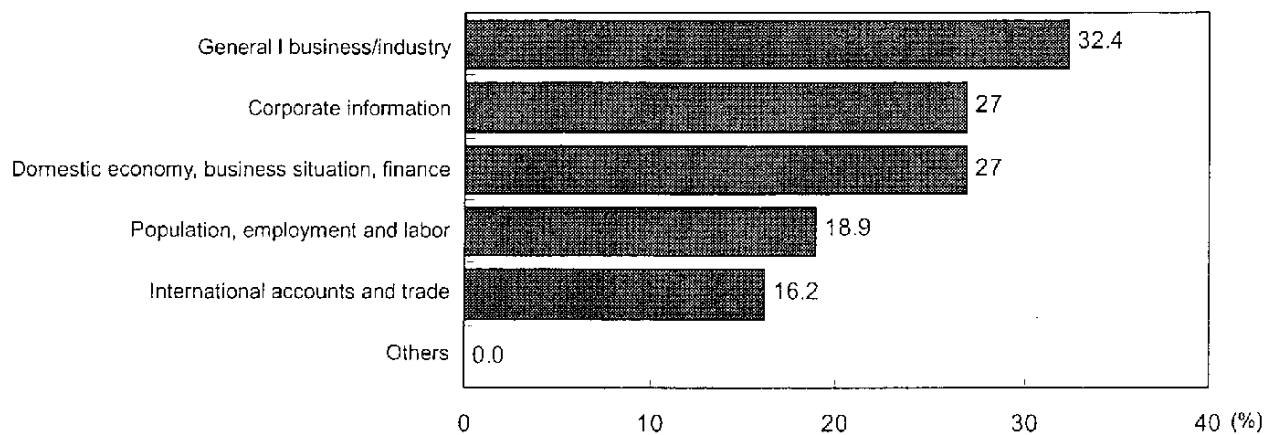


Fig. II-10 Types of Public Data Used Now: [Numerical data] (N=37, multiple replies)

## 9. Internet and Database Services

### 9.1 Status of Service Implementation

As is shown in Fig. II-11, 74 out of 97 responding companies, or 76.3%, stated that they “provide database services” through the Internet, which continues the trend from the previous survey whereby about three-fourths of vendors do so. While it increased only by 1.9 points from 74.4% in the previous survey, it can be seen that database vendors have entered the database-related business via the Internet in a determined manner. 4.1% of responding companies are “planning to provide” Internet-based service, which is a decline from the previous survey, but when these two groups are combined, it can be seen that most vendors are highly motivated to provide services that use the Internet.

### 9.2 Problems in Implementation

With well over 70% of database service vendors providing services through the Internet, many vendors are facing a large number of concerns and problems, as can be seen in Fig. II-12. (This holds true for both vendors who provide database services through the Internet and those who do so through dedicated lines.) Fig. II-12 shows data on the points of insecurity and problems that were identified in the responses from 117 companies. Overall, the most common problem cited was: “Homepages and other database services have become free of charge, adversely affecting the growth of database services provided for a fee” (57.3%). The second most frequently cited concern was “about protection of database copyright (intellectual property)” (48.7%), followed by fears of the “possibility of free, public database services adversely affecting commercial database business” (44.4%). For vendors who are seeking to develop their database services through the Internet, “free

database services and free homepages on the Internet" have become a business concern, which is something of an ironical circumstance. In addition, the response situation may have been affected by frequent problems and system breakdowns caused by computer viruses that seem incessant.

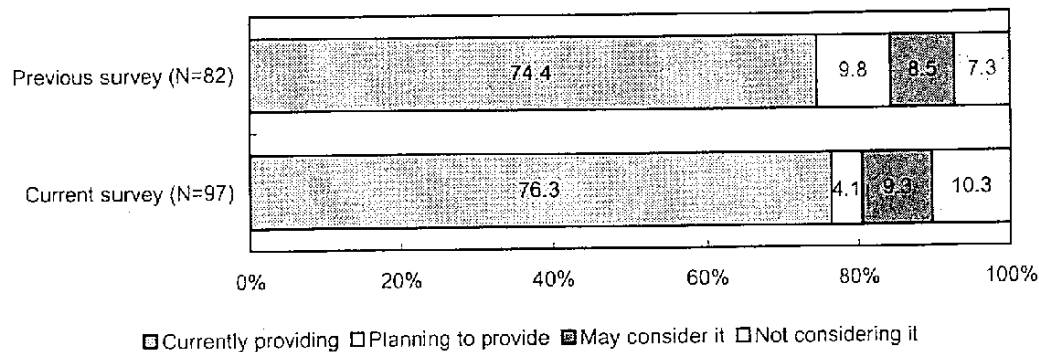


Fig. II-11 Current Utilization of Internet Database Services

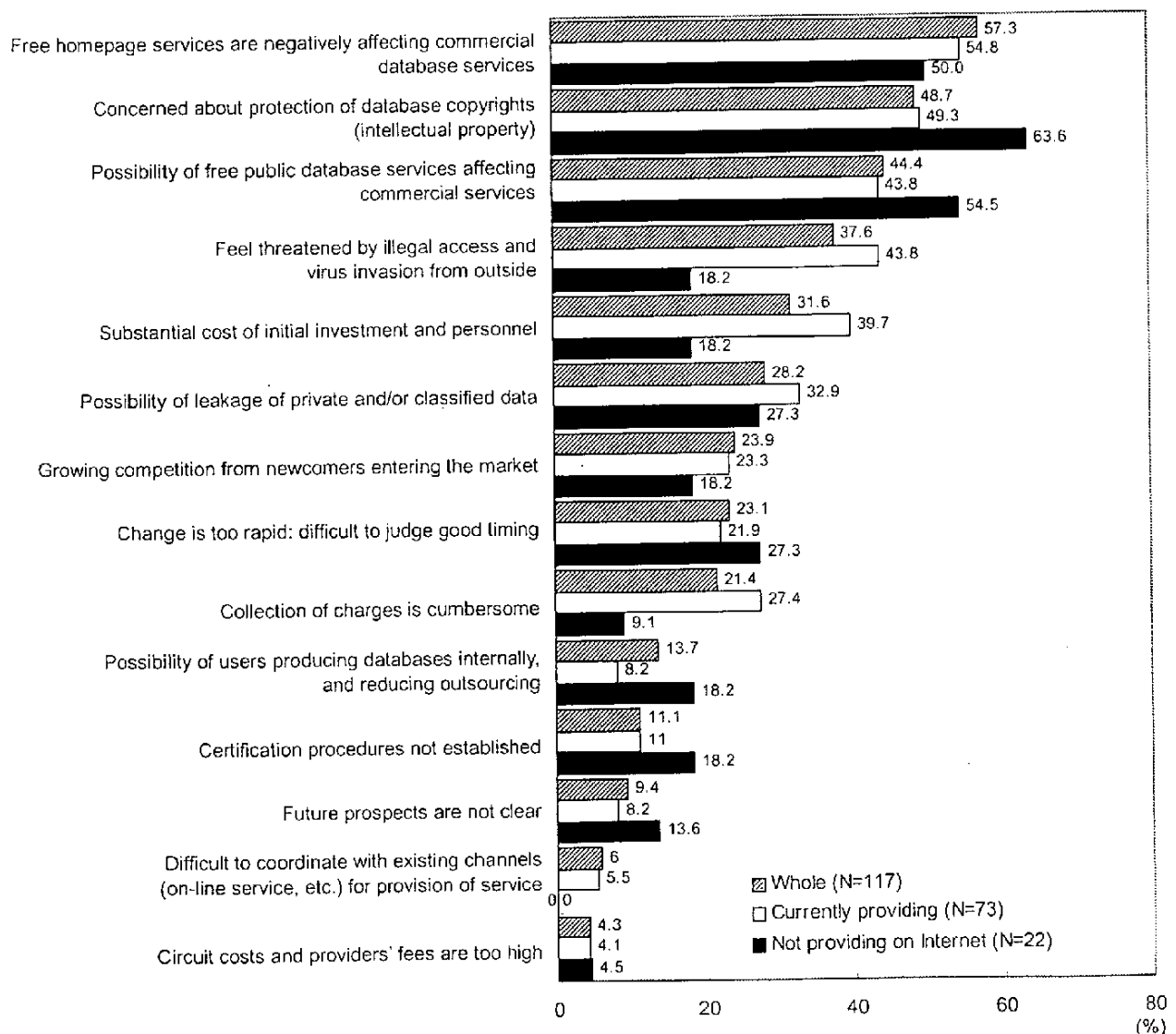


Fig. II-12 Concerns and Problems on Internet Database Services (multiple replies)

## 10. Supply of Database Services by CD-ROM and DVD

### 10.1 Breakdown by Providers and Non-providers

As shown in Fig. II-13, at present 57.9% of database vendors are providing databases in the form of CD-ROM and DVD. While this is slightly lower than the figure in the previous survey, it still shows that nearly 60% are using this media and, overall, it is safe to say that the trend has been growing.

### 10.2 Fields for CD-ROM and DVD Databases

By looking at vendors who provide databases on CD-ROM or DVD by field, it can be seen that databases in "Business" are provided by 43 companies, followed by "General" with 21 companies, "Natural science and technology" with 19 companies, "Cultural and social science" with 5 companies, and "Other" with 2 companies. When these figures are compared with the previous survey, "Business" has increased by 8 companies, "General" has increased by 4 companies, "Natural science and technology" has increased by 3 companies, and "Other" has increased by 1 company. Thus, the growth of databases in "Business" is salient.

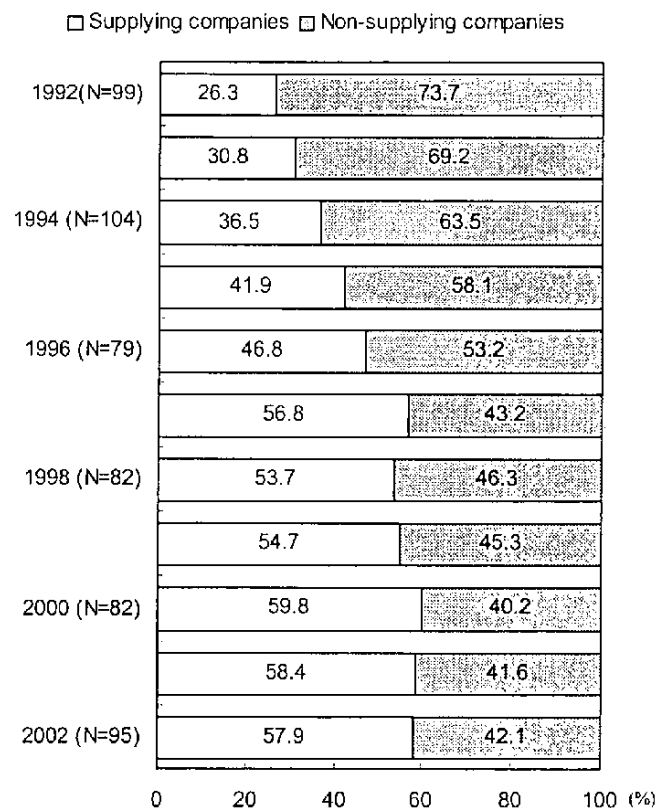


Fig. II-13 CD-ROM and DVD Database Supply

## 11. Present State of Japanese Databases Supplied Overseas

The Japan Database Industry Association (DINA) was commissioned by the Database Promotion Center, Japan (DPC) in June 2002 to conduct their 16th survey on the members, DPC supporting members and other organizations involved in database services. Survey forms were sent to 293 organizations, replies to which were obtained from 134 (response rate: 45.7%).

Seventy of the respondents made their databases accessible from overseas and 7 were planning overseas services. The past twelve years had shown a steady increase in the number of Japanese databases available to overseas users, but the figure for July 1999 stood at 403, down 48.0% from the previous year. The decrease was attributed to NIFTY's narrowing of its operations from the previous year's 452 databases to 3. In the 2002 survey, the number of Japanese databases available for overseas users stood at 401 (based on actual numbers), a decrease of 3.8% from the previous year (Table II-1 and Fig. II-14).

By category, the 401 databases are classified into the following: 95(23.7%) in science/technology; 138(34.4%) economy/business/finance; 156(38.9%) general; 3(0.8%) science/technology + economy/business/finance; 1(0.2%) science/technology + general; 6(15%) science/technology + economy/business/finance + general; 2 (0.5%) economy/business/finance + general.

By language, Japanese accounts for 236(58.9%) databases, English 53(13.2%), others 5(1.3%), Japanese + English 88(21.9%), Japanese + English + others 16(4.0%), Japanese + others 1(0.2%), and English + others 2(0.5%).

By distribution media, 46 (11.5%) of the databases were distributed on the Internet, 178 (44.4%) online, 15(3.7%) MT/FD, 22(5.5%) CD-ROM/MO/DVD, 69(17.2%) the Internet + online, 5(1.3%) the Internet + MT/FD+CD-ROM/MO/DVD, 5(13%) the Internet + CD-ROM/MO/DVD, 3 (0.7%) the Internet + online + CD-ROM/MO/DVD, 7(1.0%) the Internet + online + MT/FD + CD-ROM/MO/DVD, 23(5.7%) online + MT/FD, 8(2.0%) online + CD-ROM/MO/DVD, 12(3.0%) online + MT/FD + CD-ROM/MO/DVD, and 8(2.0%) MT + CD-ROM/MO/DVD.

Table II-1 Number of Japanese Databases Supplied Overseas

| Item \ Year of Survey                        | 1993          | 1994          | 1995          | 1996          | 1997          | 1998           | 1999            | 2000          | 2001          | 2002          |
|----------------------------------------------|---------------|---------------|---------------|---------------|---------------|----------------|-----------------|---------------|---------------|---------------|
| No. of databases and proportion supplied (%) | 306<br>(30.4) | 353<br>(33.7) | 374<br>(33.3) | 430<br>(36.9) | 739<br>(59.5) | 833*<br>(67.9) | 403**<br>(29.5) | 437<br>(32.0) | 417<br>(29.4) | 401<br>(27.0) |

\*Including 452 NIFTY databases

\*\*Including 3 NIFTY databases

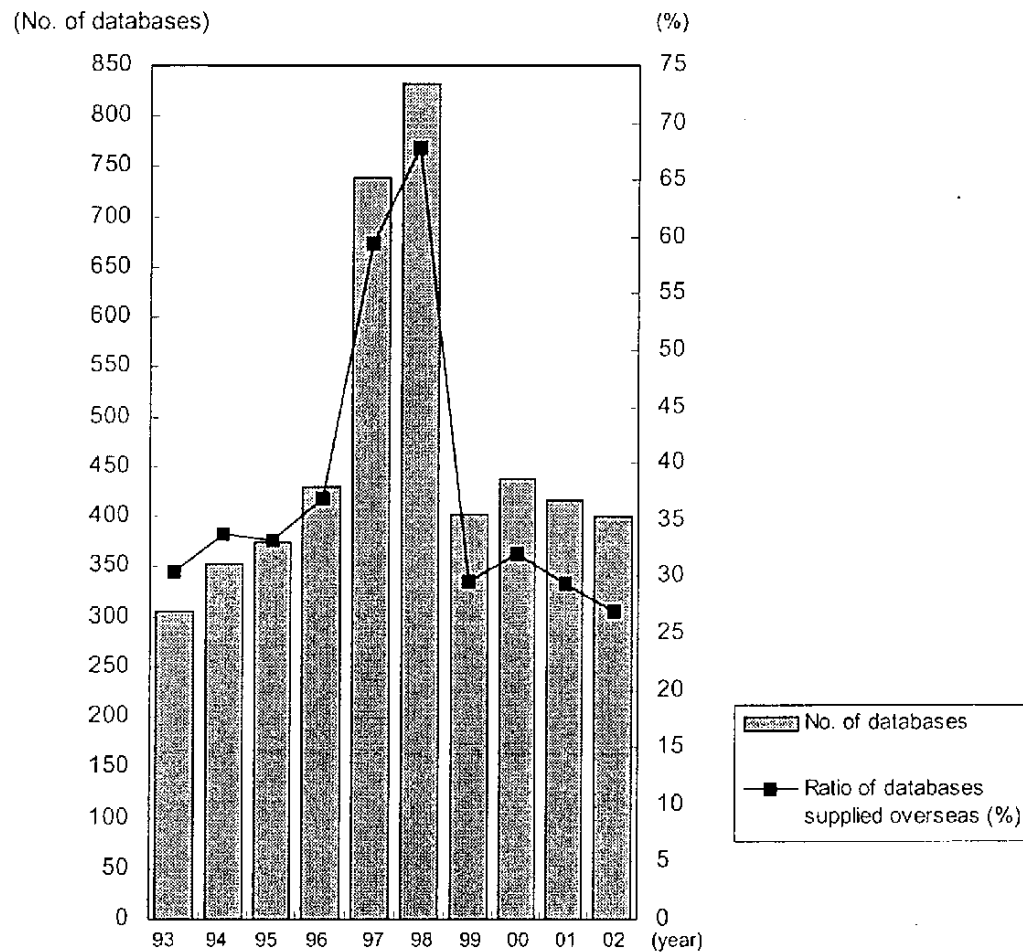


Fig. II-14 Growth of the Number of Databases Supplied Overseas

### III. Current Utilization of Commercial Database by Corporations

#### 1. Introduction

Based upon the findings of the "Survey on the Status of Japanese Databases: Users Edition" conducted by the Database Promotion Center, Japan, in October 2002, this section introduces the current situation of the use of commercial databases and users' awareness. This year, the survey questionnaire was sent to 6,000 companies. Responses were received from 608 companies, giving a response rate of 10.1%.

#### 2. Current and Projected Database Use

##### 2.1 Utilization of Commercial Databases in FY 2001

63.5% of all responding companies use commercial databases, 2.5% of responding companies used commercial databases previously, while 34.0% have never used a commercial database. In comparison with the previous survey, the ratio of firms that use commercial databases declined by 10.6 points. This was partly due to a change in the distribution of companies of different size that responded to this survey, and the ratio dipped below 70%. (The ratio of large companies decreased from 58.6% to 48.0%.) Even so, roughly two-thirds of responding companies are database users. While the ratio of companies that do not use databases increased somewhat from the previous survey, there is no question that by now databases have come to occupy a major position as tools for business activity.

Next, the database use results were analyzed, based upon the amount of fees paid by users. Responses were received from 376 out of 386 companies that use databases, and when database use results for FY 2001 are compared with those in the previous year (FY 2000), an overall 60.6% of users said "about the same as last year" (60.6% gave this response last time). This was followed by the response of "increased" use as given by 27.1% (27.5% last time). On the other hand, 12.2% of user companies replied that use "decreased" (11.9% last time), and so the ratio of use results roughly remained the same as in the previous survey. For business enterprises overall, a continuation can be discerned of the trend to hold down the amount of usage charges paid for database services (Fig. III-1).

When those 102 companies whose use of database services "increased" were asked what their reasons were, responses were received from 98 companies (Fig. III-2, Fig. III-3). The most frequent reason was that "with more personal computers and other terminals, searching has become easier" (43.9%). The second-ranking reason, "we increased the number of contracts with commercial databases that we can use" (42.9%) increased from the previous survey (33.9%). "Business has

grown and the information search volume has increased” decreased slightly from 34.8% in the previous survey to 31.6% this time. The biggest decline was registered by “with more personal computers and other terminals, searching has become easier,” which was down 7.0 points from the previous survey, but this may indicate that companies are now more fully equipped with personal computers and other terminals.

Forty-four companies whose database use “decreased” responded to the question related to reasons for such a decrease, and the most frequent reason given was that “we now use free homepages more” (59.1%). While this is slightly less than in the previous survey, it still accounted for about two-thirds of the total. One large difference from last time was the big increase of “reduction in commercial database service contracts” (31.8%), raising it from third place last time (13.5%) to second place now. In the slow-down of the IT business, a trend can be discerned among user companies to more strictly select the databases they use.

Figure in ( ) indicates the number of respondent companies.

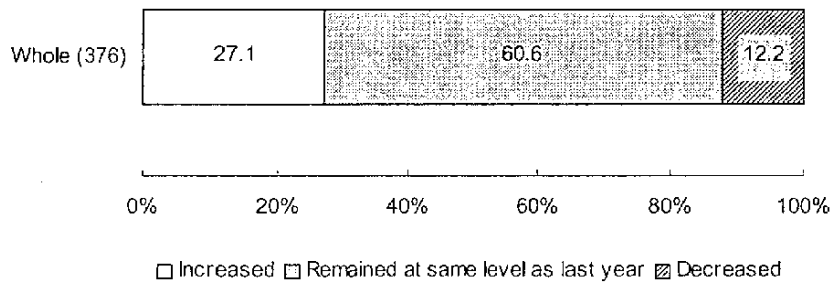


Fig. III-1 Utilization of Commercial Databases in FY2000 Compared to FY2001

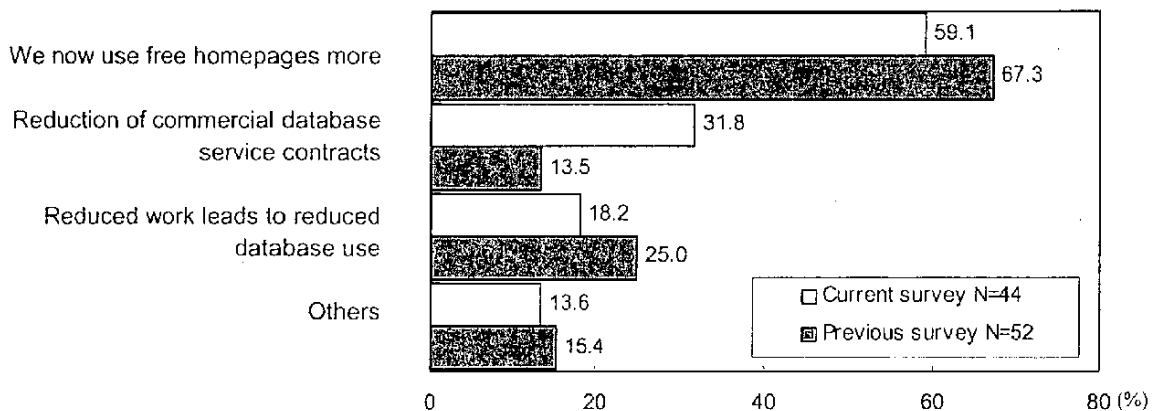


Fig. III-2 Reasons for Increase in Commercial Database Utilization in FY2001

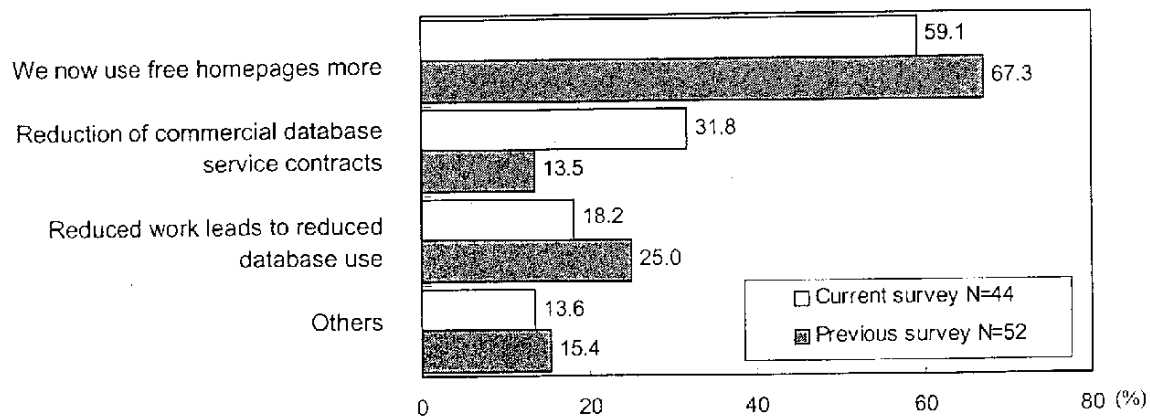


Fig. III-3 Reasons for Decrease in Commercial Database Utilization in FY2001

## 2.2 Projected Use of Commercial Databases in FY 2002

Comparing the prospects for database use in FY 2002 with the previous year, 70.4% of users responded, "about the same level as last year," which is somewhat higher than the ratio for FY 2000 - FY 2001 referred to above. "Will increase," with 20.4%, far surpasses "will decrease," with 9.2%. However, given that "about the same level as last year" remains high as an overall tendency among users, the trend for "increased use" declined from the previous survey (26.8%). Thus, continuing the trend from FY 2000 to FY 2001, the projected use of database services appears to be stagnating, in linkage with the economic slow-down (Fig. III-4).

