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# **IT promotion by the Japanese government**

A study for the evaluation of the Swedish national IT-policy

*Sabine Ehlers*

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## **Foreword**

The Swedish Institute for Growth Policy Studies, ITPS, has been tasked with an evaluation of the Swedish IT policy. This report is one of several projects commissioned by the ITPS to support this evaluation.

The report has been produced at ITPS´ Tokyo office, as a part of the Sweden-Japan IT program.

This report deals specifically with how IT use can be increased, and describes initiatives taken by the Japanese government to promote IT usage both among private users and industry, as well as in public organisations and authorities. It describes both the official IT policy of Japan, the e-Japan strategy, its focus and measures, and other initiatives taken independently by different ministries.

The study was written by Sabine Ehlers, Science and Technology Attaché, and Shigeyuki Naito, Science and Technology Officer. Sabine Ehlers was the project manager.

From the ITPS´ Stockholm office, Hans-Olof Hagén was the director responsible for the assignment and Kurt Lundgren acted as project manager.

Stockholm in November

**Sture Öberg,**  
Director General



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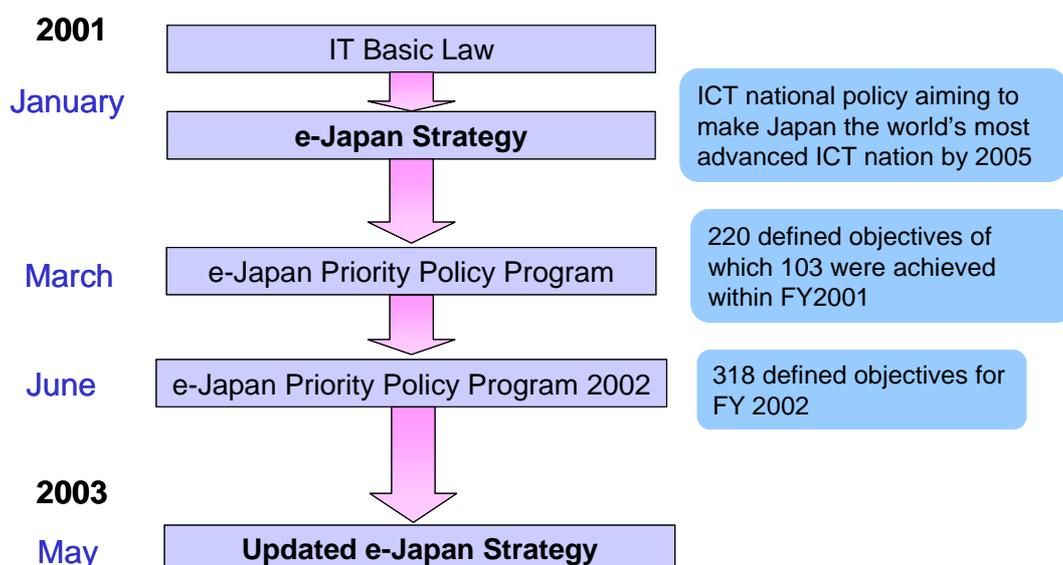
# 1 ICT policy in Japan: the e-Japan policy program

## 1.1 Background

In the current recession, the Japanese government is promoting information technology (IT) as a means to effect a structural reform and thereby a genuine economic recovery and sustained growth. Based on this understanding, the government-appointed IT Strategic Headquarters (ISHQ) year 2001 set forth an “e-Japan Strategy” and an action plan to make Japan the world’s most advanced IT nation within five years.

The e-Japan priority policy programs for 2001 and 2002 were drawn up in alignment with that strategy. The programs specify a number of objectives with deadlines, and appoint a responsible ministry for each objective. (A transcript of an English summary for the 2002 program provided by the ISHQ is included in Appendix A).

FIGURE 1 THE BACKGROUND FOR THE E-JAPAN STRATEGY



The government prepared a budget to pursue the objectives of the e-Japan Program, which was submitted and approved at the parliament. The total amount of the budget for fiscal year 2002 relating to the e-Japan Priority Policy Program was ¥1,954.5 billion (about 134 billion SEK), which represented an increase of ¥34.1 billion from the previous fiscal year. In addition, the government separately approved two supplementary budgets for fiscal year 2001, the first of which was for a total amount of ¥84.1 billion (about 5.77 billion SEK) and the second of