Fig. III-5 shows the distribution of reasons for expecting increased use of databases in FY 2002, while Fig. III-6 shows the distribution of reasons for expecting decreased use of databases. Out of 75 companies that expect "increased use", 73 responded. With multiple replies given, the top reason was "will increase number of contracts for available commercial databases (49.3%)," which comprises about one half of these companies. This was followed by "increase in PCs and terminals facilitate information retrieval (31.5%)" in second place, and by "new business will increase volume of data retrieval (23.3%)" in third place. Here, it can be seen that among the top three items, the reasons related to "increase in PCs and terminals, etc." and "new business, etc." declined in percentage from the previous survey. This again seems to indicate that business establishments have already developed and improved the database use environment by "increasing the number of PCs and terminals", etc., and that the business environment does not encourage "new business". On the other hand, "will increase contracts for available database services" demonstrates a greater diversification and increased number of types of databases.

Figure in ( ) indicates the number of responding companies.

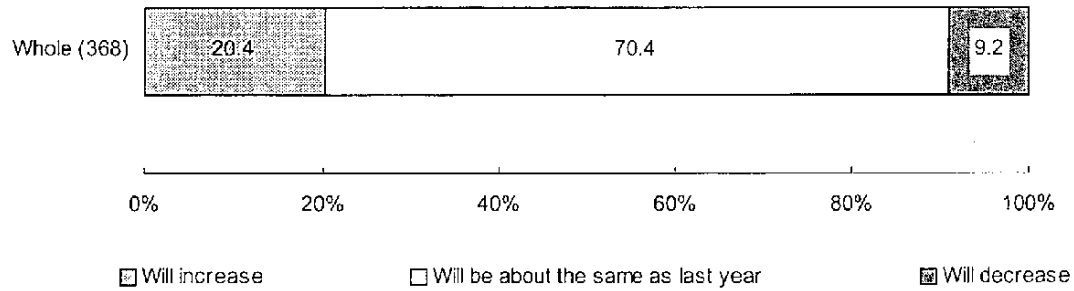


Fig. III-4 Prospects for Commercial Database Service Distribution in FY2002

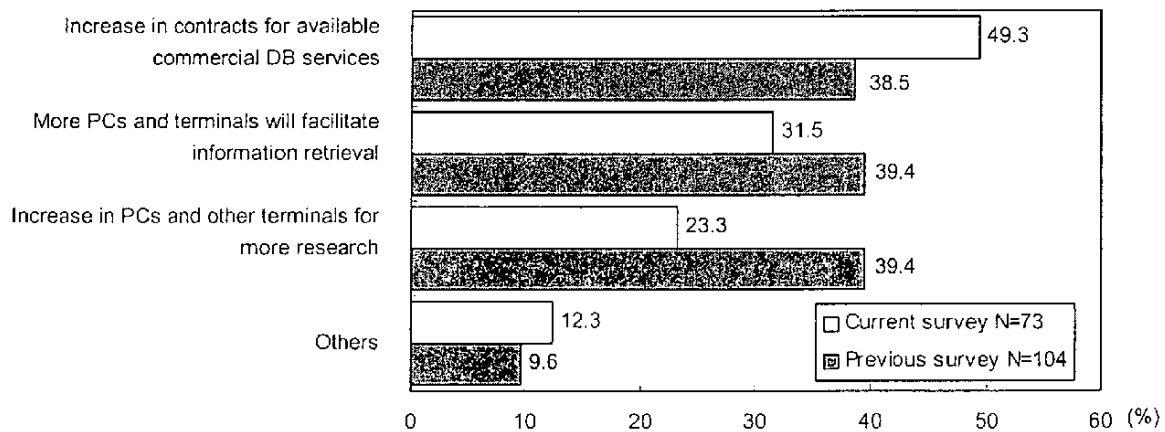


Fig. III-5 Reasons for Projecting Increase in Commercial Database Service Utilization in FY2002

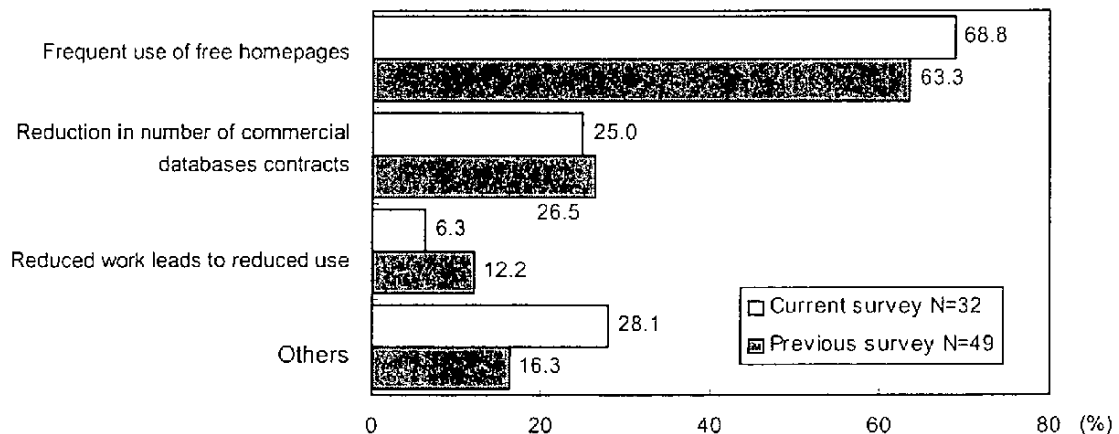


Fig. III-6 Reasons for Projecting Decrease in Commercial Database Service Utilization in FY2002

Thirty-two companies gave reasons why they expected a "decrease." Twenty-two companies, or 68.8%, responded that they "frequently use free homepages, which is a 5.5 point increase from the previous survey. Reasons related to "reduced work" and "reduction in commercial database services contracts" declined slightly. However, these changes do not affect the fact that the use of "free homepages" has increased in relative proportion. Users reduce costs by using homepages, and such use of Internet-related databases is likely to continue to be the major factor in reduced use of commercial databases.

### 2.3 Database Use by Division

Regarding database use by company division in money terms, respondents were asked to select the top three divisions in database use, and Table III-1 shows the results. For all types of businesses combined, high use rates were shown by "survey division" (22.7%), "research division" (16.4%), "planning division" (13.8%), "sales division" (13.0%) and "patent division" (10.9%). When the ranking and ratio for the top five divisions are compared with the previous survey, it is found that "patent" and "sales" changed places, and in terms of the quantity of year-on-year change "survey division" rose by 2.7 points while "patent division" declined by 2.6 points. Nevertheless, the overall trend remains the same, and no large changes in use by the various company divisions can be discerned.

Table III-1 Database Use by Company Division

|                                 | Total / average | Total/average for previous year |
|---------------------------------|-----------------|---------------------------------|
| No. of responses                | 373             | 454                             |
| Planning division (%)           | 13.8            | 13.9                            |
| Survey division (%)             | 22.7            | 20.0                            |
| Research division (%)           | 16.4            | 17.8                            |
| Patent division (%)             | 10.9            | 13.5                            |
| System engineering division (%) | 2.9             | 3.5                             |
| Production division (%)         | 1.9             | 1.0                             |
| Environment division (%)        | 0.7             | 1.2                             |
| Sales division (%)              | 13.0            | 11.3                            |
| General affairs division (%)    | 4.8             | 3.7                             |
| Legal affairs division (%)      | 1.9             | 1.5                             |
| Accounting/finance division (%) | 4.7             | 6.1                             |
| Other divisions (%)             | 6.5             | 6.6                             |

### 3. Types and Contents of Commercial Databases with High Utilization Rate

#### 3.1 Systems and Databases Used Frequently

Respondent companies were asked to select the top five database service systems and databases they use heavily in terms of usage charge amounts, and the top five databases that they use most frequently. The respective rankings are shown in Table III-2 and Table III-3.

The service system that is used most heavily (in terms of fees) was "Nikkei Telecom" followed by "JOIS," "COSMONET," "PATOLIS," and "G-Search," and the 10<sup>th</sup> ranking "ELNET" was replaced by "NICHIGAI/WEB (NICHIGAI-ASSIST)," which was at 12<sup>th</sup> place in the previous survey. Still, as was the case in the previous survey, the top 9 placings achieved a response ratio of more than 10%. Other services that are not listed in Table II-2 include "BIGLOBE," "JOIN" and "DOW JONES INTERACTIVE."

The database (file) with the highest frequency of use was "COSMOS" which held the second place in the previous survey, followed by "JICST File on Science and Technology," "Nikkei Shimbun Article File Base," "TSR," and "PATOLIS Patents and Utility Models File," in that order. There were several changes in ranking compared to the previous survey. "COSMOS" moved up from No. 2 to No. 1, "JICST File on Science and Technology" changed from No. 3 to No. 2, "Nikkei Newspaper Article File Base" moved from No. 1 to No. 3, "TSR" from No. 5 to No. 4, and "PATOLIS Patents and Utility Models File" from No. 4 to No. 5. However, there is only a small difference between second and third places.

If the fields of the databases that ranked in the top 15 in the current survey are examined, it can be seen that most databases are related to the economy, such as company and financial information and newspaper articles. Databases on patents, trademarks, and chemicals and pharmaceuticals, which are closely related to patents, etc., were also much used.

Table III-2 Service Systems in Order of Usage (N=352, multiple replies)

| Rank | Name of service system         | Number of replies | Reply ratio (%) |
|------|--------------------------------|-------------------|-----------------|
| 1    | Nikkei Telecom                 | 153               | 43.5            |
| 2    | JOIS                           | 120               | 34.1            |
| 3    | COSMOSNET                      | 98                | 27.8            |
| 4    | PATOLIS                        | 75                | 21.3            |
| 5    | G-Search                       | 68                | 19.3            |
| 6    | DIALOG                         | 66                | 18.8            |
| 7    | STN International              | 51                | 14.5            |
| 8    | TSR-VAN                        | 45                | 12.8            |
| 9    | @nifty                         | 44                | 12.5            |
| 10   | NICHIGAI/WEB (NICHIGAI-ASSIST) | 27                | 7.7             |
| 11   | ELNET                          | 23                | 6.5             |
| 12   | NACSIS-IR                      | 22                | 6.3             |
| 13   | NEEDS                          | 20                | 5.7             |
| 13   | QUICK                          | 20                | 5.7             |
| 15   | JACIC NET                      | 18                | 5.1             |

### 3.2 Database Fields that are Used Often

Next, we will look at the fields of databases that are used frequently by users (Fig. III-7).

Among domestic databases, the top five fields are "corporate finance/profiles" with 62%, "newspaper/journals/news" with 56.5%, "who's who/organization information" with 35.9%, "patents" with 34.0%, followed far behind in fifth place by "administration/law/politics." Regarding the composition of the top four, "patents," which ranked No. 3 in the previous survey, changed place with "who's who/organization information" which ranked No. 4 in the previous survey, and it also declined somewhat in the response ratio. Among the lower-placed fields, "administration/law/politics" increased dramatically from 10<sup>th</sup> place with 19.8% in the previous survey to 5<sup>th</sup> place with 23.9%.

With regard to databases produced overseas, commonly used fields are "chemistry" with 47.3%, "patents" with 44.2%, "medicine/pharmaceuticals/biotechnology/biology" with 43.4%, "corporate finance/profiles" with 36.4%, and "newspaper/journals/news" with 35.7%. "Patents" which was in first place in the previous survey, and "chemistry" which held second place last time, changed places with one another. The use rate shows a slightly declining trend, and this has continued for the past two to three years.

Table III-3 Databases with High Utilization Frequency (N=329, multiple replies)

| Rank | Database name                                        | No. of replies | Reply ratio (%) |
|------|------------------------------------------------------|----------------|-----------------|
| 1    | COSMOS (Teikoku Databank Corporations' Information)  | 141            | 42.9            |
| 2    | JICST File on Science and Technology                 | 105            | 31.9            |
| 3    | Nikkei Shimbun Article Database                      | 100            | 30.4            |
| 4    | TSR (Tokyo Shoko Research Corporations' Information) | 84             | 25.5            |
| 5    | PATOLIS Patents and Utility Models File              | 73             | 22.2            |
| 6    | CA/CA plus CA-SEARCH                                 | 41             | 12.5            |
| 7    | Asahi Shimbun Article Database                       | 35             | 10.6            |
| 8    | MEDLINE                                              | 26             | 7.9             |
| 9    | Nikkei WHO'S WHO                                     | 26             | 7.9             |
| 10   | WPI                                                  | 24             | 7.3             |
| 11   | Nikkei BP Periodical Article File Database           | 23             | 7.0             |
| 12   | WHO                                                  | 22             | 6.7             |
| 13   | Nikkei Financial Data                                | 22             | 6.7             |
| 14   | QUICK-IS                                             | 18             | 5.5             |
| 15   | PATOLIS Trademark File                               | 17             | 5.2             |

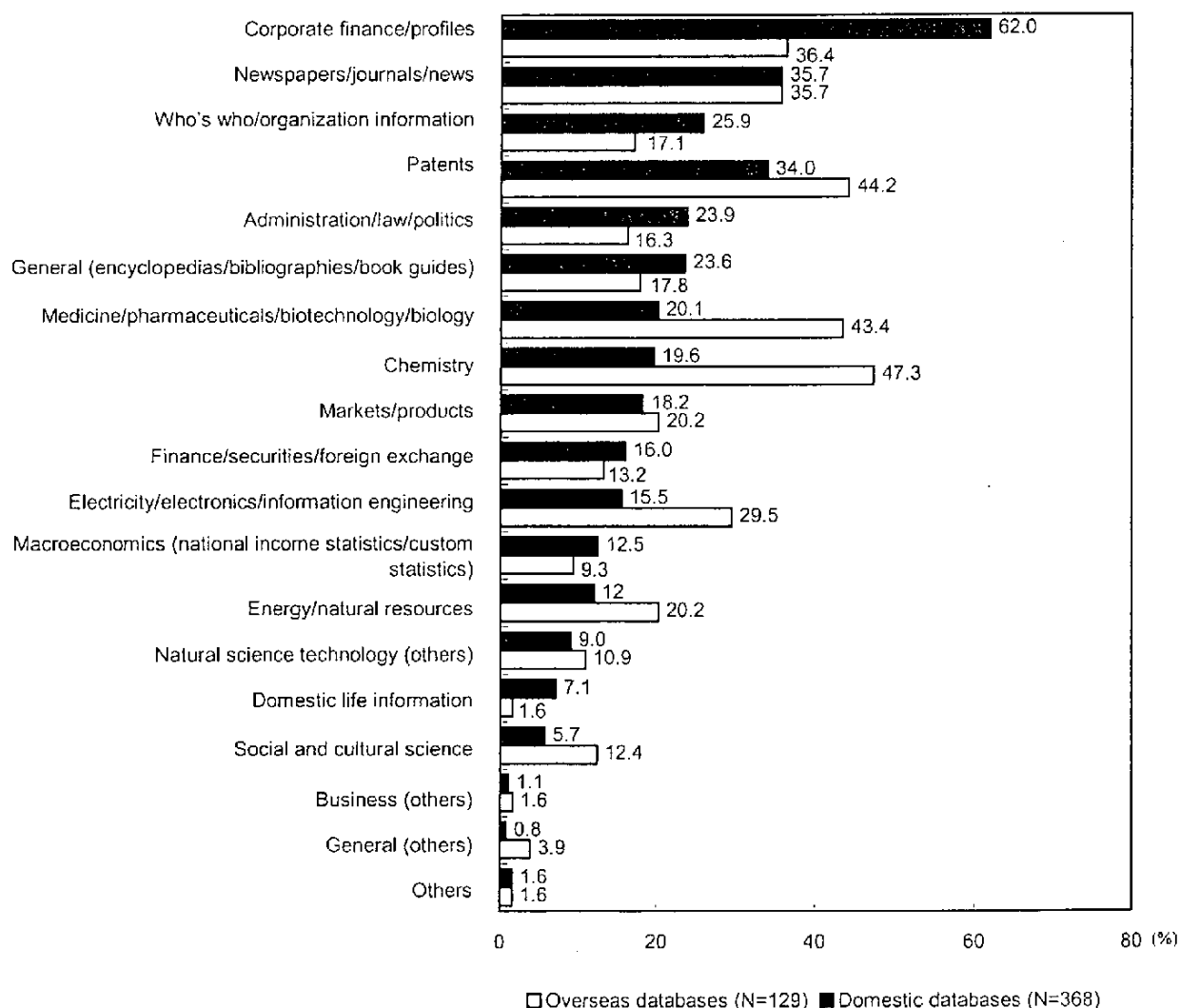


Fig. III-7 Breakdown of Popular Databases by Field (multiple replies)

### 3.3 Utilization of Public Data

The use of different types of databases that are provided by public bodies (that is, databases and data drawn up by government agencies and other public bodies and made public by them) was examined. As Table III-4 shows, 284 companies use such public databases, accounting for 73.6% of the 386 companies that use commercial databases. This rate represents a slight decrease of 2.0 points from 75.6% in the previous survey, but it shows that public databases continue to be used to a high degree. When the type of data was classified into "text data" and "numerical data," the responses for "use now" and "want to use in the future" were both higher in respect of "text data."

**Table III-4 Utilization of Databases Covering Public Data (multiple replies)**

|                |                                                          | Currently using (N=284) |                 | Want to use in the future (N=172) |                 |
|----------------|----------------------------------------------------------|-------------------------|-----------------|-----------------------------------|-----------------|
|                |                                                          | No. of replies          | Reply ratio (%) | No. of replies                    | Reply ratio (%) |
| Text Data      | Government white papers, commissions and council reports | 131                     | 46.1            | 49                                | 28.5            |
|                | Government press releases                                | 77                      | 27.1            | 56                                | 32.6            |
|                | Kampo (The Official Gazette of the Japanese Government)  | 119                     | 41.9            | 72                                | 41.9            |
|                | Judicial precedents, etc.                                | 79                      | 27.8            | 61                                | 35.5            |
|                | City planning data (including map information)           | 41                      | 14.4            | 68                                | 39.5            |
|                | Patent information                                       | 147                     | 51.8            | 44                                | 25.6            |
|                | Local government data                                    | 80                      | 28.2            | 66                                | 38.4            |
|                | Others                                                   | 11                      | 3.9             | 0                                 | 0.0             |
|                | Total                                                    | 267                     | 94.0            | 154                               | 89.5            |
| Numerical Data | Population, employment and labor                         | 91                      | 32.0            | 61                                | 35.5            |
|                | Domestic economy, business climate, finance              | 84                      | 29.6            | 61                                | 35.5            |
|                | International accounts and trade                         | 47                      | 16.5            | 51                                | 29.7            |
|                | General business/industry                                | 97                      | 34.2            | 80                                | 46.5            |
|                | Corporate information                                    | 119                     | 41.9            | 71                                | 41.3            |
|                | Others                                                   | 3                       | 1.1             | 0                                 | 0.0             |
|                | Total                                                    | 173                     | 60.9            | 127                               | 73.8            |

## 4. Method of Using Databases

Methods of using databases were classified into the following four types, and the ratio of use based upon the amount of fees paid was investigated.

- [1] Use of online database services other than the Internet
- [2] Use of database services through the Internet
- [3] Use of offline database services through CD-ROM and DVD
- [4] Use of other offline database services

Table III-5 shows that the results for FY 2001 gave a high rate of utilization by method [1] for overseas database services, and a high rate of use by method [2] for domestic databases. There was a reversal of position between the Internet and other online services for domestic databases. In comparison with FY 2000, use by method [1] declined for both overseas and domestic databases, and use by method [2], the Internet, has been rising. According to usage plans for 2002, this gap is likely to widen even more, a phenomenon which has continued for the past several years.

In usage results for offline databases, the usage has remained at about the same level for both overseas and domestic databases.

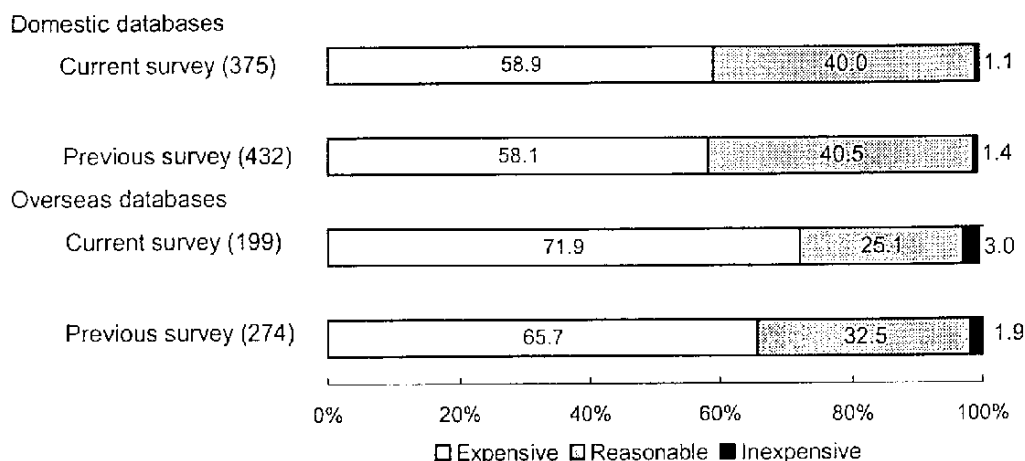
**Table III-5 Average of Ratio of Method of Using Commercial Databases**

|                                             | 2000 results (%)    |                     | 2001 results (%)    |                     | 2002 projection (%) |                     |
|---------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                                             | Domestic<br>(N=360) | Overseas<br>(N=157) | Domestic<br>(N=304) | Overseas<br>(N=108) | Domestic<br>(N=304) | Overseas<br>(N=108) |
| [1] Commercial on-line (except by Internet) | 40.4                | 50.1                | 27.6                | 42.0                | 25.5                | 38.4                |
| [2] Commercial on-line by Internet          | 42.1                | 33.5                | 53.7                | 44.3                | 57.8                | 49.4                |
| [3] Commercial off-line: CD-ROM and DVD     | 13.8                | 14.0                | 15.7                | 12.8                | 14.2                | 11.3                |
| [4] Commercial off-line: others             | 3.7                 | 2.4                 | 3.0                 | 0.9                 | 2.5                 | 0.9                 |

## 5. The Problem of Charges and Utilization

### 5.1 Problem of Charges

User companies were asked to comment on the overall system of charges for commercial databases. For domestic databases, 58.9% of responding companies said charges were "expensive," 40.0% said "reasonable," and 1.1% said "inexpensive." For overseas databases, 71.9% said "expensive," 25.1% said "reasonable," and 3.0% said "inexpensive." Thus, responses of "expensive" and "inexpensive" were somewhat higher for overseas databases than for domestic databases.



The figures in ( ) represent the number of responding companies

Fig. III-8 General Comments on Commercial Database Charges

## 5.2 Comments on Recorded Information

User companies were asked for comments on the information recorded in databases. With regard to domestic databases, more than 20% of all respondents complained that "updating of databases takes too much time" and about the same number also responded "information is renewed infrequently." These comments were among the most frequent. It can be inferred that users have a high need for acquiring the latest and most detailed information at all times. With many domestic databases there still appears to be the problem of freshness of information. With regard to overseas databases, these responses are not among the top but, as was seen in the previous survey, the most frequent response was "information is sometimes inaccurate" (25.2%). Therefore, users clearly place a strong emphasis on accuracy.

## 6. Users of Databases

Here, the survey findings on the database use method (that is, specific types of user) within user companies is examined. As seen in Table III-6, the most frequent response was "the person who needs the information searches for it himself" with 70.9%, followed by "request the database search team" with 25.1%, and "request in-house searchers only for specialized searches" with 16.7%. The response "the person who needs the information searches for it himself" has been increasing each year and now accounts for nearly three-fourths. Factors such as increased number of access points

due to the growth of networks, upgrading of both individual's information search skills and system operation, etc., appear to have contributed significantly to this trend. In addition, "request outside information brokers" was the lowest ranking response with 3.7%, and it has been on a declining trend.

**Table III-6 Database Utilization Method by Companies (multiple replies)**

|                                  | Person who needs the information searches for it himself |           | Request another person in the same team |           | Request the database search department |           | Request in-house searchers only for specialized searches |           | Various patterns |           | Request outside information brokers |           | Other        |           |
|----------------------------------|----------------------------------------------------------|-----------|-----------------------------------------|-----------|----------------------------------------|-----------|----------------------------------------------------------|-----------|------------------|-----------|-------------------------------------|-----------|--------------|-----------|
|                                  | No. of items                                             | Ratio (%) | No. of items                            | Ratio (%) | No. of items                           | Ratio (%) | No. of items                                             | Ratio (%) | No. of items     | Ratio (%) | No. of items                        | Ratio (%) | No. of items | Ratio (%) |
| Total (N=378)                    | 268                                                      | 70.9      | 51                                      | 13.5      | 95                                     | 25.1      | 63                                                       | 16.7      | 53               | 14.0      | 14                                  | 3.7       | 4            | 1.1       |
| Total in previous survey (N=456) | 343                                                      | 75.2      | 78                                      | 17.1      | 148                                    | 32.5      | 93                                                       | 20.4      | 61               | 13.4      | 26                                  | 5.7       | 6            | 1.3       |

## 7. The Internet and Database Utilization

### 7.1 Expectations of the Market

It was decided to find out what expectations users have for database services via the Internet, and what kinds of service markets are considered promising by vendors. To examine this, a survey was conducted with approximately the same content for both sides of the research, and Fig. III-9 shows a comparison of users' needs and vendors' expectations of promising services.

The thinking of users and vendors roughly matched on "information services directed to mobile phones and PDAs," where there was only a gap of 2.0 points. On the other hand, regarding "information services by text, numerals, voice, animation, still pictures on websites," on which there was little difference between users and vendors in the previous survey, the gap widened due to a decrease in replies from users. A large imbalance is seen for "Internet phone service," "financial transaction on websites," "net auction," and "music net distribution service," all of which received replies from between 10% and nearly 30% of users. However, replies on these items by vendors number only about one-tenth, which shows their lack of interest. These gaps in expectations continue to show the same tendency as in the previous survey. It appears that the intention of vendors is to concentrate their efforts on "information search and retrieval services using the Web" and "information services by text, numerals, voice, animation, still pictures, etc. on websites," and to develop their businesses in that direction.

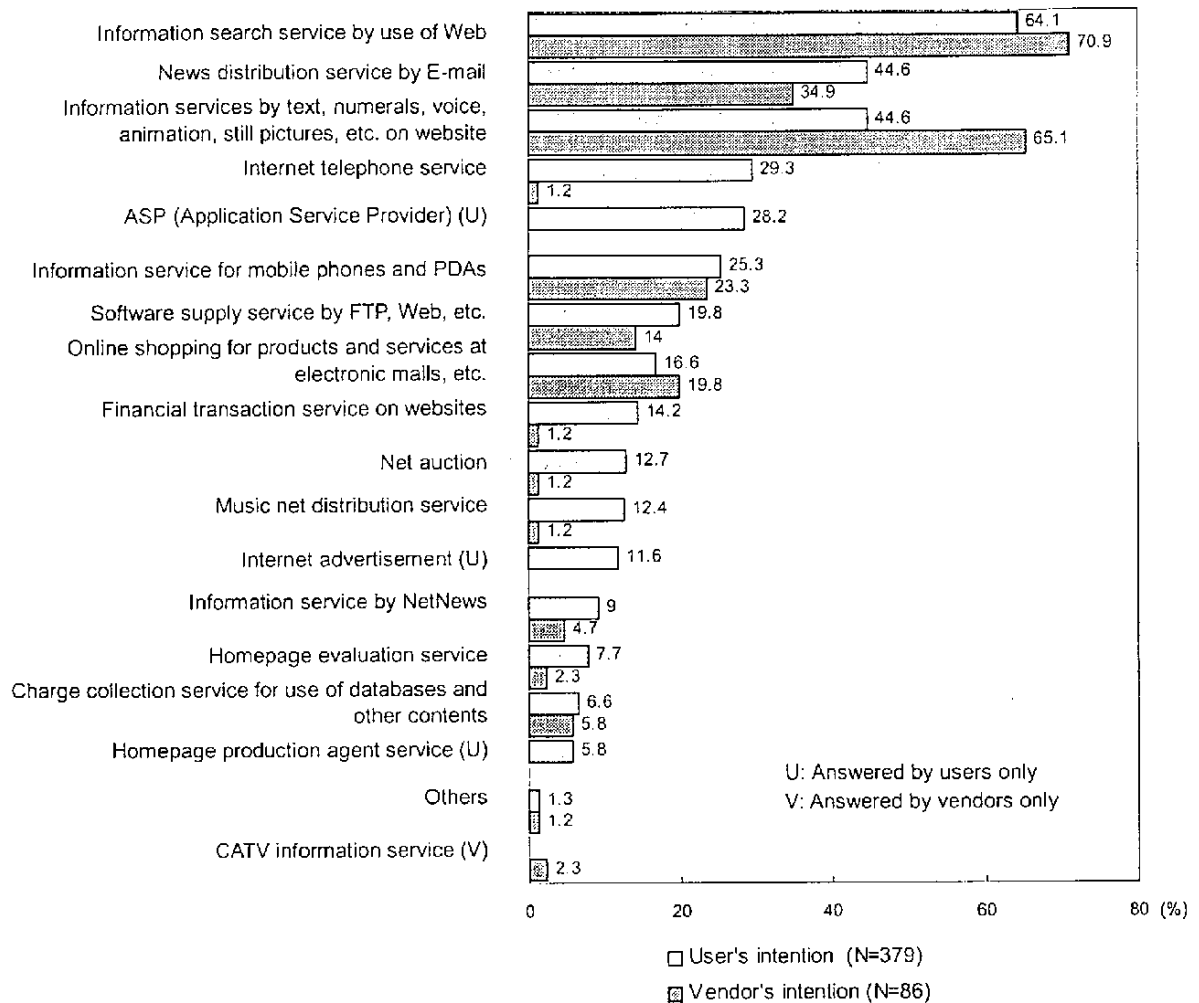


Fig. III-9. Comparison of Promising Internet Services As Seen by Users and Vendors (multiple replies)

## 7.2 Problems in Use of the Internet

When the problems that users see with the Internet were surveyed, "the danger of virus contamination and data destruction" continued to be the top concern, as in the previous survey, at 81.5%. When this is combined with "feel threatened by inadequate security such as illegal access and virus invasion" (80.2%), it can be stated that these two items represent a very important issue for users. They are followed by "possibility of leakage of private and/or classified information" with a response rate of 59.6%, which is still quite high. These responses make it clear that security measures, including means for adequate protection of privacy, is the most urgent task in respect of use of the Internet.

## 8. Use of CD-ROM and DVD

One of the major media for offline use of commercial databases is CD-ROM. Moreover, starting with the previous survey DVD was placed in the same group of media as CD-ROM because large-capacity DVD products have begun to spread in recent years, and it was added as a survey item. Of 372 respondent companies, 158, or about 40%, use commercial databases in the form of CD-ROM or DVD.

Among the databases provided on CD-ROM or DVD, the highest use rate was for "dictionaries, encyclopedias, directories," followed by "bibliographies, books, periodicals" and "science, technology/patents" in that order. "Science, technology/patents" dropped in rank from No. 1 in the previous survey to No. 3 this time.

It is understandable that "dictionaries, encyclopedias, directories" and "bibliographies, books, and periodicals" which do not have a very high use rate as online services, are used frequently on CD-ROM and DVD. This accurately reflects the characteristics of these types of media. In contrast, "corporate finance/profiles" and "newspapers/journals/news" are used far more on online services because for this type of information speed is very critical. They are not used at such a high rate on CD-ROM or DVD, whose strength is the recording and storage of information.

## 9. Types of Database Services that Users Want to Use in the Future

With regard to the fields of commercial databases that companies want to use in the future, Table III-7 describes the fields of information that 279 current user companies, and 63 companies that are not users now but have the intention to become so, want to use in the future.

The ranking of future needs of those companies who currently use database services was topped by "corporate finance/profiles" with 60.6%, followed by "newspapers/journals/news" with 57.0%, and "who's who/organization information" with 43.7%. For the group that wants to use databases in the future, "administration/law/politics," "general (encyclopedias/bibliographies/book guides)" and "markets/products" occupied the upper ranks, rather than the "who's who/organization information" that rated high among the group that currently use commercial database services. Also, "domestic information" along with "patents" ranked high, and so high expectations are placed on the use of databases in both business and general fields.

Table III-7 User-preferred Fields of Commercial Databases (multiple replies)

|                                                               |                                      | (%)                                 |
|---------------------------------------------------------------|--------------------------------------|-------------------------------------|
|                                                               | Currently using<br>databases (N=279) | Want to use in the<br>future (N=63) |
| Corporate finance/profiles                                    | 60.6                                 | 57.1                                |
| Newspapers/journals/news                                      | 57.0                                 | 50.8                                |
| Who's Who/organization information                            | 43.7                                 | 27.0                                |
| Patents                                                       | 42.3                                 | 30.2                                |
| Administration/law/politics                                   | 33.3                                 | 49.2                                |
| General (encyclopedias/bibliographies/book guides)            | 33.0                                 | 46.0                                |
| Markets/products                                              | 28.7                                 | 42.9                                |
| Chemistry                                                     | 22.9                                 | 11.1                                |
| Macroeconomics (national income statistics/custom statistics) | 20.4                                 | 23.8                                |
| Medicine/pharmaceuticals/biotechnology/biology                | 20.1                                 | 19.0                                |
| Electricity/electronics/information engineering               | 19.4                                 | 27.0                                |
| Energy/natural resources                                      | 16.5                                 | 9.5                                 |
| Finance/securities/foreign exchange                           | 16.5                                 | 27.0                                |
| Domestic life information                                     | 14.3                                 | 30.2                                |
| Social and cultural science                                   | 11.5                                 | 11.1                                |

## IV Private Utilization of Commercial Databases

### 1. Summary of Survey Implementation

Each year, the Database Promotion Center, Japan, conducts a "Survey on Private Utilization of Commercial Databases" among Internet users, and this was the sixth time the survey was undertaken. The current survey was implemented from November 5 to November 20, 2002.

As the target population of the survey (Internet users), 15,000 persons were randomly selected from registered members of "iMi Net," owned by Life Media. They were asked to fill in a questionnaire via E-mail. Answers were collected from the questionnaire site specially set up on the Internet by Nikkei Research. Valid responses were received from 2,147 persons.

### 2. Composition of the Respondents

Examination of the ratio of the basic characteristics of 2,147 respondents with valid responses, by gender, showed that men made up 44.3% while women made up 55.7%. The ratio of men decreased slightly from the previous survey (in the previous survey, there were 45.8% men, and 54.2% women). In terms of age composition, Internet users in their early 30's comprised the largest group with 21.5%, followed by those in their late 20's with 17.5%, those in their late 30's with 17.0%, and those in their early 40's with 13.2%. Internet users in their 50's or older showed a modest increase from 5.6% in the previous survey to 7.6% this time.

In terms of occupation, "full-time housewives" constituted the largest group with 20.8%, followed by "salaried technical workers" with 15.0%, "salaried office workers" with 14.3%, and "students" with 12.5%.

### 3. Situation of Individual Use of Commercial Databases

Out of 2,147 respondents with valid responses, 297 persons, or 13.8%, said that they "have used a commercial database before" ("users with experience of using databases"), which is a slight increase from 12.6% in the previous survey. 10.0% of respondents said that they "use them now" ("present users"), which also is a small increase from the previous survey (8.4%).

Persons who "use commercial databases at their own expense" (individual users with a personal contract or "private users") represented only 76 out of 2,147 respondents with valid responses, or 3.5%. This is about the same level as the 3.3% of the previous survey.

Even though the ratio of present users of commercial databases continued to decline, the results of the current survey indicate that the declining trend may have been checked.

## 4. Present Situation of Private Users

### 4.1 Characteristics of Private Users

Analyzing the social characteristics of 76 private users (users of commercial databases with a personal contract), shows that men make up 69.7%, and women make up 30.3%. Regarding the ratio of private use among respondents, 53 out of 951 men (private use rate of 5.6%) and 23 out of 1,196 women (private use rate 1.9%) were private users. In terms of the age composition of private users, those in their late 30's were the largest group with 26.3%, followed by those in their early 30's with 19.7%, and those in their early 40's with 13.2%. These three groups ranging from the early 30's to early 40's constituted about 60% of all private users. Looking at the ratios among all respondents, those in their late 40's had the highest rate with 7.3%, followed by the those in their 50's (6.3%), and those in their late 30's which was above 5% (5.5%).

In terms of occupation, high ratios were seen for "self-employed, freelance professionals" with 21.1%, "salaried office workers" with 18.4%, "salaried technical workers" with 15.8%, and "full-time housewives" with 10.5%.

In relation to all respondents, by occupation, the private use rate exceeded 5% for "company officers" with 9.1%, "self-employed, freelance professionals" with 8.6% and "salaried sales workers" (5.3%).

Of 215 present users, 76 private users represent 35.3% (private use rate). Looking at the ratio of private users to present users by social characteristics, men (36.3%) and women (33.3%) had roughly the same rate, and so there was no difference by gender. By age grouping, those who are "19 or under" had the highest ratio of 50.0%, followed by the those in their late 40's with 47.4%, those in their early 30's with 45.5%, and those in their late 30's with 42.6%. In terms of occupation, "company officers," "self-employed, freelance professionals," and "civil servants," all showed a ratio of above 50%.

### 4.2 Means of Access by Private Users

Regarding the means of access of commercial databases by private users (multiple replies), "online (Internet)" had an overwhelmingly high ratio of 71.1%. This category corresponds to the "Internet" in the previous survey (due to a change in alternatives starting with the current survey). "CATV" still has a fairly high ratio of users under the Internet environment with 17.1%. According to "Trends in the Number of Internet Connection Service Users: Preliminary report as of end of November 2002 (Preliminary report)" released by the Ministry of Public Management, Home Affairs, Posts and Telecommunications, among broadband users there were about 5.12 million DSL users, about 170,000 FTTH users, and about 1.9 million CATV users. Taking DSL by itself, the number of users increased by about 325% in November 2002 from the preceding month. Thus, use of broadband communication is certainly becoming widespread, which is already having a big impact on the environment of commercial database services.

In addition, use of “information services for mobile phones, PHS, etc.” increased slightly to 35.5% (33.8% in the previous survey) (Fig. IV-1)

According to the report by the Ministry of Public Management, Home Affairs, Posts and Telecommunications cited above, the total number of Internet users via telephone line alone was about 58.43 million, an increase of about 24% from the same month in the previous year. Here, too, the growth trend continues.

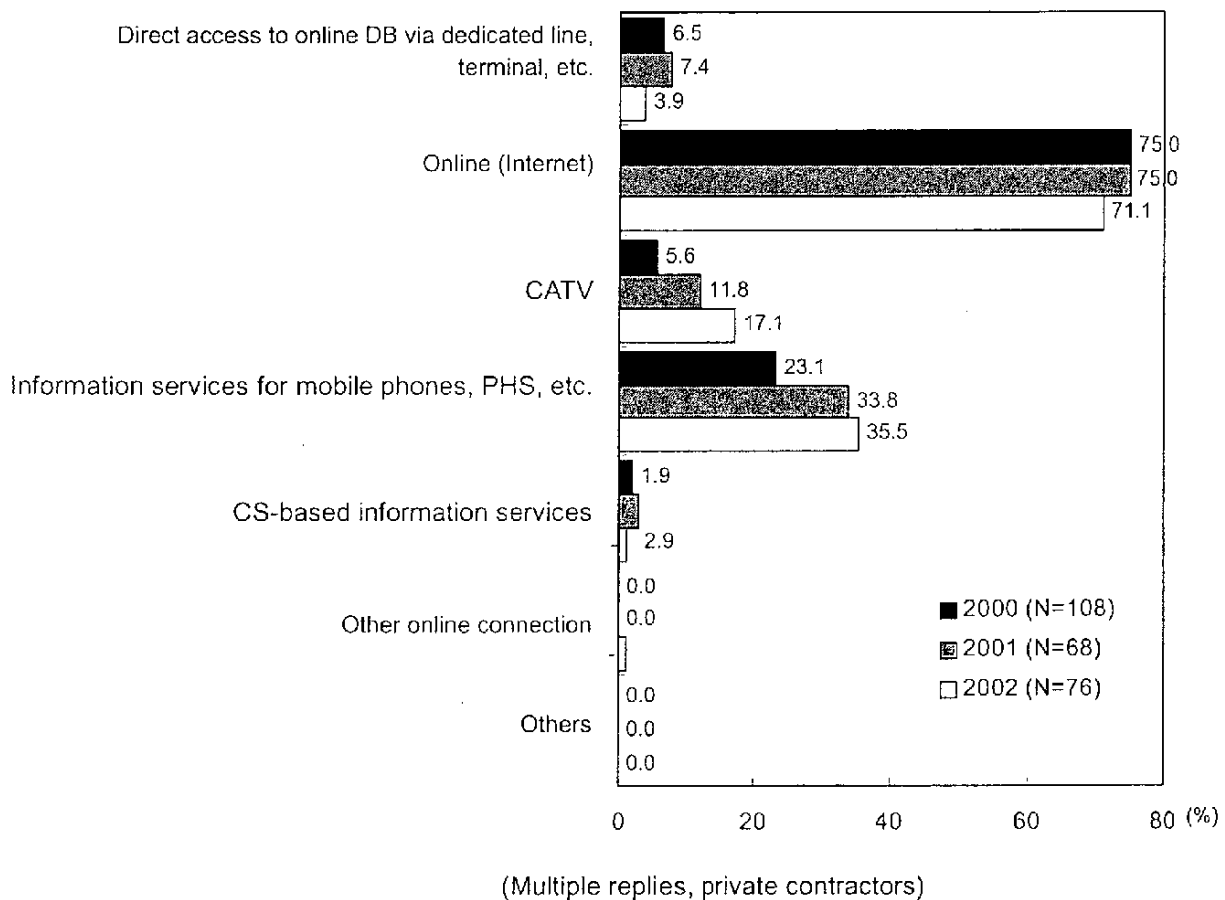


Fig. IV-1 Means of Access to Commercial Databases

Regarding the amount of time spent by private users on commercial databases per week, the largest group, or 46.1%, used “under 30 minutes.” While this figure itself represents a decrease of about 10 points from the 57.4% mark in the previous survey, those who spend “from 30 minutes to one hour” increased to 23.7%, and “from 1 to 3 hours” increased to 18.4% (from 17.6% each in the previous survey). As a result, the average use time increased from 58 minutes per week in the previous survey to 1.10 hours in this survey.

By gender, men, with an average time of 1.04 hours, used DBs for a shorter length of time than women, with an average time of 1.23 hours. By occupation, “full-time housewives” with an average of 2.14 hours (vs. 0.56 hour in the previous survey) and “professionals” with 2.00 hours (vs. 0.33 hour in the previous survey) were notable.

In terms of use charges per week, 61.8% paid "less than ¥1,000," followed by 19.7% who paid "between ¥1,000 and ¥3,000." The situation in which over 80% of private users use less than ¥3,000 per week has not changed from the previous survey. Moreover, the ratios of users who pay a large amount have decreased somewhat: those who pay "between ¥5,000 and ¥10,000" made up 3.9% (vs. 5.9% in the previous survey) and those who pay "over ¥10,000" comprised only 1.3% (vs. 1.5% in the previous survey). As a result, the average amount of fees paid (per week) decreased by about ¥100 from ¥1,846 in the previous survey to ¥1,749.

#### 4.3 Databases Used by Private Users: Information Field

The database most frequently used by private users was the "Nikkei Shimbun Article Database" with 22.4% (25.0% in the previous survey). This was followed by the "Asahi Shimbun Article Database" with 14.5% (11.8% in the previous survey), "COSMOS Corporate Information (Teikoku Databank)" with 11.8% (14.7% in the previous survey), "Music CD General Catalog (CD Journal)" with 11.8% (13.2% in the previous survey), and "JRA-VAN (Sara-navi [Thoroughbred Navigator])" with 11.8% (Table IV-1). (The last database was added as a new alternative, starting with the current survey.)

Examining the frequently used commercial databases by field, "news" remains at the top, even though it decreased from 44.1% in the previous survey to 39.5%. This is followed by "newspaper/journal article (search)" (30.9% last time, 32.9% this time), "map information" with 22.4%, and "road and traffic information" and "corporate finance/profiles," each with 21.1%. These are followed by "weather forecast" and "finance, stock, and markets" with 18.4% each, "train timetables" and "bicycle racing, horse racing, pachinko games" with 17.1% each. "Music information" dropped from a high use rate of 20.6% last time to a low rate of 7.9% this time.

Private users were also asked to select the three databases that they use most frequently, and it was found that the high-ranking "news" and "newspaper/journal articles (search)" showed a high use rate here as well. "Bicycle racing, horse racing, pachinko games" ranked third with 15.8%.

Table IV-1 Popular Commercial Databases (Multiple replies, private contractors: N=76)

| Rank<br>this time | Rank<br>last time | Databases                                                      | Users (%) |
|-------------------|-------------------|----------------------------------------------------------------|-----------|
| 1                 | 1                 | Nikkei Shimbun Article Database                                | 22.4      |
| 2                 | 4                 | Asahi Shimbun Article Database                                 | 14.5      |
| 3                 | 2                 | COSMOS Corporate Information (Teikoku Databank)                | 11.8      |
| 3                 | 3                 | Music CD General Catalog (CD Journal)                          | 11.8      |
| 3                 | —                 | JRA-VAN                                                        | 11.8      |
| 6                 | 6                 | TSR Corporate Information (Tokyo Shoko Research)               | 9.2       |
| 6                 | —                 | Japan Tourism Information Database (Japan Tourism Association) | 9.2       |
| 8                 | 7                 | Nikkei Who's Who (Nihon Keizai Shimbunsha)                     | 7.9       |
| 9                 | 5                 | Yomiuri Shimbun Article Database                               | 6.6       |
| 9                 | 8                 | WHO (Nichigai Associates)                                      | 6.6       |

## 5. Prospects for Database Utilization by Private Users

### 5.1 Future Use Intentions

The 2,147 respondents with valid responses were asked whether they want to use online commercial databases in the future as a private user. 0.9% (vs. 0.4% in the previous survey) said that they "want to use them actively," while 16.4% (19.6% last time) said they "want to use them to some extent." The combined total for positive use intentions came to 17.3%, down from 20.0% in the previous survey.

However, the situation based on prior use experience of commercial databases shows that the combined total for positive use intention was 46.5% (47.7% last time), and 55.3% for present users (55.7% last time), thereby maintaining the present situation. The combined figure for private users was 76.3%, which continues a high level of usage intention from the previous survey (72.1% last time).

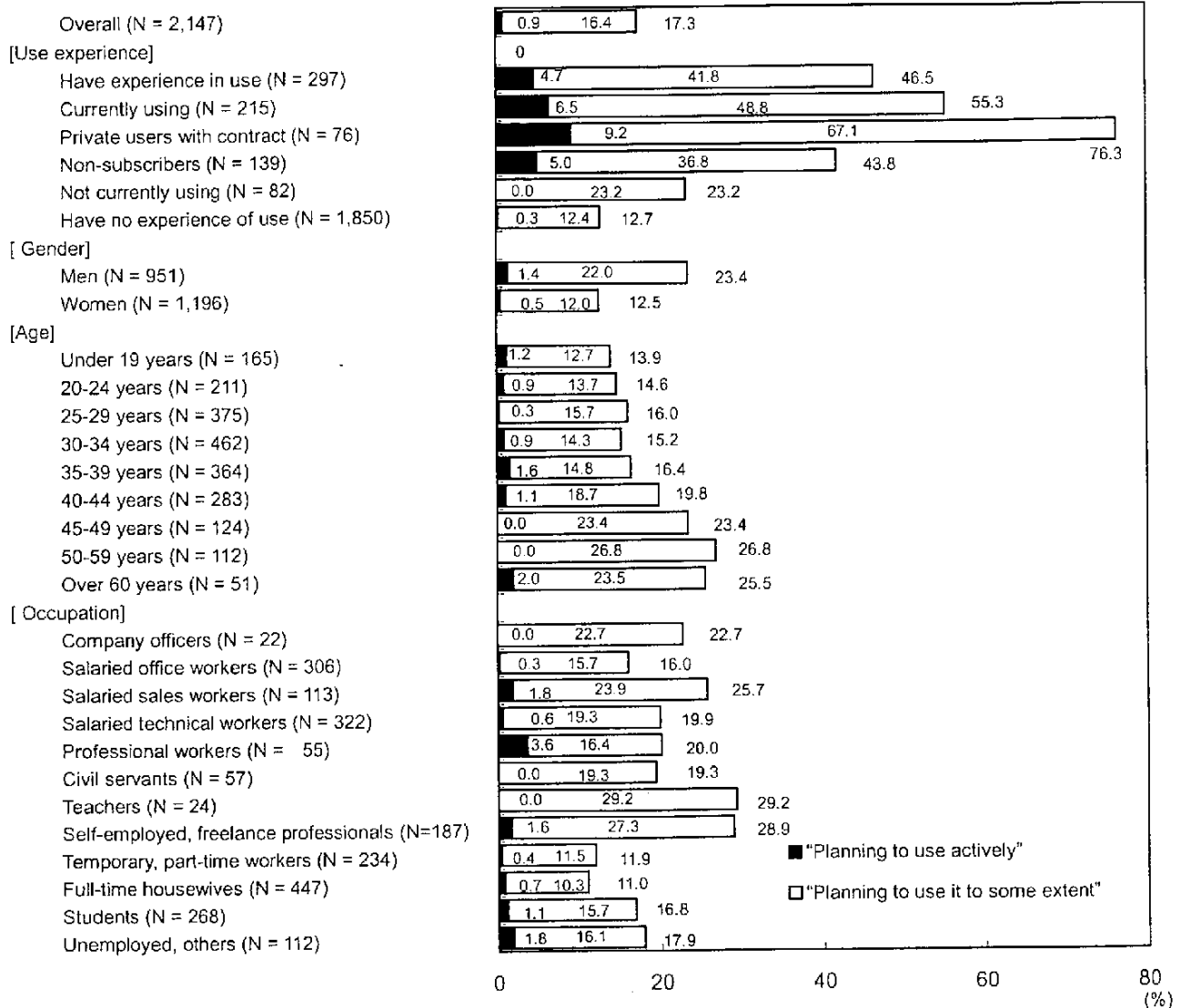


Fig. IV-2 Future Intention to Use Commercial Databases

## 5.2 Fields of Information that Users Want to Use

Regarding the fields of information that the 2,147 respondents (the Internet users) want to use most in the future, "information about medical care and health" was at the top with 12.2%. This was followed by "encyclopedias and dictionaries" with 11.5%, "newspaper/journal articles (search)" with 9.1%, "maps" with 8.6%, and "finance, stocks and markets" with 8.5%. In the current survey, the usage intention tended to decline somewhat (Fig. IV-3).

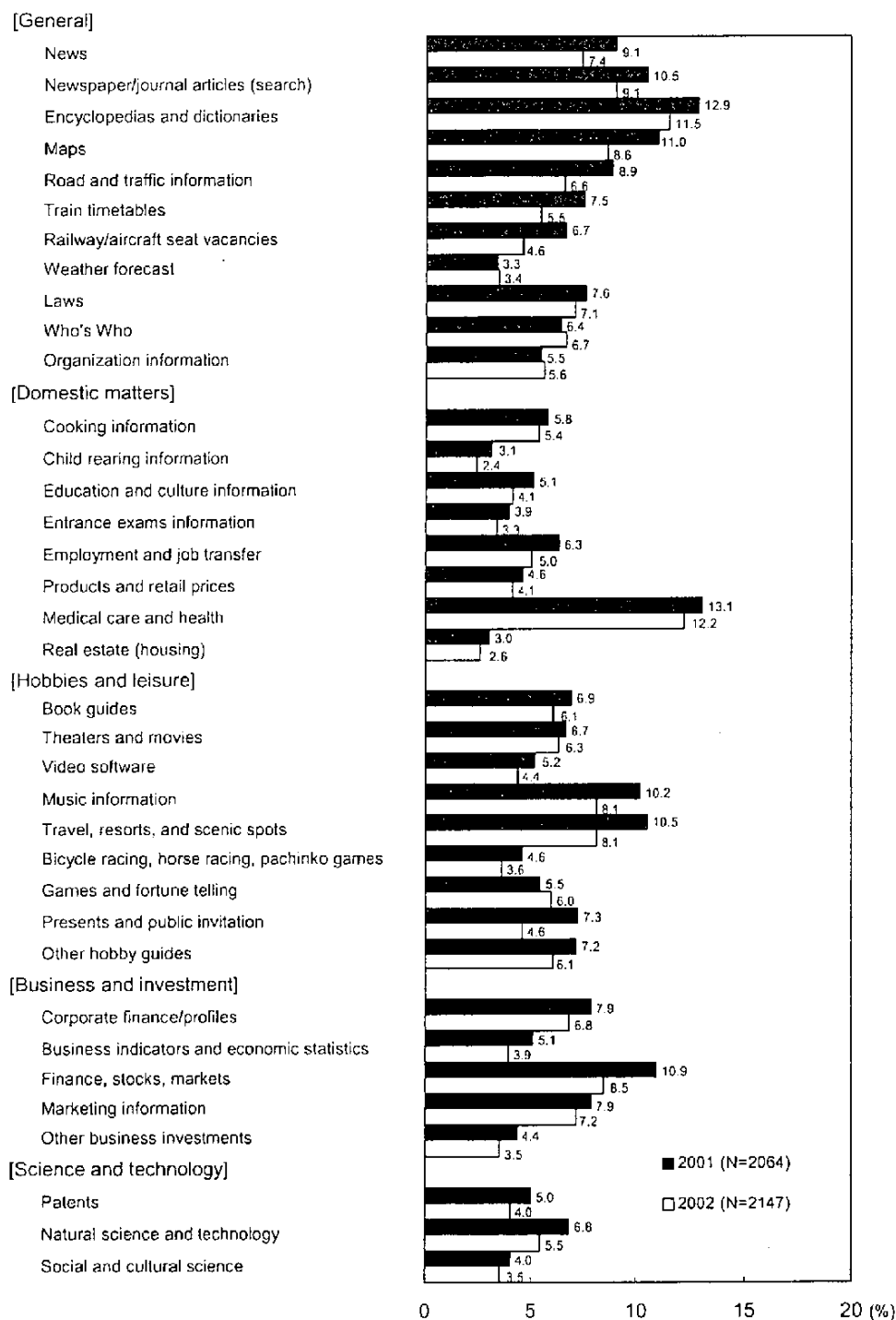


Fig. IV-3 Fields of Information Users Wish to Use in the Future

## Appendix

Table 1 Japanese Databases Accessible Overseas (2003: Producers)

**Subject**  
 ①: Science and Technology  
 ②: Economics, Business and Finance  
 ③: General/Others

**Language**  
 J: Japanese  
 E: English  
 O: Others

**Vendor Status**  
 P: Producer  
 D: Distributor  
 A: Agent  
 T: Telecommunications Center

**Media**  
 I: Internet  
 O: Online  
 M: MT, FD  
 C: CD-ROM, MO, DVD, etc.

**Destination**  
 ①: Worldwide  
 ②: North America  
 ③: Europe  
 ④: Asia and Australia  
 ⑤: Others

| Company                                            | Database                                        | Description                                                                                                                                   | Subject | Language | Status | Media | Destination |
|----------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| THE ASAHI SHIMBUN                                  | AERA Article Database                           | Articles from weekly journal AREA                                                                                                             | ③       | J        | P      | O/M/C | ②③④         |
|                                                    | Asahi News Service                              | Distributing to Mead Database, FT Profile and Microsoft Network via New York Times Syndication Sales                                          | ③       | E        | P      | O     | ①           |
|                                                    | Asahi News Service                              | Distributing directly to C.W.N. (Chamber World Network)                                                                                       | ③       | E        | P      | O     | ①           |
|                                                    | Asahi News Service(ANS)                         | Articles from 'Asahi Evening News'                                                                                                            | ③       | E        | P      | O/M/C | ②③④         |
|                                                    | HIASK                                           | Articles from Asahi Shimbun(Morning and Evening Editions) of 18 districts                                                                     | ③       | J        | P      | O/M/C | ②③④         |
| Association of Agriculture and Forestry Statistics | Statistics of Agriculture, Forestry & Fisheries | Statistics Data including Agricultural Census                                                                                                 | ②       | J        | P/D    | M/C   | ④           |
| AXESS INTERNATIONAL NETWORK INC.(AXESS)            | DRS                                             | Collection of 40,000 records on tours, such as C.I.Q., towns, hotels, air ports, weathers information                                         | ③       | J        | P      | O     | ②③④         |
| Brandy International Incorporated(Bii)             | Alpha-BRANDY                                    | On-line search service for multi-purpose analysis based on public open data from Japan Patent Office. Many search keys are available.         | ①       | J        | P/D    | O     | ①           |
|                                                    | BRANDY                                          | On-line search service for trademarks in Japan, covering data from 1884 to present. Full-text is also available.                              | ①       | J        | P/D    | O     | ①           |
|                                                    | Design Mark CD-ROM                              | Provide CD-ROM of design marks in public open data from Japan Patent Office with key word search function.                                    | ①       | J        | P/D    | C     | ①           |
|                                                    | TAB Resolution Database                         | On-line search service for Japan Patent Office's Trial and Appeal Board's resolutions relating to distinctive words and similarity of sounds. | ①       | J        | P/D    | O     | ①           |
|                                                    | Trademark Scan Japan                            | DB for Alphabetical Search based on trademark public data from Japan Patent Office                                                            | ①       | E        | P      | I     | ①           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                          | Database                         | Description                                                                                                               | Subject | Language | Status | Media   | Destination |
|--------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|---------|-------------|
| Database Promotion Center, Japan(DPC)            | Database Directory               | Electronic version of the 'Database Directory' compiled by Ministry of Economy, Trade and Industry (METI)                 | ③       | J        | P      | M       | ①           |
| Dun & Bradstreet Japan Ltd.(D&B)                 | Business Information Report      | Credit information on Japanese companies                                                                                  | ②       | E        | P/D    | I/O     | ①           |
|                                                  | WorldBase                        | Short Form Japanese Company Information                                                                                   | ②       | E        | P/D    | I/O/M/C | ①           |
| ELECTRONIC LIBRARY Inc.(EL)                      | ELNET                            | 60 newspapers and some 120 magazines (in Japanese). Articles are transmitted in their original form to user's fax machine | ②       | J        | P/D    | I/O     | ①           |
| Electronic Devices Information Service Co., Ltd. | ELISNET                          | The information retrieval service by the semiconductor, the general electron part                                         | ①       | J        | P/D    | I/C     |             |
|                                                  | ELISshop                         | The price of the semiconductor and the general electron part and the information purchase service of the stock            | ①       | J        | P/D    | I       |             |
| Factiva, a Daw Jones & Reuters Company(Factiva)  | Factiva. com                     | Global business news and information                                                                                      | ②③      | J/E/O    | P/D    | I       | ①           |
| GIK Marketing Services Japan Ltd.                | ACSIS-E                          | Online daily POS database of home appliances and durable consumers' goods obtained from 3,400 retailers in Japan          | ②       | J        | P/D    | O       | ②③①         |
|                                                  | ACSIS-E                          | Online daily POS database of home appliances and durable consumers' goods.                                                | ②       | E        | P/D    | M       | ③           |
| Green Net CO., LTD                               | G-Net                            | Japanese patent data stored                                                                                               | ①       | J        | P      | I       | ①           |
| I-N INFORMATION SYSTEMS, LTD.(INIS)              | I.N.Economic Statistics Database | Information on statistics of economy, industry, and money                                                                 | ②       | E        | P      | O       | ②③          |
| INTAGE Inc.                                      | SCI-Consumer Index               | Nationwide household data on daily purchases of FMCGs                                                                     | ②       | J/E      | P      | O/C     | ①           |
|                                                  | SLI-Ladies Index                 | Extensive data on women's products                                                                                        | ②       | J/E      | P      | O/C     | ①           |
|                                                  | SRI-Foods                        | POS and store audit data covering all food in general                                                                     | ②       | J/E      | P      | O/C     | ①           |
|                                                  | SRI-Non Foods                    | POS and store audit data of Sundries                                                                                      | ②       | J/E      | P      | O/C     | ①           |
|                                                  | SRI-Cosmetics                    | POS and store audit data of cosmetics                                                                                     | ②       | J/E      | P      | O/C     | ①           |
|                                                  | SDI-Drug Index                   | Comprehensive OTC report (SDI Annual Report is also available)                                                            | ②       | J/E      | P      | O/C     | ①           |
|                                                  | MAI-Alcohol Index                | POS and store audit data of alcohol                                                                                       | ②       | J/E      | P      | O/C     | ①           |
|                                                  | MBI-Beverage Index               | POS and store audit data of beverage                                                                                      | ②       | J/E      | P      | O/C     | ①           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                                         | Database                                           | Description                                                                                                                                                                               | Subject | Language | Status | Media | Destination |
|-----------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| INTAGE Inc.                                                     | MFI-Food Index                                     | POS and store audit data of packaged & pouch packaged instant noodles and coffee/tea etc.                                                                                                 | ②       | J/E      | P      | O/C   | ①           |
|                                                                 | MPI-Pet Food Index                                 | POS and store audit data of pet food                                                                                                                                                      | ②       | J/E      | P      | O/C   | ①           |
|                                                                 | SPI-In Store Promotions Panel Index                | Monitoring data on in-store promotion activities targeted supermarkets, home centers etc.                                                                                                 | ②       | J/E      | P      | O/C   | ①           |
| Japan Association for International Chemical Information(JAICI) | CHEM-J                                             | Bibliography of chemical documents from Japan                                                                                                                                             | ①       | E        | P/D    | I/C   | ①           |
|                                                                 | NQRS                                               | Nuclear Quadrupole Resonance Spectra                                                                                                                                                      | ①       | E        | P/D    | C     | ①           |
| Japan Construction Information Center(JACIC)                    | JACIC NET                                          | Open Bid Announcements                                                                                                                                                                    | ②       | J/E      | P/D    | I     | ①           |
| Japan External Trade Organization(JETRO)                        | Governmental Procurement                           | Governmental Procurement on Official Gazette                                                                                                                                              | ②       | J/E      | P      | I     | ①           |
|                                                                 | Information on mail order                          | Information on mail order                                                                                                                                                                 | ②       | J        | P      | I     | ①           |
|                                                                 | Invest Japan !                                     | Current information of Investment Environment of Japan                                                                                                                                    | ②       | J/E      | P      | I     | ①           |
|                                                                 | Japan Market Report Database                       | Guide of Japanese Market                                                                                                                                                                  | ②       | J/E      | P      | I     | ①           |
|                                                                 | Japan Trade Directory                              | List of Traders in Japan                                                                                                                                                                  | ②       | E        | P      | C     | ①           |
|                                                                 | Profile Search for International Business Advisers | Profile of "INTERNATIONAL BUSINESS ADVISERS"                                                                                                                                              | ②       | J/E      | P      | I     | ①           |
|                                                                 | International Trade Show Database (J-messe)        | List of fairs & exhibitions in Japan and around the world                                                                                                                                 | ②       | J/E      | P      | I     | ①           |
|                                                                 | International Business Matching (TTPP)             | Trade Tie-up Promotion Program                                                                                                                                                            | ②       | J/E      | P      | I     | ①           |
| Japan Packaging Machinery Manufacturers Association(JPMA)       | Japan Packaging Machine Guide                      | Packaging machinery and related equipment manufactured by JPMA members                                                                                                                    | ①       | J/E      | P/D    | C     | ①           |
| JAPAN PATENT DATA SERVICE, CO.(JPDS)                            | FIRST PLUS                                         | Summary of Japanese Patents                                                                                                                                                               | ①       | J        | P/D    | C     | ②③④         |
|                                                                 | JP-NET                                             | Japanese Patents                                                                                                                                                                          | ①       | J        | P/D    | I/C   | ①           |
|                                                                 | PATENT                                             | All page of Japanese Patents                                                                                                                                                              | ①       | J        | P/D    | C     | ②③④         |
| Japan Patent Information Organization(Japio)                    | PAJ/CD-ROM                                         | Published bibliographic data and abstracts in English with representative drawing; Back File : From 1976 to 1993 in 69 technical fields basis, Front File : From 1994 in numerical order. | ①       | E        | P/D    | C     | ②③④         |
| Japan Science and Technology Corporation(JST)                   | JCATALOG                                           | Machine-readable catalog of JST Library collection                                                                                                                                        | ①       | J        | P/D    | I/O/C | ①           |
|                                                                 | JCHEM                                              | Database of Chemical terms numbers, molecular formulas and so on                                                                                                                          | ①       | J        | P/D    | I/O   | ①           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                               | Database                                            | Description                                                                                                                                                        | Subject | Language | Status | Media   | Destination |
|-------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|---------|-------------|
| Japan Science and Technology Corporation(JST)         | JSTPlus                                             | Bibliographic information, with abstracts and indexing in the all area of Sci. & Tech.                                                                             | ①       | J        | P/D    | I/O/M/C | ①           |
|                                                       | JICST-EPlus                                         | English bibliographic database with indexed and non-indexed on all fields of Sci. & Tech. in Japan                                                                 | ①       | E        | P/D    | I/O     | ①           |
|                                                       | JMEDPlus                                            | Bibliographic Information with abstracts and indexing in the Medicine                                                                                              | ①       | J        | P/D    | I/O/M/C | ①           |
| Jiho, Inc.                                            | Pharma Japan                                        | A Weekly Report on the Japanese Drug Industry                                                                                                                      | ①       | E        | P      | I       | ①           |
| KAHOKU SHIMPO PUBLISHING CO.                          | KD                                                  | Database of articles                                                                                                                                               | ③       | J        | P/D    | I       | ①           |
| K.K. Kyodo News                                       | Clue II                                             | 24 hour real-time news                                                                                                                                             | ②       | J        | P      | I       | ①           |
|                                                       | Kyodo Real time News(JLS)                           | 24 hour real-time financial & economic news                                                                                                                        | ②       | J        | P      | O       | ①           |
| KPS Corporation                                       | Dictionary File for Addresses throughout Japan      | Addresses throughout Japan                                                                                                                                         | ③       | J        | P/D    | C       | ①           |
|                                                       | Dictionary File for Japanese Name                   | Japanese Name                                                                                                                                                      | ③       | J        | P/D    | C       | ①           |
| Market Information Center for Perishable Food (MICPF) | Market Information service for Perishable Food      | Wholesale Market Information of Fruits Vegetables, Meats and Cut Flowers                                                                                           | ②       | J        | P      | I/M/C   | ④           |
| MARUZEN CO.,LTD.                                      | Knowledge Worker                                    | Bibliographic information on Japanese and Foreign books                                                                                                            | ③       | J/E      | P/D    | I/O     | ①           |
| Media Research Center, Inc.(MRC)                      | MEDIA DATA JAPAN, MAGAZINE EDITION                  | Advertising rates and data of consumer and business magazines                                                                                                      | ③       | J        | P/D    | M       | ①           |
|                                                       | MEDIA DATA JAPAN, NEWSPAPER EDITION                 | Advertising rates and data of consumer and business newspapers                                                                                                     | ③       | J        | P/D    | M       |             |
| Mergent Japan K.K.                                    | Corporate Bond Portraits                            | Database of corporate bond information over 10,000 U.S. companies, including credit ratings with six years & Mergent's proprietary rating                          | ②       | E        | P/D    | I       | ④           |
|                                                       | FIS online Company Data Direct/U.S. & International | Internet-accessible, subscription service that provide 28,000 companies database in the world real-time EDGAR filing & Annual reports. Company Archive Information | ②       | E        | P/D    | I       | ④           |
|                                                       | Mergent Equity Portraits                            | Database of fundamental company information with stock price, volume and other data of over 10,000 U.S. companies                                                  | ②       | E        | P/D    | I       | ④           |
| National Diet Library(NDL)                            | JAPAN/MARC (M,S) (MT Version)                       | Machine-readable catalog of books and serials published in Japan                                                                                                   | ③       | J        | P      | M       | ①           |
|                                                       | JAPAN/MARC JBISC (CD-ROM, DVD-ROM Version)          | Bibliographic retrieval database for books published in Japan                                                                                                      | ③       | J        | P      | C       | ①           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                | Database                                                      | Description                                                                                                                                                               | Subject | Language | Status | Media | Destination |
|----------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| National Diet Library(NDL)             | Japanese Periodicals Index                                    | Bibliographic retrieval database for articles in Japanese periodicals by CD-ROM, DVD-ROM                                                                                  | ㊦       | J        | P      | C     | ①           |
|                                        | NDL CD-ROM LINE Name Authorities                              | Name Authorities retrieval database by CD-ROM                                                                                                                             | ㊦       | J        | P      | C     | ①           |
|                                        | JAPAN/MARC (Authorities)                                      | Name Authorities database                                                                                                                                                 | ㊦       | J        | P      | M     | ①           |
| National Institute of Informatics(NII) | Citation Database for Japanese Papers                         | Citations in field of natural science published in Japan                                                                                                                  | ①       | J/E      | P/D    | I/O   | ①           |
|                                        | Current Contents of Academic Serials in Japan                 | Current contents of academic serials in all fields in Japan                                                                                                               | ①       | J/E/O    | P/D    | I/O   | ①           |
|                                        | Database Directory                                            | Directory of databases created by and/or served at universities in Japan                                                                                                  | ①②      | J        | P/D    | I/O   | ①           |
|                                        | Dissertation Index                                            | Index to doctoral theses submitted to universities in Japan                                                                                                               | ①       | J/E      | P/D    | I/O   | ①           |
|                                        | Economic Titles Japan                                         | Bibliographic citations of literature on economics                                                                                                                        | ①②      | J/E/O    | P/D    | I/O   | ①           |
|                                        | Grant-in-Aid Scientific Research                              | Research project information with abstracts on research subsidized by Grant-in-Aid Scientific Research, Ministry of Education, Culture and Sports, Science and Technology | ①       | J/E      | P/D    | I/O   | ①           |
|                                        | Private Grants-in-Aid Research                                | Research project information with abstracts on grant-in-aid scientific research subsidized by private foundations                                                         | ①②      | J/E      | P/D    | I/O   | ①           |
|                                        | Register of Grant-in-Aid Scientific Research                  | Research themes funded by Grant-in-Aid Scientific Research                                                                                                                | ①       | J        | P/D    | I/O   | ①           |
|                                        | Union Catalog of Books                                        | Union catalog of books held by university libraries in Japan                                                                                                              | ①②③     | J/E/O    | P/D    | I/O   | ①           |
|                                        | Union Catalog of Serials                                      | Union catalog of serials held by university libraries in Japan                                                                                                            | ①②③     | J/E/O    | P/D    | I/O   | ①           |
| New Glass Forum(NGF)                   | International Glass Database「INTERGLAD」                       | Fact data on the relation between composition and properties of glass. 216,998 glasses.[annually update]                                                                  | ①       | J/E      | P/D    | I/C   | ①           |
| Nichigai Associates, Inc.              | NICHIGAI/WEB SERVICE BOOKPLUS                                 | Contains information of the Japanese books published after 1927. Also provides their cover image of newly published books. [daily update]                                 | ㊦       | J        | P/D    | I     | ①           |
|                                        | NICHIGAI/WEB SERVICE Computer/Technical Term/Business English | Unique online dictionary. E>J 44,000 words, J>E 46,000 words. Also provides over 40,000 examples. [monthly update]                                                        | ㊦       | J        | P/D    | I     | ①           |
|                                        | NICHIGAI/WEB SERVICE MAGAZINEPLUS                             | Largest magazine index database in Japan. Covers Zasshi Kiji Sakuin and Journal Index and more. [weekly update]                                                           | ㊦       | J        | P/D    | I     | ①           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                   | Database                                                             | Description                                                                                                                                                                                    | Subject | Language | Status | Media | Destination |
|---------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| Nichigai Associates, Inc. | NICHIGAI/WEB SERVICE PRIZE                                           | Information of 2,900 Japanese prizes in various fields, with over 200,000 prizewinner's namelists. [monthly update]                                                                            | ③       | J        | P/D    | I     | ①           |
|                           | NICHIGAI/WEB SERVICE WHO                                             | Most popular WHO'S WHO in Japan after Meiji era. Provides key person's profiles and related materials. Not only Japanese big names but also foreigners or persons passed away. [weekly update] | ③       | J        | P/D    | I     | ①           |
|                           | NICHIGAI/WEB SERVICE WHO I                                           | From WHO, WHO I provides the fields of Economics, Social, or Politics. Profiles and related materials. [weekly update]                                                                         | ③       | J        | P/D    | I     | ①           |
|                           | NICHIGAI/WEB SERVICE WHO II                                          | From WHO, WHO II provides the fields of Academics, Journalism. Profiles and related materials. [weekly update]                                                                                 | ③       | J        | P/D    | I     | ①           |
|                           | NICHIGAI/WEB SERVICE WHO III                                         | From WHO, WHO III provides the fields of Arts, Entertainment, or Sports. Profiles and related materials. [weekly update]                                                                       | ③       | J        | P/D    | I     | ①           |
|                           | NICHIGAI/WEB SERVICE Writer's WHO'S WHO                              | Biographical information of 63,000 writers or journalists in Japan. [monthly update]                                                                                                           | ③       | J        | P/D    | I     | ①           |
|                           | NICHIGAI/WEB SERVICE Zasshi Kiji Sakuin (Japanese Periodicals Index) | Index to articles since 1975 over 8,500 magazines in Japan collected by National Diet Library. [update twice a month]                                                                          | ③       | J        | P/D    | I     | ①           |
|                           | NICHIGAI ASSIST BOOK/MONTHLY                                         | Information of newly published books in a month in Japan. [monthly update]                                                                                                                     | ③       | J        | P/D    | O     | ①           |
|                           | NICHIGAI ASSIST BOOKPLUS                                             | Contains information of the Japanese books published after 1927. Also provides their cover image of newly published books. [daily update]                                                      | ③       | J        | P/D    | O     | ①           |
|                           | NICHIGAI ASSIST PRIZE                                                | Information of 2,900 Japanese prizes in various fields, with over 200,000 prizewinner's namelists. [monthly update]                                                                            | ③       | J        | P/D    | O     | ①           |
|                           | NICHIGAI ASSIST MAGAZINEPLUS                                         | Largest magazine index database in Japan. Covers Zasshi Kiji Sakuin and Journal Index and more. [weekly update]                                                                                | ③       | J        | P/D    | O     | ①           |
|                           | NICHIGAI ASSIST WHO                                                  | Most popular WHO'S WHO in Japan after Meiji era. Provides key person's profiles and related materials. Not only Japanese big names but also foreigners or persons passed away. [weekly update] | ③       | J        | P/D    | O     | ①           |
|                           | WEB/NICHIGAI ASSIST Web BOOKPLUS                                     | Contains information of the Japanese books published after 1927. Also provides their cover image of newly published books.[daily update]                                                       | ③       | J        | P/D    | I     | ①           |
|                           | WEB/NICHIGAI ASSIST Web MAGAZINEPLUS                                 | Largest magazine index database in Japan. Covers Zasshi Kiji Sakuin and Journal Index and more.[weekly update]                                                                                 | ③       | J        | P/D    | I     | ①           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                            | Database                                                         | Description                                                                                                                                                                                                                            | Subject | Language | Status | Media | Destination |
|------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| Nichigai Associates, Inc.          | WEB/NICHIGAI ASSIST Web WHO                                      | Most popular WHO'S WHO in Japan after Meiji era. Provides key person's profiles and related materials. Not only Japanese big names but also foreigners or persons passed away. [weekly update]                                         | ②       | J        | P/D    | I     | ①           |
| NIHON KEIZAI SHIMBUN, INC.(NIKKEI) | Commodity Domestic Market Data                                   | Price data and demand/supply data of major commodities market conditions (daily, weekly and monthly)                                                                                                                                   | ②       | J/E      | P/D    | O/M   | ③           |
|                                    | Financial Radar                                                  | Originally obtained data on the attitudes and reality of consumer behavior toward financial issues                                                                                                                                     | ②       | J        | P/D    | C     | ①           |
|                                    | Consumer Statistics Data                                         | "Family Income and Expenditure Survey" and "Consumer Price Indices".                                                                                                                                                                   | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | Corporate Action Related Data                                    | Corporate action related data such as stock split, merger, bond issue, etc for listed and Jasdaq companies                                                                                                                             | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Corporate Profile Data                                           | Description of Japanese major companies. Data elements such as name of CEOs, address, telephone number, year established, outline of business, major stock holders, summarized financial data, sales by line of business, are included | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Daily Exchange Rates & Interest Rates Data                       | Daily data on exchanges rates and interest rates both in domestic and overseas markets                                                                                                                                                 | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | Foreign Exchange Rates for customers by Bank of Tokyo Mitsubishi | Daily prices of foreign exchange rates for customers transaction provided by Bank of Tokyo Mitsubishi.                                                                                                                                 | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | Earnings Estimate for Listed/Jasdaq Companies                    | Estimates and results of consolidated annual, consolidated interim, unconsolidated annual and unconsolidated interim for listed/Jasdaq companies                                                                                       | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Economic Statistics by Size of Companies                         | Selected statistics by size of companies including reports from Small and Medium Enterprises Agency and Japan Finance Corporation for Small Business.                                                                                  | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | Energy Data                                                      | Demand/supply and price data on petroleum, coal, electric, gas, and nuclear power as well as general economic statistics.                                                                                                              | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | Foreign Direct Investment Data                                   | "Outward Direct Investment Statistics(prior notice basis)" by Ministry of Finance and "Survey of Overseas Business Activities" by Ministry of Economy, Trade and Industry.                                                             | ②       | J/E      | P/D    | O     | ①           |
|                                    | Financial Data for Banks                                         | Financial Statements of consolidated annual, consolidated interim, unconsolidated annual and unconsolidated interim for banks submitting financial reported to MOF                                                                     | ②       | J/E      | P/D    | O/M/C | ①           |

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| Company                            | Database                                                                   | Description                                                                                                                                                                                            | Subject | Language | Status | Media | Destination |
|------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| NIHON KEIZAI SHIMBUN, INC.(NIKKEI) | Financial Data for Insurance Companies                                     | Financial Statements of consolidated annual, consolidated interim, unconsolidated annual and unconsolidated interim for insurance companies submitting financial reports to MOF                        | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Financial Data for Industrial Companies                                    | Financial Statements of consolidated annual, consolidated interim, unconsolidated annual and unconsolidated interim for listed/JASDAQ companies other than financial institutions                      | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Financial Data for Security Houses                                         | Financial Statements of consolidated annual, consolidated interim, unconsolidated annual and unconsolidated interim for security houses submitting financial reports to MOF                            | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Financial Data for Industrial Companies (unlisted major companies)         | Financial Statements of consolidated annual and unconsolidated annual for unlisted major companies other than financial institutions submitting financial reports to MOF                               | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Flash Report of Financial Data for Industrial Companies                    | Flash reports (Tanshin) of Financial data of consolidated annual, consolidated interim, unconsolidated annual and unconsolidated interim for listed/JASDAQ companies other than financial institutions | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Flash Report of Financial Data for Financial Institutions                  | Flash reports (Tanshin) of Financial data of consolidated annual, consolidated interim, unconsolidated annual and unconsolidated interim for listed/JASDAQ financial institutions                      | ②       | J/E      | P/D    | O/M/C | ①           |
|                                    | Futures/Option Data                                                        | Trading and price data of bond futures, stock price index futures and stock price index options                                                                                                        | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | Industrial Data                                                            | Statistical data on various industry from Ministry of Economy, Trade and Industry and industrial associations                                                                                          | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | International Trade Statistics                                             | Detailed export and import data in value and quantity by commodities and countries from Ministry of Finance.                                                                                           | ②       | J/E      | P/D    | O     | ①           |
|                                    | Japanese Economic Model                                                    | Quarterly econometric model aimed at short-term forecast for Japanese economy. Users can run customized simulations based on monthly 'Standard Forecasts' supplied by Nikkei.                          | ②       | J/E      | P/D    | O     | ①           |
|                                    | Major Market Indices Data /Technical Indices for Industries and Each Issue | Nikkei stock price average data, volume of margin transactions for three exchanges, and others                                                                                                         | ②       | J/E      | P/D    | O/M   | ①           |
|                                    | Marketing Report for Unlisted Companies                                    | Marketing report information submitted to the Ministry of Finance by unlisted major companies since 1977                                                                                               | ②       | J/E      | P/D    | O     | ①           |
|                                    | News Flash                                                                 | Real-time daily news from all over the world, categorized by subject                                                                                                                                   | ③       | J/E      | P/D    | I     | ②③④         |
|                                    | Newspapers for Text Search                                                 | Articles from newspapers including four Nikkei publications                                                                                                                                            | ③       | J/E      | P/D    | I     | ②③④         |

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| Company                            | Database                                         | Description                                                                                                                                                                                                           | Subject | Language | Status | Media   | Destination |
|------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|---------|-------------|
| NIHON KEIZAI SHIMBUN, INC.(NIKKEI) | Nikkei Macro Economic Statistics                 | 15,000 major economic statistics on Japanese economy including statistics of national income, production, corporate activities, finance, international trade and balance of payments, labor, prices, and consumption. | ②       | J/E      | P/D    | O/M/C   | ①           |
|                                    | Nikkei Financial Statistics                      | Major economic statistics including money supply, interest rates, flow of funds, and other financial statistics                                                                                                       | ②       | J/E      | P/D    | O/M/C   | ①           |
|                                    | Personnel Data Bank                              | Personnel data of executives of major companies and managing staff of government employees. Data elements such as title, place of employment, birth date, educational history, graduate data are included             | ②       | J        | P/D    | O/M/C   | ②③④         |
|                                    | Portfolio Related Data Service                   | Various indices on risks and returns in Japanese and US stock market investment with portfolio evaluation and optimization system                                                                                     | ②       | J/E      | P/D    | O       | ①           |
|                                    | POS Data                                         | POS data of 2,650,000 items including foods, household appliances, and others obtained from 670 stores                                                                                                                | ②       | J        | P/D    | I/O/M/C | ①           |
|                                    | Regional Databank                                | Regional data including area, population, housing, land price, industrial shipments, and commercial sales for 3,400 cities, towns, and villages                                                                       | ②       | J        | P/D    | O/M     | ①           |
|                                    | Price Statistics                                 | Corporate goods(formerly Wholesale) price indices, export and import price indices, and input-output indices from Bank of Japan                                                                                       | ②       | J/E      | P/D    | O/M     | ①           |
|                                    | Regional Statistics on Construction              | Statistics on orders received, starting works, price of construction, and other construction related statistical data by region.                                                                                      | ②       | J/E      | P/D    | O/M     | ①           |
|                                    | Quarterly Statistics on Corporations             | Financial Statements Statistics of Corporations by Industry published by the Ministry of Finance, updated quarterly.                                                                                                  | ②       | J/E      | P/D    | O/M/C   | ①           |
|                                    | Annual Statistics on Corporations                | Financial Statements Statistics of Corporations by Industry published by the Ministry of Finance, updated annually.                                                                                                   | ②       | J/E      | P/D    | O/M     | ①           |
|                                    | Statistics on Products, Shipments, and Inventory | Statistics on products, shipments, and inventory based on METI's data                                                                                                                                                 | ②       | J/E      | P/D    | O/M     | ①           |
|                                    | Stock Bond Data                                  | Stock data of listed companies and over-the-counter trading in national stock market and bond data for Tokyo and Osaka Exchanges                                                                                      | ②       | J/E      | P/D    | O/M     | ①           |
|                                    | Unlisted Debenture Data                          | Evaluated market price of unlisted public offering debenture calculated based on the circular notice from the Ministry of Finance                                                                                     | ②       | J/E      | P/D    | O/M     | ①           |
|                                    | Evaluated Prices on Pension Funds                |                                                                                                                                                                                                                       | ②       | J/E      | P/D    | O/M     | ①           |
| Nippon Statistics Center Ltd.(NSC) | City / Town / Village District-Units             | About 2,000 items of social economic-data                                                                                                                                                                             | ②       | J/E      | P/D    | M/C     | ②           |
|                                    | Smallest District-Units                          | About 400 items of social economic-data                                                                                                                                                                               | ②       | J/E      | P/D    | M/C     | ②           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                      | Database                                            | Description                                                                                                                                                                                                                                                                                                | Subject | Language | Status | Media | Destination |
|----------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| Nomura Research Institute, Ltd.(NRI)         | DataLine, IDS                                       | Macroeconomic Database; Equity Database; Bond Database; Company Related Database; NOMURA Index Database                                                                                                                                                                                                    | ②       | J/E      | P/D    | O     | ②③          |
|                                              | FAST                                                | Financial results and indicators of Japanese companies                                                                                                                                                                                                                                                     | ②       | J        | P/D    | C     | ②③          |
|                                              | NRI/E                                               | Information of Japanese Economy, Industry, and Finance                                                                                                                                                                                                                                                     | ②       | E        | P      | O     | ②③          |
| NRI Cyber Patent, Ltd.                       | NRI Cyber Patent Desk                               | Japanese Patent information                                                                                                                                                                                                                                                                                | ①       | J        | A      | I     | ④           |
| NTT Visual Communication Systems Inc.(NTT-V) | The Accommodations Reservation Information Services | Free access to information on a wide selection of accommodations throughout Japan                                                                                                                                                                                                                          | ②       | J        | P/D    | I/O   | ①           |
| ONGAKU SHUPPANSHA Co., Ltd.(CDJ)             | CDJ-C                                               | Japan music information database in Chinese                                                                                                                                                                                                                                                                | ③       | O        | P/D    | I/O   | ①④          |
|                                              | CDJ-J                                               | Music and entertainment product information database(Japan Releases)                                                                                                                                                                                                                                       | ③       | J/E      | P/D    | I/O/C | ①           |
|                                              | CDJ-K                                               | Japan music information database in Korean Language                                                                                                                                                                                                                                                        | ③       | O        | P/D    | I/O   | ①④          |
|                                              | MUDI-K                                              | Music product information database(Korean music and Korean Releases of Western music)                                                                                                                                                                                                                      | ③       | O        | P/D    | I/O   | ①④          |
|                                              | SONGS Data Base                                     | The Music CD Detail Information On Japanese Market                                                                                                                                                                                                                                                         | ③       | J/E/O    | P      | C     | ②③④         |
|                                              | ETONG                                               | Hong Kong and Taiwan Chinese music product Information                                                                                                                                                                                                                                                     | ③       | O        | P/D    | I/O   | ①           |
| PATOLIS Corporation                          | Design                                              | Published bibliographic data of design applications to the Japanese Patent Office which are registered from 1965 ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1965.                                                                | ①       | J        | P/D    | I/O   | ②③④         |
|                                              | Patent                                              | Published bibliographic data of all patent applications to the Japanese Patent Office from 1955 ; Patent abstracts and representative drawings of first publications since 1971 ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1967. | ①       | J/E      | P/D    | I/O   | ②③④         |
|                                              | PATOLIS-e                                           | Internet base online patent & utility model information service                                                                                                                                                                                                                                            | ①       | E        | P/D    | I     | ①           |
|                                              | Trademark                                           | Bibliographic data and specimens of trademark and service mark applications which are filed or valid to the Japanese Patent Office ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1897.                                              | ①       | J        | P/D    | I/O   | ②③④         |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                                             | Database                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Subject | Language       | Status | Media   | Destination |
|---------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------|--------|---------|-------------|
| PATOLIS Corporation                                                 | Utility Model                           | Published bibliographic data of all utility model applications to the Japanese Patent Office from 1960 ; Utility model summaries and representative drawings of first publication since 1980 ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1972.                                                                                                                                                                                          | ①       | J/E            | P/D    | I/O     | ②③④         |
| Protein Research Foundation(PRF)                                    | PRF/LITDB                               | Literature database related to peptides and proteins                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ①       | E              | P/D    | I/O/M/C | ①           |
|                                                                     | PRF/SEQDB                               | Amino acids sequence database (peptides and proteins)                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ①       | E              | P/D    | I/O/M/C | ①           |
|                                                                     | PRF/SYNDB                               | Chemically synthesized Compound database (peptides)                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ①       | E              | P/D    | O/M/C   | ①           |
| QUICK Corp.                                                         | QUICK-IS                                | QUICK-IS a comprehensive financial information service which provides stable data delivery and easy data manipulation through PC in the environment best fit for each customer, i.e. Client/Server system, remote system or customer's Local Area Network and so on. The basic service is classified into QUICK-IS Level I, QUICK-IS Level II, IS-Web, and wide range of information and function options, like dynamic data exchange, various analysis services, order routing, e-mail etc., are also available | ②       | J/E<br>Numeric | P/D    | O       | ②③④         |
|                                                                     | QUICK Level X                           | Designed for simple and convenient use in retail securities brokerages. Converge includes Japanese and Asian equities, investment trusts, bonds and related market data. In addition to multifunction charts and the news clip service it comes equipped with other useful capabilities such as issue filtering and a simple portfolio function.                                                                                                                                                                 | ②       | J/E            | P/D    | O       | ②③④         |
|                                                                     | QUICK ActiveManager                     | For financial and securities professionals in dealing, trading, investment management and risk management, ActiveManager, from QUICK brings a next generation information platform to the financial and securities markets. A "Multi Asset" concept of high-speed, high volume and high quality market data and news packaged with a variety of functions including market monitoring information search and data management and analysis.                                                                       | ②       | J/E            | P/D    | O       | ②③④         |
| Research Institute of Human Engineering for Quality Life(HQL)       | Body Size Database                      | Measurement data of 34,000 Japanese persons, surveyed from 1992 to 1994. The measurement data contains 178 measurements per subject                                                                                                                                                                                                                                                                                                                                                                              | ①       | J/E            | P/D    | I/M/C   | ②           |
|                                                                     | 3 Dimensional Database                  | Base of body size data. This data by the format of DXF and IGES PC files                                                                                                                                                                                                                                                                                                                                                                                                                                         | ①       | J/E            | P/D    | M/C     | ②           |
| RESEARCH ORGANIZATION FOR INFORMATION OF SCIENCE & TECHNOLOGY(RIST) | ATOMICA, Encyclopedia on Nuclear Energy | A Database of Atomic Energy Information for Promotion of Public Acceptance Through Internet                                                                                                                                                                                                                                                                                                                                                                                                                      | ①       | J              | P      | I       | ①           |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                                                              | Database                                                             | Description                                                                                                                                                                                                        | Subject | Language | Status | Media | Destination |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| Rural Culture Association                                                            | Diagnosis and Control of Disease and Insect Pest                     | 130 kinds of crops 1600 disease and insect pest diagnoses and control                                                                                                                                              | ③       | J        | P/D    | O/C   |             |
|                                                                                      | Gendai Nougyou(The contemporary Agriculture)                         | Monthly journal 'Gendai Nougyou' title retrieval                                                                                                                                                                   | ②       | J        | P/D    | O/C   |             |
|                                                                                      | Nougyou Gijutsu Taikai (The Encyclopedia of Agricultural Technology) | Nougyou Gijutsu Taikai' title retrieval                                                                                                                                                                            | ③       | J        | P/D    | O/C   |             |
|                                                                                      | The Complete Works of Japanese Dietary Habits                        | Interview Research of Japanese Dietary Habits over 60 years ago                                                                                                                                                    | ③       | J        | P/D    | O/C   |             |
| Shinnippon-hoki Publishing CO., Ltd.                                                 | MASTER Library                                                       | Case and law in Japan                                                                                                                                                                                              | ③       | J        | P/D    | I     | ④           |
| Shobunsha Publications, Inc.                                                         | MAPPLE Point of Interest(POI) Data for Sight Seeing Spot             | We provide information about hotels, accommodation facilities, restaurants, and places to visit in Japan including geographical information (latitude, longitude, and so on).                                      | ③       | J        | P      | C     | ①           |
|                                                                                      | MAPPLE English Raster Map Data of Japan                              | Raster data of 1:50,000-scale maps with annotations of administrative names, public institutions, etc.                                                                                                             | ③       | E        | P      | C     | ①           |
| Technomics, Inc.                                                                     | Pharmcast Data                                                       | information on medicines and pharmaceuticals                                                                                                                                                                       | ①②      | E        | P      | M     | ②③          |
| TEIKOKU DATABANK, LTD.(TDB)                                                          | COSMOS1                                                              | Corporate unconsolidated financial database of 480,000 Japanese companies, including 2,640,000 fiscal terms<br>Corporate consolidated financial database of 3,500 Japanese companies, including 9,000 fiscal terms | ②       | J/E      | P      | O/C   | ②③④         |
|                                                                                      | COSMOS2                                                              | Corporate profile database of 1,210,000 Japanese companies                                                                                                                                                         | ②       | J/E      | P      | O/M/C | ②③④         |
| The Energy Data and Modelling Center, The Institute of Energy Economics, Japan(EDMC) | APEC Energy Database                                                 | Historical Energy Demand & Supply Data in APEC Region                                                                                                                                                              | ③       | E        | P/D    | I     | ①           |
|                                                                                      | EDMC Energy Data Bank                                                | Various Energy Data and its related Data in Japan and the World                                                                                                                                                    | ②       | J/E      | P      | I     | ①           |
| The Japan Shipping Exchange, Inc. (JSE)                                              | Register of Ships CD-ROM 2003                                        | CD-ROM contains information on 11,000 vessels of Japanese flag and 8,000 companies of ship-owners, operators and shipbuilders in Japan (with viewer software)                                                      | ②       | J        | P/D    | C     | ①           |
|                                                                                      | JMIS (Japan Maritime Information Service)                            | Data of c.a. 11,000 vessels of Japanese flag and data of c.a. 8,000 maritime related companies in Japan                                                                                                            | ②       | J        | P/D    | M/C   | ①           |
| The Japan Times, Ltd.                                                                | Japan Times in The Nikkei-Telecom Japan News & Retrieval             | Major world, domestic news, Art, Sports and Editorial descriptions selected from daily English Newspaper "The Japan Times"                                                                                         | ③       | E        | P      | O     | ②           |
| THE MAINICHI NEWSPAPERS(Mainichi INTERACTIVE)                                        | Mainichi Daily News Database                                         | Articles of Mainichi Daily News                                                                                                                                                                                    | ③       | E        | P      | O     | ②           |
|                                                                                      | Mainichi Newspapers Database                                         | Articles of Mainichi Newspapers                                                                                                                                                                                    | ③       | J        | P      | O     | ②③          |

Table 1 Japanese Databases Accessible Overseas(2003:Producers)

| Company                                       | Database                    | Description                                                                               | Subject | Language | Status | Media   | Destination |
|-----------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------|---------|----------|--------|---------|-------------|
| THE MAINICHI NEWSPAPERS(Mainichi INTERACTIVE) | News Release NAVI           | Information providing services on press release from companies                            | ②       | J        | P      | O       | ②④          |
|                                               | Rating Information Services | Financial rating information on companies                                                 | ②       | J        | P      | O       | ②④          |
|                                               | ECONOMIST                   | Articles of "Economist"                                                                   | ②       | J        | P      | O       | ②③④         |
| THE RYUKYUSHIMPO                              | The Ryukyushimpo Data-Base  | News and Photograph                                                                       | ③       | J        | P      | I       | ①           |
| THE YOMIURI SHIMBUN                           | THE DAILY YOMIURI DATABASE  | Electronic version of "The Daily Yomiuri" a Newspaper written in English                  | ③       | E        | P      | O       | ②③          |
|                                               | YOMIDAS                     | Articles from Yomiuri Shimbun including Tokyo, Osaka, Western, and Central versions       | ③       | J        | P      | O       | ②③          |
| TKC Corporation(TKC)                          | LEX/DB                      | Precedent Database                                                                        | ③       | J        | P/D    | I/C     |             |
| TOHAN CO., LTD                                | Publishing Information      | About 1,740,000 books (Japanese) Information                                              | ③       | J        | P/D    | I       |             |
| TOKYO SHOKO RESEARCH, LTD.(TSR)               | CD-Eyes 500,000             | CD-ROM Japan 500,000 contains information on the 500,000 largest Japanese businesses      | ②       | E        | P      | C       | ②③④         |
|                                               | tsr-van2                    | Business information including financial, bankrupt data on 1.5 million companies in Japan | ②       | J        | P      | I       | ①           |
| TOYO KEIZAI INC.                              | Company basic               | Company basic data of all listed and OTC Companies                                        | ②       | J/E      | P/D    | I/M/C   | ①           |
|                                               | Estimate                    | Estimate of business performance of all listed and OTC Companies                          | ②       | J/E      | P/D    | I/O/M/C | ①           |
|                                               | Fundamental (Tanshin)       | News flash edition of financial report of all listed and OTC Companies                    | ②       | J/E      | P/D    | I/O/M/C | ①           |
|                                               | Fundamental (Yuhō)          | Final edition of financial report of all listed and OTC Companies                         | ②       | J/E      | P/D    | I/M/C   | ①           |
|                                               | Major Shareholders          | Top 30 shareholders data of all listed and OTC Companies                                  | ②       | J/E      | P/D    | M/C     | ①           |

## Appendix

**Table 2 Japanese Databases Accessible Overseas (2003: Distributors/Agents)**

|                                    |                 |                              |                          |                       |
|------------------------------------|-----------------|------------------------------|--------------------------|-----------------------|
| <b>Subject</b>                     | <b>Language</b> | <b>Vendor Status</b>         | <b>Media</b>             | <b>Destination</b>    |
| ①: Science and Technology          | J: Japanese     | P: Producer                  | I: Internet              | ①: Worldwide          |
| ②: Economics, Business and Finance | E: English      | D: Distributor               | O: Online                | ②: North America      |
| ③: General/Others                  | O: Others       | A: Agent                     | M: MT, FD                | ③: Europe             |
|                                    |                 | T: Telecommunications Center | C: CD-ROM, MO, DVD, etc. | ④: Asia and Australia |
|                                    |                 |                              |                          | ⑤: Others             |

| Company                                | Database                                             | Description                                                                                                                                                                  | Subject | Language | Status | Media | Destination |
|----------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| Brandy International Incorporated(Bii) | SAEGIS                                               | Internet search service for trademark of major countries in North America and Europe as well as worldwide domain names. A variety of search key and full-text are available. | ①       | E        | A      | I     | ①           |
| DENTSU INC.                            | ELNET                                                | Articles, with full-text image data, from 60 Japanese major newspapers and from 150 Japanese journals including monthly economic reports                                     | ③       | J        | A      | O     | ②③④         |
| FUJITSU LIMITED                        | AERA                                                 | Collection of articles from weekly magazine 'AERA'                                                                                                                           | ③       | J        | D      | O     | ①           |
|                                        | ASAHI ONLINE DATABASE                                | Collection of articles in English from 'Asahi Evening News' and English version of 'Asahi News Services'                                                                     | ③       | E        | D      | O     | ①           |
|                                        | Asahi Shimbun Database                               | Contains the full text of 'Asahi Shimbun'                                                                                                                                    | ③       | J        | D      | O     | ①           |
|                                        | BOOK/MONTHLY                                         | Provides the information of the new books available in Japan                                                                                                                 | ③       | J        | D      | O     | ①           |
|                                        | BOOKPLUS                                             | Contains the title, outline, author, publisher and price of the books published in Japan                                                                                     | ③       | J        | D      | O     | ①           |
|                                        | Chugoku Shimbun Database                             | Collection of articles from 'Chugoku Shimbun'                                                                                                                                | ③       | J        | D      | O     | ①           |
|                                        | Chunich Shimbun Database                             | Collection of the articles of Chunich Shimbun                                                                                                                                | ③       | J        | D      | O     | ①           |
|                                        | Company Information by Teikoku Databank              | Profiles of more than 1,100,000 companies in Japan                                                                                                                           | ②       | J        | D      | O     | ①           |
|                                        | Company Information by Tokyo Shoko Research          | Profiles with performance information for current three years of more than 1,020,000 companies in Japan                                                                      | ②       | J        | D      | O     | ①           |
|                                        | Cross-File Retrieval of Company Information          | Cross-file retrieval system from five company databases                                                                                                                      | ②       | J        | D      | O     | ①           |
|                                        | Cross-File Retrieval of National Newspapers          | Cross-File retrieval system from three database. Provides articles in the last two years                                                                                     | ③       | J        | D      | O     | ①           |
|                                        | Executives' Personal Profile by Tokyo Shoko Research | Biographical information with address of executives of more than 1,020,000 companies in Japan                                                                                | ②       | J        | D      | O     | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company         | Database                                                  | Description                                                                                                   | Subject | Language | Status | Media | Destination |
|-----------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| FUJITSU LIMITED | Financial Information by Teikoku Databank                 | Financial records of companies in Japan                                                                       | ②       | J        | D      | O     | ①           |
|                 | Financial Information by Tokyo Shoko Research             | Financial records of companies in Japan                                                                       | ②       | J        | D      | O     | ①           |
|                 | Hoken Mainichi Shimbun Database                           | Collection of articles from 'Hoken Mainichi Shimbun'                                                          | ③       | J        | D      | O     | ①           |
|                 | Information of Bankrupt Companies by Teikoku Databank     | Prompt reports of bankrupt companies                                                                          | ②       | J        | D      | O     | ①           |
|                 | INFORMATION OF BANKRUPT COMPANIES BY Tokyo Shoko Research | Prompt reports of bankrupt companies                                                                          | ②       | J        | D      | O     | ①           |
|                 | Jutaku Shimpō Database                                    | Collection of articles from 'Jutaku Shimpō'                                                                   | ③       | J        | D      | O     | ①           |
|                 | Kagaku Kogyo Nippo Database                               | Articles from 'Kagaku Kogyo Nippo' the leading newspaper for chemical industry                                | ②       | J        | D      | O     | ①           |
|                 | Kensetsu Tsusin Shimbun Database                          | Collection of the articles of Kensetsu Tsusin Shimbun                                                         | ③       | J        | D      | O     | ①           |
|                 | Korea News&Today                                          | Online version of membership system Korean information paper                                                  | ③       | J        | D      | O     | ①           |
|                 | MAGAZINE                                                  | Provides the outlines of the articles in newspapers and magazines of economic, industrial and business fields | ③       | J        | D      | O     | ①           |
|                 | MDN(Mainichi Daily News)                                  | Collection of articles from 'MAINICHI DAILY NEWS'                                                             | ③       | E        | D      | O     | ①           |
|                 | MAINICHI Shimbun DATABASE                                 | Collection of articles from 'MAINICHI Shimbun'                                                                | ③       | J        | D      | O     | ①           |
|                 | Mainichi Shimbun Database Personal Use Edition            | Collection of articles in the last two years from 'Mainichi Shimbun Database'                                 | ③       | J        | D      | O     | ①           |
|                 | Nihon Kogyo Shimbun Database                              | Collection of articles from 'Nihon Kogyo Shimbun'                                                             | ③       | J        | D      | O     | ①           |
|                 | Nihon Nogyo Shimbun Database                              | Collection of articles from 'Nihon Nogyo Shimbun'                                                             | ③       | J        | D      | O     | ①           |
|                 | Nihon Shoken Shimbun Database                             | Collection of articles from 'Nihon Shoken Shimbun'                                                            | ③       | J        | D      | O     | ①           |
|                 | Nihon Shokuryo Shimbun Database                           | Articles from 'Shokuryo Shimbun' the leading newspaper for food industry                                      | ②       | J        | D      | O     | ①           |
|                 | Nikkan Kensetsu Kogyo Shimbun Database                    | Collection of articles from 'Nikkan Kensetsu Kogyo Shimbun'                                                   | ③       | J        | D      | O     | ①           |
|                 | Nikkan Kogyo Shimbun Database                             | Collection of articles on new products and technology from 'Nikkan Kogyo Shimbun'                             | ③       | J        | D      | O     | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company               | Database                                      | Description                                                                                                 | Subject | Language | Status | Media | Destination |
|-----------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| FUJITSU LIMITED       | NIKKAN SPORTS                                 | Collection of articles from 'Nikkan Sports' newspaper                                                       | ③       | J        | D      | O     | ①           |
|                       | Nikken                                        | Collection of articles from 'Nikken'                                                                        | ③       | J        | D      | O     | ①           |
|                       | PRIZE                                         | The introduction of 2,144 prizes in Japan and The winners' name of the prizes                               | ③       | J        | D      | O     | ①           |
|                       | Ryukyu Shimpo Database                        | Collection of articles from 'Ryukyu Shimpo'                                                                 | ③       | J        | D      | O     | ①           |
|                       | Sankei Shimbun Database                       | Articles from 'Sankei Shimbun'                                                                              | ②       | J        | D      | O     | ①           |
|                       | Sankei Shimbun Database Personal Use Edition  | Collection of articles in the last two years from 'Sankei Shimbun Database'                                 | ③       | J        | D      | O     | ①           |
|                       | Senken Shimbun Database                       | Collection of articles from 'Senken Shimbun' the leading fashion newspaper in Japan                         | ③       | J        | D      | O     | ①           |
|                       | Shimbun Akahata Database                      | Collection of articles from 'Shimbun Akahata'                                                               | ③       | J        | D      | O     | ①           |
|                       | Sports Nippon Database                        | Collection of the articles of Sports Nippon                                                                 | ③       | J        | D      | O     | ①           |
|                       | Tekko Shimbun Database                        | Collection of articles from 'Tekko Shimbun'                                                                 | ③       | J        | D      | O     | ①           |
|                       | THE DAILY YOMIURI DATABASE                    | Collection of article from 'THE DAILY YOMIURI' published by the Yomiuri Shimbun. It includes full texts     | ③       | E        | D      | O     | ①           |
|                       | Title of Weekly and Monthly Magazine          | Title information of 35 popular magazine                                                                    | ③       | J        | D      | O     | ①           |
|                       | TKC Law Information Database                  | Full-text of civil and administrative cases and related information                                         | ②       | J        | D      | O     | ①           |
|                       | Tokyo Shimbun Database                        | Collection of articles from 'Tokyo Shimbun'                                                                 | ③       | J        | D      | O     | ①           |
|                       | Trial for the Database of Newspapers          | Provides the Samples of the database of the newspapers (Mainichi, Yomiuri, Sankei ) for free                | ③       | J        | D      | O     | ①           |
|                       | WHO                                           | Contains the profile, books, essays interviews of celebrities who appear in newspapers, magazines and books | ③       | J        | D      | O     | ①           |
|                       | Yomiuri Shimbun Database                      | Collection of articles from 'Yomiuri Shimbun' and 'Yomiuri Katei Shimbun'                                   | ③       | J        | D      | O     | ①           |
|                       | Yomiuri Shimbun Database Personal Use Edition | Collection of articles in the last two years from 'Yomiuri Shimbun Database'                                | ③       | J        | D      | O     | ①           |
| G-Search Limited(GSH) | AERA                                          | Collection of articles from weekly magazine 'AERA'                                                          | ③       | J        | D      | O     | ①           |
|                       | ASAHI ONLINE DATABASE                         | Collection of articles in English from 'Asahi Evening News' and English version of 'Asahi News Services'    | ③       | E        | D      | O     | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company               | Database                                                  | Description                                                                                             | Subject | Language | Status | Media | Destination |
|-----------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| G-Search Limited(GSH) | Asahi Shimbun Database                                    | Contains the full text of 'Asahi Shimbun'                                                               | ㊸       | J        | D      | O     | ①           |
|                       | BOOK/MONTHLY                                              | Provides the information of the new books available in Japan                                            | ㊸       | J        | D      | O     | ①           |
|                       | BOOKPLUS                                                  | Contains the title, outline, author, publisher and price of the books published in Japan                | ㊸       | J        | D      | O     | ①           |
|                       | Chugoku Shimbun Database                                  | Collection of articles from 'Chugoku Shimbun'                                                           | ㊸       | J        | D      | O     | ①           |
|                       | Chunich Shimbun Database                                  | Collection of the articles of Chunich Shimbun                                                           | ㊸       | J        | D      | O     | ①           |
|                       | Company Information by Teikoku Databank                   | Profiles of more than 1,100,000 companies in Japan                                                      | ㊹       | J        | D      | O     | ①           |
|                       | Company Information by Tokyo Shoko Research               | Profiles with performance information for current three years of more than 1,020,000 companies in Japan | ㊹       | J        | D      | O     | ①           |
|                       | Cross-File Retrieval of Company Information               | Cross-file retrieval system from five company databases                                                 | ㊹       | J        | D      | O     | ①           |
|                       | Cross-File Retrieval of National Newspapers               | Cross-File retrieval system from three database. Provides articles in the last two years                | ㊸       | J        | D      | O     | ①           |
|                       | Executives' Personal Profile by Tokyo Shoko Research      | Biographical information with address of executives of more than 1,020,000 companies in Japan           | ㊹       | J        | D      | O     | ①           |
|                       | Financial Information by Teikoku Databank                 | Financial records of companies in Japan                                                                 | ㊹       | J        | D      | O     | ①           |
|                       | Financial Information by Tokyo Shoko Research             | Financial records of companies in Japan                                                                 | ㊹       | J        | D      | O     | ①           |
|                       | Hoken Mainichi Shimbun Database                           | Collection of articles from 'Hoken Mainichi Shimbun'                                                    | ㊸       | J        | D      | O     | ①           |
|                       | Information of Bankrupt Companies by Teikoku Databank     | Prompt reports of bankrupt companies                                                                    | ㊹       | J        | D      | O     | ①           |
|                       | INFORMATION OF BANKRUPT COMPANIES BY Tokyo Shoko Research | Prompt reports of bankrupt companies                                                                    | ㊹       | J        | D      | O     | ①           |
|                       | Jutaku Shimo Database                                     | Collection of articles from 'Jutaku Shimo'                                                              | ㊸       | J        | D      | O     | ①           |
|                       | Kagaku Kogyo Nippo Database                               | Articles from 'Kagaku Kogyo Nippo' the leading newspaper for chemical industry                          | ㊸       | J        | D      | O     | ①           |
|                       | Kensetsu Tsusin Shimbun Database                          | Collection of the articles of Kensetsu Tsushin Shimbun                                                  | ㊸       | J        | D      | O     | ①           |
|                       | Korea News&Today                                          | Online version of membership system Korean information paper                                            | ㊸       | J        | D      | O     | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company               | Database                                       | Description                                                                                                   | Subject | Language | Status | Media | Destination |
|-----------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| G-Search Limited(GSH) | MAGAZINE                                       | Provides the outlines of the articles in newspapers and magazines of economic, industrial and business fields | ③       | J        | D      | O     | ①           |
|                       | MDN(Mainichi Daily News)                       | Collection of articles from 'MAINICHI DAILY NEWS'                                                             | ③       | E        | D      | O     | ①           |
|                       | MAINICHI Shimbun DATABASE                      | Collection of articles from 'MAINICHI Shimbun'                                                                | ③       | J        | D      | O     | ①           |
|                       | Mainichi Shimbun Database Personal Use Edition | Collection of articles in the last two years from 'Mainichi Shimbun Database'                                 | ③       | J        | D      | O     | ①           |
|                       | Nihon Kogyo Shimbun Database                   | Collection of articles from 'Nihon Kogyo Shimbun'                                                             | ③       | J        | D      | O     | ①           |
|                       | Nihon Nogyo Shimbun Database                   | Collection of articles from 'Nihon Nogyo Shimbun'                                                             | ③       | J        | D      | O     | ①           |
|                       | Nihon Shoken Shimbun Database                  | Collection of articles from 'Nihon Shoken Shimbun'                                                            | ③       | J        | D      | O     | ①           |
|                       | Nihon Shokuryo Shimbun Database                | Articles from 'Shokuryo Shimbun' the leading newspaper for food industry                                      | ②       | J        | D      | O     | ①           |
|                       | Nikkan Kensetsu Kogyo Shimbun Database         | Collection of articles from 'Nikkan Kensetsu Kogyo Shimbun'                                                   | ③       | J        | D      | O     | ①           |
|                       | Nikkan Kogyo Shimbun Database                  | Collection of articles on new products and technology from 'Nikkan Kogyo Shimbun'                             | ③       | J        | D      | O     | ①           |
|                       | NIKKAN SPORTS                                  | Collection of articles from 'Nikkan Sports' newspaper                                                         | ③       | J        | D      | O     | ①           |
|                       | Nikken                                         | Collection of articles from 'Nikken'                                                                          | ③       | J        | D      | O     | ①           |
|                       | PRIZE                                          | The introduction of 2,144 prizes in Japan and The winners' name of the prizes                                 | ③       | J        | D      | O     | ①           |
|                       | Ryukyu Shimpō Database                         | Collection of articles from 'Ryukyu Shimpō'                                                                   | ③       | J        | D      | O     | ①           |
|                       | Sankei Shimbun Database                        | Articles from 'Sankei Shimbun'                                                                                | ②       | J        | D      | O     | ①           |
|                       | Sankei Shimbun Database Personal Use Edition   | Collection of articles in the last two years from 'Sankei Shimbun Database'                                   | ③       | J        | D      | O     | ①           |
|                       | Senken Shimbun Database                        | Collection of articles from 'Senken Shimbun' the leading fashion newspaper in Japan                           | ③       | J        | D      | O     | ①           |
|                       | Shimbun Akahata Database                       | Collection of articles from 'Shimbun Akahata'                                                                 | ③       | J        | D      | O     | ①           |
|                       | Sports Nippon Database                         | Collection of the articles of Sports Nippon                                                                   | ③       | J        | D      | O     | ①           |
|                       | Tekko Shimbun Database                         | Collection of articles from 'Tekko Shimbun'                                                                   | ③       | J        | D      | O     | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company                                                         | Database                                                                                                                                      | Description                                                                                                                                                                    | Subject | Language | Status | Media | Destination |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| G-Search Limited(GSH)                                           | THE DAILY YOMIURI DATABASE                                                                                                                    | Collection of article from 'THE DAILY YOMIURI' published by the Yomiuri Shimbun. It includes full texts                                                                        | ③       | E        | D      | O     | ①           |
|                                                                 | Title of Weekly and Monthly Magazine                                                                                                          | Title information of 35 popular magazine                                                                                                                                       | ③       | J        | D      | O     | ①           |
|                                                                 | TKC Law Information Database                                                                                                                  | Full-text of civil and administrative cases and related information                                                                                                            | ②       | J        | D      | O     | ①           |
|                                                                 | Tokyo Shimbun Database                                                                                                                        | Collection of articles from 'Tokyo Shimbun'                                                                                                                                    | ③       | J        | D      | O     | ①           |
|                                                                 | Trial for the Database of Newspapers                                                                                                          | Provides the Samples of the database of the newspapers (Mainichi, Yomiuri, Sankei ) for free                                                                                   | ③       | J        | D      | O     | ①           |
|                                                                 | WHO                                                                                                                                           | Contains the profile, books, essays interviews of celebrities who appear in newspapers, magazines and books                                                                    | ③       | J        | D      | O     | ①           |
|                                                                 | Yomiuri Shimbun Database                                                                                                                      | Collection of articles from 'Yomiuri Shimbun' and 'Yomiuri Katei Shimbun'                                                                                                      | ③       | J        | D      | O     | ①           |
|                                                                 | Yomiuri Shimbun Database Personal Use Edition                                                                                                 | Collection of articles in the last two years from 'Yomiuri Shimbun Database'                                                                                                   | ③       | J        | D      | O     | ①           |
| Japan Association for International Chemical Information(JAICI) | QCldb                                                                                                                                         | Bibliographic database of ab initio quantum chemistry                                                                                                                          | ①       | E        | D      | C     | ①           |
| Japan Science and Technology Corporation(JST)                   | JAPICDOC                                                                                                                                      | Bibliographic Database on effectiveness and safety of Drugs                                                                                                                    | ①       | J        | D      | I/O   | ①           |
| National Institute of Informatics(NII)                          | bibliographia germanistica japonica                                                                                                           | Bibliographic information on books and serials held by Japanische Gesellschaft für Germanistik                                                                                 | ①       | J/O      | D      | I/O   | ①           |
|                                                                 | Bibliography of Central Asian Studies in Japan                                                                                                | Index information of academic documents in Japan relating of the Central Asian region                                                                                          | ①       | J/E/O    | D      | I/O   | ①           |
|                                                                 | Bibliography of Islamic and Middle Eastern Studies in Japan                                                                                   | Index information of academic documents in Japan relating of the Middle East and Islamic region                                                                                | ①       | J/E/O    | D      | I/O   | ①           |
|                                                                 | Bibliography of Japanese Sociology                                                                                                            | Bibliographic information on books and periodicals related to sociology that published by Japanese scholars or published in Japan                                              | ①       | J/E/O    | D      | I/O   | ①           |
|                                                                 | Catalog of Collection related to Curriculum Development and Instruction of Japanese Language Teaching, held by Naruto University of Education | Catalog information for books, periodicals and other data in the "Collection of Junya NOJI" and "Collection of Hama OHMURA" held by the Naruto University of Education Library | ①       | J        | D      | I/O   | ①           |
|                                                                 | Chemical Education Database                                                                                                                   | Citations (with abstracts) of articles appearing in "Chemistry and Education" Journal of the Chemical Society of Japan                                                         | ①       | J        | D      | I/O   | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company                                | Database                                                               | Description                                                                                                                                            | Subject | Language | Status | Media | Destination |
|----------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| National Institute of Informatics(NII) | Chemical Sensor Database                                               | Information on preparation and property of chemical sensors with bibliographic citations                                                               | ①       | E        | D      | I/O   | ①           |
|                                        | Database of American Studies in Japan                                  | Bibliographical data of works of American Studies in Japan                                                                                             | ①       | J        | D      | I/O   | ①           |
|                                        | Database of Dossier related to Japan in Russian Diplomatic Archives    | Information on the Japan related dossiers in the holdings of the Russian Ministry of Foreign Affairs                                                   | ①       | O        | D      | I/O   | ①           |
|                                        | Database of Geographical Studies in Japan                              | Bibliographic information on books and periodicals on geography and closely related fields that published in Japan                                     | ①       | J        | D      | I/O   | ①           |
|                                        | Database of Japanese Traditional Music by Modern Composers             | Bibliographic information on the contemporary music which has been composed mostly in the post-World War II years for Japan's traditional              | ③       | J        | D      | I/O   | ①           |
|                                        | Database of Medical Conference Proceedings in Japan                    | Catalog of conference proceedings in Japanese languages related to medical science and pharmacy, held by International Medical Information Center      | ①       | J        | D      | I/O   | ①           |
|                                        | Database on Bibliography for Scientific Studies on Cultural Properties | Bibliographic information on articles on scientific analyses and measurements using cultural properties in Japan                                       | ①       | J        | D      | I/O   | ①           |
|                                        | Directory of Special Collections of National University Libraries      | Directory of special collections of humanities and social sciences held by national university libraries in Japan                                      | ①       | J/E/O    | D      | I/O   | ①           |
|                                        | Hokkaido University Northern Studies Collection Database               | Bibliographic information on the Northern Studies Collection of Japan, collected and held by the Northern Studies Collection of the Hokkaido           | ①       | J        | D      | I/O   | ①           |
|                                        | Index for General Information of Home Economics Research               | Bibliographic citations of scientific papers in the field of home economics                                                                            | ①       | J        | D      | I/O   | ①           |
|                                        | Index to Papers of Architectural Institute of Japan                    | Index of papers featured in journals published by the Architectural Institute of Japan                                                                 | ①       | J        | D      | I/O   | ①           |
|                                        | Inventory of Japanese Historical Documents                             | Documents covered by historiographical materials, some of which take the form of "Eisha-bon" (full-size tracings made with brush and India ink on thin | ③       | J        | D      | I/O   | ①           |
|                                        | Japanese Periodicals Index                                             | Bibliographic citations of scientific papers in all fields in Japan                                                                                    | ①       | J        | D      | I/O   | ①           |
|                                        | Japanese Slavic and East European Studies Database                     | Information on literature relating to Slavic area published in Japan                                                                                   | ①       | J/E/O    | D      | I/O   | ①           |
|                                        | JPMARC                                                                 | National bibliography on books published in Japan                                                                                                      | ①②③     | J        | D      | I/O   | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company                                | Database                                                    | Description                                                                                                                                                                                                                                                                                            | Subject | Language | Status | Media | Destination |
|----------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| National Institute of Informatics(NII) | National Diet Library Catalog of Foreign Books              | Foreign Books catalog held by the National Diet Library                                                                                                                                                                                                                                                | ①②③     | E        | D      | I/O   | ①           |
|                                        | Primatological Reprint Collection Database                  | A bibliographic database of international scientific literature in primatology                                                                                                                                                                                                                         | ①       | J/E      | D      | I/O   | ①           |
|                                        | RAMBIOS                                                     | Bibliographic citation of review articles in the field of molecular biosciences                                                                                                                                                                                                                        | ①       | E        | D      | I/O   | ①           |
|                                        | Register of Private Grants-in-Aid                           | Research themes funded by private grant foundations                                                                                                                                                                                                                                                    | ①       | J        | D      | I/O   | ①           |
|                                        | Researcher directory of Asian Historical Studies in Japan   | Profile of researchers engaged in research on Asian history in Japan and information on papers published                                                                                                                                                                                               | ①       | J/E/O    | D      | I/O   | ①           |
|                                        | Researcher directory of Buddhist and Indic Studies in Japan | Profile of researchers engaged in research on Asian history in Japan and information on papers published                                                                                                                                                                                               | ①       | J/E/O    | D      | I/O   | ①           |
|                                        | Summary of Materials of Ishin History                       | Fulltext of the summary of materials of Ishin (Meiji Restoration)                                                                                                                                                                                                                                      | ③       | J        | D      | I/O   | ①           |
|                                        | The Japanese Bibliography of Southeast Asian Studies        | Bibliographical data of academic work on Southeast Asia published in Japan                                                                                                                                                                                                                             | ①       | J        | D      | I/O   | ①           |
| NEC Corporation(NEC)                   | BIGLOBE DATABASE                                            | Information on companies, economy, technology and international trade                                                                                                                                                                                                                                  | ①②③     | J        | D      | I     | ①           |
| NIFTY Corporation(@nifty)              | DIALOG                                                      | Reference service in English concerning a wide range of information in the field news, business, science and medicine                                                                                                                                                                                  | ①②③     | E        | D      | I/O   | ①           |
|                                        | MULTI MEDEIA DB                                             | Database service mainly consisted of business information                                                                                                                                                                                                                                              | ②③      | J        | D      | O     | ①           |
| NIHON KEIZAI SHIMBUN, INC.(NIKKEI)     | Corporate Borrowings Classified Financial Institutions      | Long-term and short-term borrowings classified by financial institutions for listed/Jasdaq companies                                                                                                                                                                                                   | ②       | J/E      | D      | O/M/C | ②③④         |
|                                        | Corporate Shareholding Data                                 | Book value, number of shares etc. of temporary or investment purpose securities holding                                                                                                                                                                                                                | ②       | J/E      | D      | O/M/C | ②③④         |
|                                        | International Financial Statistics(IMF)                     | Key economic indicators with emphasis on financial statistics for IMF member countries                                                                                                                                                                                                                 | ②       | E        | D      | O     | ②③④         |
|                                        | Direction of Trade Statistics (IMF)                         | Exports and Imports to and from each IMF member countries.                                                                                                                                                                                                                                             | ②       | E        | D      | O     | ①           |
|                                        | OECD Main Economic Indicators                               | Major economic indices including GDP and other monthly indicators for IMF member countries                                                                                                                                                                                                             | ②       | E        | D      | O     | ②③④         |
|                                        | OECD Quarterly National Accounts                            | National expenditure and its itemized break-down for more than 20 industrial                                                                                                                                                                                                                           | ②       | E        | D      | O     | ②③④         |
| NTT BUSINESS INFORMATION SERVICE INC.  | Town Page Database                                          | Search for area or industry type from 11 million nationwide corporate information listings in 1,800 categories (The Town Page Database is an electronic version of the NTT EAST and NTT WEST Town Pages) Details include company name, postcode, address, industry classification and telephone number | ③       | J        | D      | M/C   | ①           |

Table 2 Japanese Databases Accessible Overseas(2003:Distributors/Agents)

| Company                                                  | Database                        | Description                                                                                                                                                                                         | Subject | Language | Status | Media | Destination |
|----------------------------------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------|-------|-------------|
| ONGAKU SHUPPANSHA Co., Ltd.(CDJ)                         | MuzeMusic Japan                 | US/UK music product information database from Muze                                                                                                                                                  | ③       | J/E      | D/A    | I/O/C | ①           |
| PATOLIS Corporation                                      | Foreign Patent Official Gazette | Patent Official Gazette Data Published by USPTO, EPO and WIPO                                                                                                                                       | ①       | E/O      | D      | I/O   | ②③④         |
|                                                          | INPADOC                         | Published bibliographic data on patents and utility models of 66 countries and 5 international organizations from 1969. (Remark : Each accumulation period depends on countries and organizations.) | ①       | E/O      | D      | I/O   | ②③④         |
| Research Institute of Economy, Trade and Industry(RIETI) | Input-Output Table              | Input-Output table of Japanese industries, provided by the Ministry of Economy, Trade and Industry                                                                                                  | ②       | J        | D      | M/C   | ①           |
| Technomics, Inc.                                         | Actfund                         | Information on antibiotic substances, Natural Products                                                                                                                                              | ①       | J/E      | D      | M     | ②③          |
| TOKYO SHOKO RESEARCH, LTD.(TSR)                          | world base                      | Short Form Japanese Company Information                                                                                                                                                             | ②       | E        | D      | I/M/C | ①           |
| ZENRIN CO., LTD.                                         | All America Map Data Base       | All America Navigation Map Data Base                                                                                                                                                                | ①       | E        | D      | C     | ②           |
|                                                          | Europe Map Data Base            | All Europe Navigation Map Data Base                                                                                                                                                                 | ①       | O        | D      | C     | ③           |

## Appendix

Table 3 Japanese Databases Being Planned to Supply Overseas (2003)

**Subject**  
 ①: Science and Technology  
 ②: Economics, Business and Finance  
 ③: General/Others

**Language**  
 J: Japanese  
 E: English  
 O: Others

**Media**  
 I: Internet  
 O: Online  
 M: MT, FD  
 C: CD-ROM, MO, DVD, etc.

| Company                                                                              | Database                       | Description                                                                                                                              | Subject | Language | Media        |
|--------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|--------------|
| I-N INFORMATION SYSTEMS, LTD. (INIS)                                                 | I.N.Bond Database              | Information on domestic public issues by Japanese resident corporations                                                                  | ②       | E        | Undetermined |
| INCREMENT P CORPORATION                                                              | International Metropolitan Map | A map containing house figures on a scale of about 1:5000                                                                                | ②       | E        | M/C          |
| Nippon Statistics Center., Ltd.(NSC)                                                 | Data by Cities & Towns         | 3,363 District-Unit (2,000 data items)                                                                                                   | ②       | J/E      | M/C          |
|                                                                                      | Data by Smallest Area          | 180,789 District-Unit (400 data items)                                                                                                   | ②       | J/E      | M/C          |
| Osaka City Foundation for Urban Technology                                           | Osaka and Its Technology       | Outstanding reports on various fields of engineering written by staff engineering officers of the city                                   | ①       | E        | I            |
| The Energy Conservation Center, Japan (ECCJ)                                         | Energy Conservation Database   | English version of Energy Conservation Database in Japanese, Energy conservation technology data and related energy and environment data | ①       | J/E      | I            |
| The Energy Data and Modelling Center, The Institute of Energy Economics, Japan(EDMC) | EDMC Energy Databank           | Various Energy Data and its related Data in Japan and the World                                                                          | ③       | E        | I            |
| TMC Co., Ltd.                                                                        | Medie                          | Database for Medical Devices                                                                                                             | ③       | J/E      | I/O/M/C      |
| TOYO KEIZAI INC.                                                                     | Fundamental(Yuho)              | Final edition of financial report of all listed and OTC companies                                                                        | ②       | J/E      | I/M/C        |

## Appendix

Table 4 Address of Overseas Service Points (2003: Producers/Distributors)

| Company                                               | Contacts                                                                           | Address                                                                                                 | Telephone              | Facsimile          | Homepage                                                                                          | Status       |
|-------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------|--------------------|---------------------------------------------------------------------------------------------------|--------------|
| The Asahi Shimbun                                     | International Division,<br>The Asahi Shimbun                                       | 5-3-2 Tsukiji, Chuo-ku,<br>Tokyo 104-8011, Japan                                                        | +81-3-5541-8538        | +81-3-5541-8539    | <a href="http://www.asahi.com/english/english.html">http://www.asahi.com/english/english.html</a> | Headquarters |
|                                                       | C.W.N New York Office                                                              | 445 West 23rd Street<br>Suite 10-B New York<br>N.Y. 10011, U.S.A.                                       | +212-645-2464          | +212-645-0979      |                                                                                                   | Partner      |
|                                                       | New York Times<br>Syndication Sales                                                | 3 Rue Scribe Paris<br>75009, France                                                                     | +33-1-47-42-1711       | +33-1-47-42-8044   |                                                                                                   | Partner      |
| Association of Agriculture and<br>Forestry Statistics | Association of Agriculture<br>and Forestry Statistics                              | Meguro-Sumiya bldg., 3-<br>9-13 Shimo-Meguro,<br>Meguro-ku, Tokyo 153-<br>0064, Japan                   | +81-3-3492-2989        | +81-3-3492-2545    | <a href="http://www.aafs.or.jp">http://www.aafs.or.jp</a>                                         | Headquarters |
|                                                       | Maruzen Co., LTD.                                                                  | 2-3-10 Nihonbashi,<br>Chuo-ku, Tokyo 103-<br>8245, Japan                                                | +81-3-3273-3234        | +81-3-3271-6076    | <a href="http://www.maruzen.co.jp/">http://www.maruzen.co.jp/</a>                                 | Other        |
| AXESS INTERNATIONAL<br>NETWORK INC. (AXESS)           | AXESS INTERNATIONAL<br>NETWORK INC.                                                | Seafort Square Center<br>Bldg., 2-3-12 Higashi<br>Shinagawa, Shinagawa-<br>ku, Tokyo 140-8619,<br>Japan | +81-3-5460-7035        | +81-3-5460-7009    | <a href="http://www.axess.co.jp">http://www.axess.co.jp</a>                                       | Headquarters |
| Brandy International<br>Incorporated (BII)            | Brandy International<br>Incorporated                                               | Atago Toyo Bldg. 11F, 1-<br>3-4 Atago, Minato-ku,<br>Tokyo 105-0002, Japan                              | +81-3-5733-6120        | +81-3-5633-6130    | <a href="http://www.brandy.co.jp/">http://www.brandy.co.jp/</a>                                   | Headquarters |
|                                                       | Compu-Mark                                                                         | Sint-Pietersvliet 7 2000<br>Antwerpen Belgium                                                           | +32-3-220-7211         | +32-3-220-7390     | <a href="http://www.compu-mark.com">http://www.compu-mark.com</a>                                 | Partner      |
|                                                       | Thomson & Thomson                                                                  | 500 Victory Road North<br>Quincy, MA 02171,<br>U.S.A.                                                   | +1-617-376-5175        | +1-617-786-8273    | <a href="http://www.thomson-thomson.com">http://www.thomson-thomson.com</a>                       | Partner      |
| Database Promotion Center,<br>Japan (DPC)             | Database Promotion<br>Center, Japan                                                | 5th Floor, Shinbashi-<br>Tower Bldg., 2-13-8<br>Shinbashi, Minato-ku,<br>Tokyo 105-0004 Japan           | +81-3-3508-2430        | +81-3-3508-2440    | <a href="http://www.dpc.or.jp">http://www.dpc.or.jp</a>                                           | Headquarters |
| DENTSU INC.                                           | Electronic Library Office,<br>Media<br>Services/Newspaper<br>Division, DENTSU INC. | 1-8-1 Higashi-shimbashi,<br>Minato-ku, Tokyo 105-<br>7001, Japan                                        | +81-3-6216-8888        | +81-3-6217-5555    | <a href="http://www.dentsu.co.jp/">http://www.dentsu.co.jp/</a>                                   | Headquarters |
| Dun & Bradstreet Japan<br>Ltd. (D&B)                  | Dun & Bradstreet Japan<br>Ltd. (D&B)                                               | 11F Aobedai Hills, 4-7-7<br>Aobedai, Meguro-ku,<br>Tokyo 153-0042, Japan                                | +81-3-5464-2811        | +81-3-5465-2861    | <a href="http://www.dnb.co.jp">http://www.dnb.co.jp</a>                                           | Headquarters |
|                                                       | Dun & Bradstreet                                                                   | Austin, TX 78731, U.S.A.                                                                                | +1-512-794-7768        | +1-512-794-7670    | <a href="http://www.dnb.com">http://www.dnb.com</a>                                               | Headquarters |
|                                                       | Dun & Bradstreet Limited                                                           | Holmers Farm Way, High<br>Wycombe, Bucks HP12<br>4UL England                                            | +44-0-870-234-<br>2344 | +44-0-282-455-5193 | <a href="http://www.dnb.com">http://www.dnb.com</a>                                               | Headquarters |
| ELECTRONIC LIBRARY Inc.<br>(EL)                       | ELECTRONIC LIBRARY<br>Inc. (EL)                                                    | 8-11-13 Nishi-Gotanda,<br>Shinagawa-ku, Tokyo<br>141-0031, Japan                                        | +81-3-3779-1211        | +81-3-3779-1227    | <a href="http://www.einet.co.jp">http://www.einet.co.jp</a>                                       | Headquarters |

Table 4 Address of Overseas Service Points (2003:Producers/Distributors)

| Company                                               | Contacts                                         | Address                                                                                         | Telephone        | Facsimile        | Homepage                                                                        | Status                          |
|-------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------|------------------|---------------------------------------------------------------------------------|---------------------------------|
| Electronic Devices Information Service Co., Ltd.      | Electronic Devices Information Service Co., Ltd. | Hirakawa-cho KS Bldg., 5F., 2-4-14 Hirakawa-cho, Chiyoda-ku, Tokyo 102-0093, Japan              | +81-3-5275-3699  | +81-3-5275-3840  | <a href="http://www.elisnet.or.jp/">http://www.elisnet.or.jp/</a>               | Headquarters                    |
|                                                       | Media Technology and Communication Corp. (MTC)   | LiaoNing Province Dalian SHAHEKOU District XIAN Road NO.66 JUNAN Mansion, China                 | +86-0411-4606848 | +86-0411-4613048 |                                                                                 | Agent                           |
| Factiva, a Dow Jones & Reuters Company                | Factiva, a Dow Jones & Reuters Company           | Shuwa Kamiyacho Bldg., 3F. 4-3-13 Toranomon, Minato-ku, Tokyo 105-0001, Japan                   | +81-3-3432-4287  | +81-3-3432-4288  | <a href="http://www.jp.factiva.com/">http://www.jp.factiva.com/</a>             | Headquarters                    |
| FUJITSU LIMITED                                       | FUJITSU LIMITED                                  | Fujitsu Ebisu Bldg., 1-18-18 Ebisu, Shibuya-ku, Tokyo 150-8450, Japan                           | +81-3-5423-6350  | +81-3-5449-7240  | <a href="http://www.fujitsu.co.jp">http://www.fujitsu.co.jp</a>                 | Headquarters                    |
| GfK Marketing Services Japan Ltd.                     | GfK Marketing Services Japan Ltd.                | Nakanosakaue Sunbright Twin 15F, 2-45-1 Honcho, Nakano-ku, Tokyo 164-0012, Japan                | +81-3-5350-4621  | +81-3-5350-4647  | <a href="http://www.gfk.jp">http://www.gfk.jp</a>                               | Headquarters                    |
| Green Net CO., LTD.                                   | GreenNet CO., LTD.                               | 11-12, Toranomon 3-chome, Minato-ku, Tokyo 105-0001, Japan                                      | +81-3-5776-0331  | +81-3-3459-8896  | <a href="http://www.g-net.ne.jp">http://www.g-net.ne.jp</a>                     | Headquarters                    |
|                                                       | GREEN NET KOREA CO., LTD.                        | #408, Dab Kyo B/D 56-4, 3GA Wonhyo-ro Yong San-gu Seoul, Korea.                                 | +82-2-717-1884   | +82-2-706-5887   |                                                                                 | Partner                         |
| G-Search Limited(GSH)                                 | G-Search Limited                                 | LOOP-X Bldg., 9F 3-9-15 Kaigan, Minato-ku, Tokyo 108-0022, Japan                                | +81-3-5442-4390  | +81-3-5442-4391  | <a href="http://www.g-search.or.jp">http://www.g-search.or.jp</a>               | Headquarters                    |
| I-N INFORMATION SYSTEMS, LTD. (INIS)                  | I-N INFORMATION SYSTEMS, LTD.                    | 3-7-1 Kanda-Nishikicho, Chiyoda-ku, Tokyo 101-0054, Japan                                       | +81-3-5281-1101  | +81-3-5281-0707  | <a href="http://www.indb.co.jp/">http://www.indb.co.jp/</a>                     | Headquarters                    |
|                                                       | Thomson Financial LTD.                           | Aldgate House, 33 Aldgate High Street, London, U.K.                                             | +44-207-250-3000 |                  |                                                                                 | Partner                         |
|                                                       | Factset Research Systems Greenwich, CT           | One Greenwich Plaza Greenwich, Connecticut, USA 06830                                           | +1-203-853-1500  | +1-203-853-1501  | <a href="http://factset.com">http://factset.com</a>                             | Partner                         |
| INCREMENT P CORPORATION                               | INCREMENT P CORPORATION EU OFFICE                | 7-1, Shimomeguro, 1-chome, Meguro-ku, Tokyo 153-8665                                            | +81-3-5721-1337  | +81-3-5721-1440  | <a href="http://www.incrementp.co.jp">http://www.incrementp.co.jp</a>           | Headquarters                    |
|                                                       | INCREMENT P CORPORATION EU OFFICE                | 12 Rue de Montmorency 75003 Paris France                                                        | +33-0-140-290092 |                  |                                                                                 | Partner                         |
|                                                       | INCREMENT P SHANGHAI CO., LTD                    | 2F, #40 333 Qinjiang Lu Caohejing Hi-Tech Park Shanghai P.R.China                               | +86-21-6485-5189 |                  |                                                                                 | Subsidiary                      |
| Information Handling Services Japan, Inc. (IHS Japan) | Information Handling Services Japan, Inc         | Cera 51 Bldg, 1-21-8, Ebisu, Shibuya-ku, Tokyo 150-0013, Japan                                  | +81-3-5791-9651  | +81-5791-9652    | <a href="http://www.ihsjapan.co.jp">http://www.ihsjapan.co.jp</a>               | Headquarters (In Japan)         |
|                                                       | Information Handling Services                    | 15 Inverness Way East Englewood, CO80112 U.S.A.                                                 | +1-800-716-3447  | +1-800-716-5447  | <a href="http://www.ihs.com">http://www.ihs.com</a>                             | IHS Group, Headquarters in USA  |
| INTAGE Inc.                                           | INTAGE Inc.                                      | 1-4-1 Honcho, Higashikurume-shi, Tokyo 203-8601, Japan                                          | +81-424-76-5184  | +81-424-76-5178  | <a href="http://www.intage.co.jp/english/">http://www.intage.co.jp/english/</a> | Marketing Intelligence Division |
|                                                       | INTAGE Marketing Consulting (Shanghai) Co., Ltd. | Room 508 Shanghai International Trade Center No.2201, Yan-an Road(West), Shanghai 200336, China | +86-21-6275-3322 | +86-21-6275-0785 | <a href="http://www.intage.co.jp/chinese/">http://www.intage.co.jp/chinese/</a> | Subsidiary                      |
|                                                       | EUROPANEL                                        | Westgate, London W5 1 UA, U.K.                                                                  | +44-20-8967-4559 | +44-20-8967-4002 | <a href="http://www.europanel.com">http://www.europanel.com</a>                 | Other                           |

Table 4 Address of Overseas Service Points(2003:Producers/Distributors)

| Company                                                          | Contacts                                                                                                 | Address                                                                         | Telephone        | Facsimile        | Homepage                                                                | Status       |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------|------------------|-------------------------------------------------------------------------|--------------|
| Japan Association for International Chemical Information (JAICI) | Japan Association for International Chemical Information                                                 | Nakai Bldg., 6-25-4 Honkomagome, Bunkyo-ku, Tokyo 113-0021, Japan               | +81-3-5978-3608  | +81-3-5978-3600  | <a href="http://www.jaici.or.jp/">http://www.jaici.or.jp/</a>           | Headquarters |
| Japan Construction Information Center(JACIC)                     | Japan Construction Information Center                                                                    | Akasaka Seventh Avenue Bldg., 7-10-20 Akasaka, Minato-ku, Tokyo 107-8416, Japan | +81-3-3505-2981  | +81-3-3505-2966  | <a href="http://www.jacic.or.jp/">http://www.jacic.or.jp/</a>           | Headquarters |
| Japan External Trade Organization (JETRO)                        | Japan External Trade Organization                                                                        | 2-2-5 Toranomon, Minato-ku, Tokyo 105-8466, Japan                               | +81-3-3582-5511  | +81-3-3587-0219  | <a href="http://www.jetro.go.jp">http://www.jetro.go.jp</a>             | Headquarters |
| Japan Packaging Machinery Manufacturers Association(JPMA)        | Japan Packaging Machinery Manufacturers Association                                                      | 7thF, Kimura Bldg., 5-5 Asekusabashi, Taito-ku, Tokyo 111-0053, Japan           | +81-3-3865-2815  | +81-3-3865-2850  | <a href="http://www.jpma.or.jp/">http://www.jpma.or.jp/</a>             | Headquarters |
| JAPAN PATENT DATA SERVICE CO.(JPDS)                              | HANLIM IPS CO.,LTD                                                                                       | Suda Bldg., 1-17-8 Nishi-Shinbashi, Minato-ku, Tokyo 105-0003, Japan            | +81-3-3580-8021  | +81-3-5512-7810  | <a href="http://www.jpds.co.jp">http://www.jpds.co.jp</a>               | Agent        |
| Japan Patent Information Organization (Japio)                    | Japan Patent Information Organization (Japio)                                                            | Sato-Dia Bldg.4-1-7 Toyo, Koto-ku, Tokyo 135-0016, Japan                        | +81-3-5615-5511  | +81-3-3615-5521  | <a href="http://www.japio.or.jp">http://www.japio.or.jp</a>             | Headquarters |
| Japan Science and Technology Corporation (JST)                   | Japan Science & Technology Corporation (JST) Fixed fee Services and Overseas Business Marketing Division | 5-3 Yonbancho, Chiyoda-ku, Tokyo 102-8666, Japan                                | +81-3-5214-7513  | +81-3-5214-7514  | <a href="http://pr.jst.go.jp/">http://pr.jst.go.jp/</a>                 | Headquarters |
|                                                                  | CEDOCAR                                                                                                  | 00460 Armees, France                                                            |                  |                  |                                                                         | Partner      |
|                                                                  | Chemical Abstracts Service                                                                               | 2540 Olenlangy River Road, P.O.Box 3012 Columbus, Ohio 43210, U.S.A.            | +1-614-447-3731  | +1-614-447-3751  | <a href="http://www.cas.org/">http://www.cas.org/</a>                   | Partner      |
|                                                                  | FIZ Karlsruhe                                                                                            | Postfach 2465 78012 Karlsruhe Federal Republic of Germany                       | +49-7247-808-555 | +49-7247-808-259 | <a href="http://www.fiz-karlsruhe.de/">http://www.fiz-karlsruhe.de/</a> | Partner      |
|                                                                  | The Dialog Corp.                                                                                         | The Communications Bldg.48 Leicester Square, London, WC2H 7DB, United Kingdom   | +44-171-930-6900 | +44-171-930-6006 |                                                                         | Partner      |
|                                                                  | Cosmo Information & Technology Co., Ltd                                                                  | Young Jin B/D 3F, 97, Kuro-Dong, Kuro-ku, Seoul, Korea                          | +82-2-3281-2916  | +82-2-857-4770   | <a href="http://www.cosinfo.co.kr/">http://www.cosinfo.co.kr/</a>       | Agent        |
| Jiho, Inc.                                                       | Jiho, Inc.                                                                                               | Hitotsubashi Bldg., 2-6-3 Hitotsubashi, Chiyoda-ku, Tokyo 101-8421, Japan       | +81-3-3265-7765  | +81-3-3265-3802  | <a href="http://www.jiho.co.jp/">http://www.jiho.co.jp/</a>             | Headquarters |
| KAHOKU SHIMPO PUBLISHING CO.                                     | KAHOKU SHIMPO PUBLISHING CO.                                                                             | 1-2-28 Itsutsubashi, Aoba-ku, Sendai 980-8660, Japan                            | +81-22-211-1155  | +81-22-211-1156  | <a href="http://www.kahoku.co.jp/">http://www.kahoku.co.jp/</a>         | Headquarters |
| K.K. Kyodo News                                                  | K.K. Kyodo News                                                                                          | Shiodome Media Tower, 1-7-1 Higashi-Shimbashi, Minato-ku, Tokyo 106-7208, Japan | +81-3-6252-6095  | +81-3-6252-6097  | <a href="http://www.kyodo.co.jp/">http://www.kyodo.co.jp/</a>           | Headquarters |
| KPS Corporation                                                  | KPS Corporation                                                                                          | 2-4-8 Hyakunincho, Shinjuku-ku, Tokyo 169-0073, Japan                           | +81-3-3360-5111  | +81-3-3360-5150  | <a href="http://www.kpscorp.co.jp">http://www.kpscorp.co.jp</a>         | Headquarters |

Table 4 Address of Overseas Service Points(2003:Producers/Distributors)

| Company                                              | Contacts                                          | Address                                                                            | Telephone                  | Facsimile         | Homepage                                                                            | Status       |
|------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------|----------------------------|-------------------|-------------------------------------------------------------------------------------|--------------|
| Market Information Center for Perishable Food(MICPF) | Market Information Center for Perishable Food     | NTT DATA Omori Sanno Bldg., 1-3-5 Sanno, Ohta-ku, Tokyo 143-0023, Japan            | +81-3-3778-5478            | +81-3-3778-6479   | <a href="http://www2s.biglobe.ne.jp/~lains/">http://www2s.biglobe.ne.jp/~lains/</a> | Headquarters |
| Maruzen Co., Ltd.                                    | Maruzen Co., Ltd.                                 | 2-3-10 Nihonbashi, Chuo-ku, Tokyo 103-8245, Japan                                  | +81-3-3272-0398            | +81-3-3272-7267   | <a href="http://www.maruzen.co.jp/">http://www.maruzen.co.jp/</a>                   | Headquarters |
|                                                      | Maruzen International Co., Ltd.                   | 1200 Harbor Blvd. 10th Floor, Weehawken, New Jersey 07086, U.S.A.                  | +1-201-865-4400            | +1-201-865-4845   | <a href="http://www.maruzenusa.com">http://www.maruzenusa.com</a>                   | Subsidiary   |
|                                                      | Maruzen Co., Ltd. London office                   | Ireland House 150/151, New Bond Street, London W1Y 0AQ, U.K.                       | +44-020-7409-0288          | +44-020-7629-3515 |                                                                                     | Branch       |
| Media Research Center, Inc.                          | Media Research Center, Inc.                       | Heiwado Bldg 5F, 2-4 Kanda-Ogawamachi, Chiyoda-ku, Tokyo 101-0052, Japan           | +81-3-3219-7575            | +81-3-3219-7377   |                                                                                     | Headquarters |
| Mergent Japan K.K.                                   | Mergent Japan K.K.                                | Shin Aoyama Bldg., West 21F, 1-1-1 Minami-Aoyama, Minato-ku, Tokyo 107-0062, Japan | +81-3-5770-5321            | +81-3-5770-5328   | <a href="http://www.mergentjapan.com">http://www.mergentjapan.com</a>               | Headquarters |
|                                                      | Mergent Inc.                                      | 5250 77 Center Drive Suite 150 Charlotte, U.S.A                                    | +1-704-559-6895            |                   | <a href="http://www.mergent.com">http://www.mergent.com</a>                         | Headquarters |
| National Diet Library (NDL)                          | National Diet Library (NDL)                       | 1-10-1 Nagata-cho, Chiyoda-ku, Tokyo 100-8924, Japan                               | +81-3-3581-2331 (Ex.25111) | +81-3-3581-5712   | <a href="http://www.ndl.go.jp">http://www.ndl.go.jp</a>                             | Headquarters |
| National Institute of Informatics (NII)              | National Institute of Informatics                 | National Center of Sciences, 2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8430, Japan | +81-3-4212-2145            | +81-3-4212-2150   | <a href="http://www.nii.ac.jp/">http://www.nii.ac.jp/</a>                           | Headquarters |
| NEC Corporation (NEC)                                | NEC Corporation                                   | 5-7-1 Shiba, Minato-ku, Tokyo 108-8001, Japan                                      | +81-3-3454-1111            |                   | <a href="http://www.office.biglobe.ne.jp">http://www.office.biglobe.ne.jp</a>       | Headquarters |
| New Glass Forum (NGF)                                | New Glass Forum                                   | 2-12-15 Shimbashi, Minato-ku, Tokyo 105-0004, Japan                                | +81-3-3595-2775            | +81-3-3595-0255   | <a href="http://www.ngf.or.jp">http://www.ngf.or.jp</a>                             | Headquarters |
| Nichigai Associates, Inc.                            | Nichigai Associates, Inc.                         | #3 Shimokawa Bldg., 1-23-8 Ohmon-Kitae, Ohta-ku, Tokyo 143-8550, Japan             | +81-3-3763-5241            | +81-3-3764-0845   | <a href="http://www.nichigai.co.jp">http://www.nichigai.co.jp</a>                   | Headquarters |
|                                                      | Japan Publications Trading Co., Ltd.              | 1-2-1 Sarugaku-cho, Chiyoda-ku, Tokyo 101-0064, Japan                              | +81-3-3292-3751            | +81-3-3292-0410   | <a href="http://www.jpico.co.jp">http://www.jpico.co.jp</a>                         | Agent        |
|                                                      | Kinokuniya Bookstores International Business Div. | 3-13-11 Higashi, Shibuya-ku, Tokyo 150-8513, Japan                                 | +81-3-5469-5907            | +81-3-5469-5947   | <a href="http://www.kinokuniya.co.jp">http://www.kinokuniya.co.jp</a>               | Agent        |

Table 4 Address of Overseas Service Points(2003:Producers/Distributors)

| Company                               | Contacts                                     | Address                                                                            | Telephone        | Facsimile        | Homepage                                                                  | Status       |
|---------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------|------------------|------------------|---------------------------------------------------------------------------|--------------|
| NIFTY Corporation (@nifty)            | NIFTY Corporation                            | Ohmori BellPort A, 6-26-1 Minami-Ohi, Shinagawa-ku, Tokyo 140-8544, Japan          | +81-3-5471-5806  |                  | <a href="http://www.nifty.com">http://www.nifty.com</a>                   | Headquarters |
|                                       | MX Engineering Corporation                   | 3F-C No.120 Yumin6 Rd, Peitou Dist, Taipei, Taiwan, R.O.C                          | +886-2-2827-8457 | +886-2-2827-8456 |                                                                           | Partner      |
|                                       | Toyo Information Systems(HK)Co., Ltd.        | 7F, Dah Sing Financial Centre 108, Gloucester Rd,Wanchai, Hong Kong                | +852-2598-7171   | +852-2598-6126   |                                                                           | Partner      |
| NIHON KEIZAI SHIMBUN, INC. (NIKKEI)   | Nihon Keizai Shimbun, Inc.                   | 1-9-5 Otemachi, Chiyoda-ku, Tokyo 100-8066, Japan                                  | +81-3-5255-2100  | +81-3-5255-2809  | <a href="http://www.nikkei.co.jp">http://www.nikkei.co.jp</a>             | Headquarters |
|                                       | Nihon Keizai Shimbun America, Inc.           | 1325 Avenue of the Americas, Suite #2500, New York, NY 10019, U.S.A.               | +1-212-261-6240  | +1-212-261-6249  | <a href="http://www.nikkei.us.com">http://www.nikkei.us.com</a>           | Branch       |
|                                       | Nihon Keizai Shimbun Europe, Ltd.            | 6th Floor, Finsbury Circus House, 12-15 Finsbury Circus, London EC2M 7BT, U.K.     | +44-20-7562-8220 | +44-20-7562-8244 |                                                                           | Branch       |
|                                       | Nihon Keizai Shimbun Singapore Pte Ltd.      | 331 North Bridge Road, #13-02/03, Odeon Towers, Singapore 186720                   | +65-6336-4122    | +65-6336-4016    | <a href="http://www.nikkei.com.sg/">http://www.nikkei.com.sg/</a>         | Branch       |
|                                       | Nihon Keizai Shimbun, Hong Kong Ltd.         | Suite 1707B-10, Dah Sing Financial Centre, 108 Gloucester Road, Wanchai, Hong Kong | +852-2598-1771   | +852-2845-7768   |                                                                           | Branch       |
| Nippon Statistics Center Ltd.(NSC)    | Nippon Statistics Center Ltd.                | Tawara-machi City Bldg., 2-10-13 Kotobuki, Taito-ku, Tokyo 111-0042, Japan         | +81-3-3847-1701  | +81-3-3847-1708  | <a href="http://www.nihon-toukei.co.jp">http://www.nihon-toukei.co.jp</a> | Headquarters |
|                                       | ACTON INTERNATIONAL LTD.                     | 4901 North 57th Street, 68507-3102, Box 5059 Lincoln, NE, U.S.A.                   | +1-402-466-8400  | +1-402-466-9774  | <a href="http://www.acton.com">http://www.acton.com</a>                   | Partner      |
| Nomura Research Institute, Ltd. (NRI) | Nomura Research Institute, Ltd.              | Tower S, 1-5-25 Kiba, Koto-ku, Tokyo 135-0042, Japan                               | +81-3-5857-1348  | +81-3-5857-1993  | <a href="http://www.nri.co.jp">http://www.nri.co.jp</a>                   | Headquarters |
|                                       | Haver Analytics                              | 60 East 42nd Street, Suite 3310, New York, NY U.S.A.                               | +1-212-986-9300  | +1-212-986-5857  | <a href="http://www.haver.com">http://www.haver.com</a>                   | Agent        |
|                                       | Nomura Research Institute America, Inc.      | 40 Wall Street, 34th floor, New York, NY 10005, U.S.A.                             | +1-212-607-2900  | +1-212-607-2997  |                                                                           | Branch       |
|                                       | Nomura Research Institute Europe Limited     | Nomura House, 1, St.Martin's-le-Grand, London, EC1A 4NP, U.K.                      | +44-20-7521-2000 | +44-20-7521-3690 |                                                                           | Branch       |
|                                       | WEFA, Inc.                                   | 800 Baldwin Tower Eddystone, PA 19022, U.S.A.                                      | +1-610-490-4000  | +1-610-490-2770  | <a href="http://www.wefa.com">http://www.wefa.com</a>                     | Agent        |
| NRI Cyber Patent, Ltd.                | NRI Cyber Patent, Ltd                        | Otemachi Bldg. 4F, 1-6-1 Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan               | +81-3-5208-1011  | +81-3-5208-5550  | <a href="http://www.patent.ne.jp">http://www.patent.ne.jp</a>             | Headquarters |
|                                       | Nomura Research Institute, Ltd. Seoul Branch | 11th Fl. Youngpoong Bldg. 33, Seorin-Dong Chongro-ku, Seoul 110-752, Korea         | +82-2-399-5111   |                  |                                                                           | Agent        |

Table 4 Address of Overseas Service Points(2003:Producers/Distributors)

| Company                                      | Contacts                                                               | Address                                                                      | Telephone         | Facsimile         | Homepage                                                            | Status       |
|----------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------|-------------------|---------------------------------------------------------------------|--------------|
| NTT BUSINESS INFORMATION SERVICE, INC.       | NTT BUSINESS INFORMATION SERVICE, INC.                                 | Kudan Fuji Bldg., 2-4 Kanda-Jimbocho, Chiyoda-ku, Tokyo 101-0051, Japan      | +81-3-5210-0151   | +81-3-5210-0155   | <a href="http://www.ntbis.co.jp">http://www.ntbis.co.jp</a>         | Headquarters |
| NTT Visual Communication Systems Inc.(NTT-V) | NTT Visual Communication Systems Inc.                                  | 1-11-9 Azabudai, Minato-ku, Tokyo 106-8642, Japan                            | +81-3-3589-1018   | +81-3-3505-2800   | <a href="http://www.nttvcs.co.jp/">http://www.nttvcs.co.jp/</a>     | Headquarters |
| ONGAKU SHUPPANSHA Co., Ltd.(CDJ)             | ONGAKU SHUPPANSHA Co., Ltd.                                            | 8F Inaoka Bldg., 2-35 Kanda-Jimbocho, Chiyoda-ku, Tokyo 101-0051, Japan      | +81-3-3261-2072   | +81-3-3237-8016   | <a href="http://www.cdjournal.com">http://www.cdjournal.com</a>     | Headquarters |
|                                              | Muze Inc.                                                              | 304 Hudson street 8th Floor, New York, NY 10013-1015, U.S.A.                 | +1-212-824-0372   | +1-212-824-0375   | <a href="http://www.muze.com">http://www.muze.com</a>               | Partner      |
|                                              | ZACR Database Systems Co., Ltd.                                        | 1330-18 Hyundai Krim B/D/409, Seocho-2Dong, Seocho-ku Seoul, Korea           | +82-2-3473-1873   | +82-2-3473-1875   |                                                                     | Branch       |
|                                              | Elong DBS Co., Ltd.                                                    | Unit 04A, 121F, Ocean Centre, 5 Canton Road, Tsimshatsui, Kowloon, Hong Kong | +852-3106-3918    | +852-3106-0152    |                                                                     | Branch       |
| Osaka City Foundation for Urban Technology   | Osaka City Foundation for Urban Technology                             | 1-4-1 Minatomachi, Naniwa-ku, Osaka 556-0017 Japan                           | +81-6-6647-1910   | +81-6-6647-1920   | <a href="http://www.osakacity.or.jp">http://www.osakacity.or.jp</a> | Headquarters |
| PASCO CORPORATION                            | PASCO CORPORATION                                                      | Higashiyama Bldg., 1-1-2, Higashiyama, Meguro-ku, Tokyo 153-0043, Japan      | +81-3-3715-4011   | +81-3-6412-2833   | <a href="http://www.pasco.co.jp">http://www.pasco.co.jp</a>         | Headquarters |
|                                              | PASCO CERTEZA COMPUTER MAPPING CORP.                                   | 10th Floor, Strata 100Bld, Emerald Avenue, Pasig City, Philippine            | 001-632-632-0613  | 001-632-631-1431  |                                                                     | Subsidiary   |
|                                              | WUHAN PERMANENT DIGITAL DEVELOPMENT CO., LTD. (PD)                     | No.88, Huangli Road, Wuchang District, WUHAN, HUBEI, P.R.CHINA               | +86-27-86796043   | +86-27-86782815   |                                                                     | Subsidiary   |
|                                              | SUPER DIMENSION EARTH SCIENCE RESEARCH and DEVELOPMENT CO., LTD. (SDR) | No.233, Binhe Road, Suzhou New District, JIANGSU, P.R.CHINA                  | +86-512-6824-9772 | +86-512-6825-9247 |                                                                     | Subsidiary   |
| PATOLIS Corporation                          | PATOLIS Corporation                                                    | Sumitomo Fudosan Kiba Bldg., 2-4-29 Shiohama, Koto-ku, Tokyo 135-0043, Japan | +81-3-5690-5607   | +81-3-5690-5559   | <a href="http://www.patolis.co.jp">http://www.patolis.co.jp</a>     | Headquarters |
|                                              | European Patent Office (EPO)                                           | Rennweg 12 Postfach 90 A - 1031 Vienna, Austria                              | +43-1-521-26-4372 | +43-1-521-26-4197 | <a href="http://www.epo.org">http://www.epo.org</a>                 | Partner      |
|                                              | QUESTEL/Orbit                                                          | 4, rue des Colonnes 75082 Paris Cedex 02 France                              | +33-1-55045200    | +33-1-55045201    | <a href="http://questel.orbit.com">http://questel.orbit.com</a>     | Partner      |
|                                              | WIPS                                                                   | Kukdong Bldg. 20F, 60-1, Chungmuro 3-ka, Chung-ku, Seoul, Korea 110-705      | +82-2-362-1288    | +82-2-362-1289    | <a href="http://www.wips.co.kr/">http://www.wips.co.kr/</a>         | Partner      |
| Protein Research Foundation(PRF)             | Protein Research Foundation                                            | 4-1-2, Ina, Minoh-shi, Osaka 562-8686, Japan                                 | +81-6-6873-5501   | +81-6-6873-5582   | <a href="http://www.prf.or.jp/">http://www.prf.or.jp/</a>           | Headquarters |
| QUICK Corp.                                  | QUICK Corp.                                                            | Otemachi Bldg., 1-6-1 Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan            | +81-3-3216-5911   | +81-3-3287-0836   | <a href="http://www.quick.co.jp/">http://www.quick.co.jp/</a>       | Headquarters |

Table 4 Address of Overseas Service Points(2003:Producers/Distributors)

| Company                                                              | Contacts                                                                       | Address                                                                  | Telephone        | Facsimile        | Homepage                                                                                                                     | Status                |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------|------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| QUICK Corp.                                                          | QUICK AMERICA CORPORATION                                                      | Two Wall Street, Suite 520, New York, NY 10005, U.S.A.                   | +1-212-720-4950  | +1-212-720-4989  |                                                                                                                              | Subsidiary            |
|                                                                      | QUICK Corp. London Branch                                                      | 5Floor, 110 Middlesex Street, London E1 7HY, U.K.                        | +44-20-7377-2222 | +44-20-7377-2201 |                                                                                                                              | Branch                |
|                                                                      | QUICK Corp. Hong Kong Representative Office                                    | Room 3001, Sino Plaza, 255-257, Gloucester Road, Causeway Bay, Hong Kong | +852-2831-9888   | +852-2831-9866   |                                                                                                                              | Representative Office |
|                                                                      | QUICK Corp. Shanghai Representative Office                                     | 1376 Nan Jing Xi Lu Shanghai Centre Suite 441 Shanghai, China 200040     | +86-21-6279-6919 | +86-21-6279-6819 |                                                                                                                              | Representative Office |
| Research Institute of Human Engineering for Quality Life(HQL)        | Research Institute of Human Engineering for Quality Life                       | Kowa-awashin Bldg.3F., 3-3-7 Awaji-machi, Chuo-ku, Osaka 541-0047, Japan | +81-6-6221-1660  | +81-6-6221-1705  | <a href="http://www.hql.jp/">http://www.hql.jp/</a>                                                                          | Headquarters          |
| Research Institute of Economy, Trade and Industry (RIETI)            | Research Institute of Economy, Trade and Industry                              | Kobiki-kan Ginza Bldg., 2-8-9 Ginza, Chuo-ku Tokyo 104-0061 Japan        | +81-3-3535-5348  | +81-3-3535-5347  | <a href="http://www.chosakai.or.jp/center/">http://www.chosakai.or.jp/center/</a>                                            | Headquarters          |
| Research Organization for Information of Science & Technology (RIST) | Research Organization for Information of Science & Technology (RIST)           | 2-4 Shirakata-Shirane, Tokai-mura, Naka-gun, Ibaraki 319-1106, Japan     | +81-29-283-3833  | +81-29-283-3811  | <a href="http://www.mext-alm.jst.go.jp/atomica.html">http://www.mext-alm.jst.go.jp/atomica.html</a>                          | Representative Office |
| Rural Culture Association                                            | Rural Culture Association                                                      | 7-6-1 Akasaka, Minato-ku, Tokyo 107-8668, Japan                          | +81-3-3585-1149  | +81-3-3585-6456  | <a href="http://www.ruralnet.or.jp/">http://www.ruralnet.or.jp/</a>                                                          | Headquarters          |
| Shinnippon-hoki Publishing CO., Ltd.                                 | Shinnippon-hoki Publishing CO., Ltd.                                           | 1-23-20 Sakae, Naka-ku, Nagoya-city.460-8455 Japan                       | +81-52-211-5781  | +81-52-212-3793  | <a href="http://www.e-hoki.com">http://www.e-hoki.com</a><br><a href="http://www.sn-hoki.co.jp">http://www.sn-hoki.co.jp</a> | Headquarters          |
| Shobunsha Publications, Inc.                                         | Shobunsha Publications, Inc.                                                   | 3-1 Kohjimachi, Chiyoda-ku, Tokyo 102-8236, Japan                        | +81-3-3556-8155  | +81-3-3556-8881  | <a href="http://www.mapple.co.jp/">http://www.mapple.co.jp/</a>                                                              | Headquarters          |
| Technomics, Inc.                                                     | Technomics, Inc.                                                               | Ohku Building Kyobashi, 1-16-10 Kyobashi, Chuo-ku, Tokyo 104-0031, Japan | +81-3-3538-2531  | +81-3-3538-2537  | <a href="http://www.technomics.co.jp">http://www.technomics.co.jp</a>                                                        | Headquarters          |
| TEIKOKU DATABANK LTD. (TDB)                                          | TEIKOKU DATABANK LTD.                                                          | 2-5-20 Minami-Aoyama, Minato-ku, Tokyo 107-8680, Japan                   | +81-3-5775-3092  | +81-3-5775-3099  | <a href="http://www.tdb.co.jp/">http://www.tdb.co.jp/</a>                                                                    | Headquarters          |
|                                                                      | TEIKOKU DATABANK AMERICA, INC.                                                 | 747 Third Avenue, 25th Fl., New York, NY 10017, U.S.A.                   | +1-212-421-9805  | +1-212-421-9806  | <a href="http://www.teikoku.com/">http://www.teikoku.com/</a>                                                                | Subsidiary            |
|                                                                      | TDB KOREA, LTD.                                                                | 832-41 Yeoksam-Dong, Kangnam-ku, Seoul 135-080, Korea                    | +82-2-553-1848   | +82-2-554-1304   |                                                                                                                              | Subsidiary            |
| The Energy Conservation Center, Japan (ECCJ)                         | The Energy Conservation Center, Japan                                          | 3-19-9 Hatchobori, Chuo-ku, Tokyo 104-0032, Japan                        | +81-3-5543-3017  | +81-3-5543-3021  | <a href="http://www.eccj.or.jp/">http://www.eccj.or.jp/</a>                                                                  | Headquarters          |
| The Energy Data and Modelling Center, JAPAN (EDMC)                   | The Energy Data and Modelling Center, The Institute of Energy Economics, JAPAN | Inui Bldg., Kachidoki, 1-13-1 Kachidoki, Chuo-ku, Tokyo 104-0054, Japan  | +81-3-5547-0215  | +81-3-5547-0226  | <a href="http://www.ieej.or.jp/edmc/">http://www.ieej.or.jp/edmc/</a>                                                        | Headquarters          |

Table 4 Address of Overseas Service Points(2003:Producers/Distributors)

| Company                                       | Contacts                                                               | Address                                                                   | Telephone       | Facsimile       | Homepage                                                                  | Status       |
|-----------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------|-----------------|---------------------------------------------------------------------------|--------------|
| The Japan Shipping Exchange, Inc.(JSE)        | The Japan Shipping Exchange, Inc.                                      | Wajun Bldg. 3rd Fl., 2-22-2, Koishikawa, Bunkyo-ku, Tokyo 112-0002, Japan | +81-3-5802-8361 | +81-3-5802-8371 | <a href="http://www.jseinc.org/">http://www.jseinc.org/</a>               | Headquarters |
| The Japan Times, Ltd. (Japan Times)           | The Japan Times, Ltd.                                                  | 4-5-4 Shibaura, Minato-ku, Tokyo 108-0014, Japan                          | +81-3-3453-3946 | +81-3-3453-6095 |                                                                           | Headquarters |
|                                               | JT USA Inc.                                                            | 3655 Torrance, Blvd., Suite 430, Torrance, CA 90503 U.S.A                 | +1-310-540-6862 | +1-310-540-3462 |                                                                           | Branch       |
| THE MAINICHI NEWSPAPERS(Mainichi INTERACTIVE) | THE MAINICHI NEWSPAPERS                                                | 1-1-1 Hitotsubashi, Chiyoda-ku, Tokyo 100-8051, Japan                     | +81-3-3212-1819 | +81-3-3212-5122 | <a href="http://www.mainichi.co.jp">http://www.mainichi.co.jp</a>         | Headquarters |
| THE RYUKYUSHIMPO                              | THE RYUKYUSHIMPO                                                       | 1-10-3 Izumisaki, Naha-City, Okinawa 900-8525, Japan                      | +81-98-865-5191 | +81-98-865-5282 | <a href="http://www.ryukyushimpo.co.jp">http://www.ryukyushimpo.co.jp</a> | Headquarters |
| THE YOMIURI SHIMBUN                           | THE YOMIURI SHIMBUN                                                    | 1-7-1 Otemachi, Chiyoda-ku, Tokyo 100-8055, Japan                         | +81-3-3217-9962 | +81-3-3217-8262 | <a href="http://www.yomiuri.co.jp/">http://www.yomiuri.co.jp/</a>         | Headquarters |
| TKC Corporation(TKC)                          | TKC Cororation                                                         | 2-1 Ageba-cho, Shinjuku-ku, Tokyo 162-8585, Japan                         | +81-3-3235-5511 | +81-3-3235-7770 | <a href="http://www.tkc.co.jp">http://www.tkc.co.jp</a>                   | Headquarters |
| TMC CO., Ltd.                                 | TMC CO., Ltd.                                                          | Tatsu Bldg., 1-18-2, Ginza, Chuo-ku, Tokyo 104-0061, Japan                | +81-3-3567-1906 | +81-3-3567-2014 | <a href="http://www.medic.jp">http://www.medic.jp</a>                     | Headquarters |
| TOHAN CO., LTD                                | TOHAN CO., LTD                                                         | 6-24 Higashigoken-cho, Shinjuku-ku, Tokyo 162-8710, Japan                 | +81-3-3266-9517 | +81-3-3235-1726 | <a href="http://www.e-hon.ne.jp">http://www.e-hon.ne.jp</a>               | Headquarters |
| TOKYO SHOKO RESEARCH, LTD.(TSR)               | TOKYO SHOKO RESEARCH, LTD.                                             | Shin-ichi Bldg., 1-9-6 Shinbashi, Minato-ku, Tokyo 105-0004, Japan        | +81-3-3574-2268 | +81-3-3574-2268 | <a href="http://www.isr-net.co.jp">http://www.isr-net.co.jp</a>           | Headquarters |
|                                               | D & B                                                                  | 103 JFK Parkway Short Hills, NJ07078, U.S.A.                              | +1-973-921-5500 | +1-908-665-5803 | <a href="http://www.dnb.com">http://www.dnb.com</a>                       | Partner      |
| TOYO KEIZAI INC.                              | TOYO KEIZAI INC.                                                       | 1-2-1 Nihonbashi Hongoku-cho, chuo-ku, Tokyo 103-8345, Japan              | +81-3-3246-5511 | +81-3-3242-4067 | <a href="http://www.toyokeizai.co.jp/">http://www.toyokeizai.co.jp/</a>   | Headquarters |
|                                               | Factset Research Systems Inc.                                          | One Greenwich Plaza, Greenwich, Connecticut 06830, U.S.A.                 | +1-203-863-1500 | +1-203-863-1501 | <a href="http://www.factset.com">http://www.factset.com</a>               | Agent        |
| ZENRIN CO., LTD.                              | ZENRIN CO., LTD.                                                       | Office21Bldg., 1-1-1 Nishikanda, Chiyoda-ku, Tokyo 101-0065, Japan        | +81-3-5259-5080 | +81-3-5259-5079 | <a href="http://www.zenrin.co.jp">http://www.zenrin.co.jp</a>             | Headquarters |
|                                               | ZENRIN USA, INC.                                                       | 1814 Ogden Drive Burlingame CA 94010, U.S.A.                              | +1-650-652-1790 | +1-650-652-1791 |                                                                           | Subsidiary   |
|                                               | ZENRIN EUROPE BV.                                                      | P.O. Box 563, 1420, CB Uitloom The Netherlands                            | +31-297-513880  | +31-297-521070  |                                                                           | Subsidiary   |
|                                               | Applied Research Center of GPS of NANJING university & ZENRIN CO., LTD | No.9 Beijing., U Nanjing 210093 China                                     | +86-25-359-4519 | +86-25-332-6467 |                                                                           | Other        |



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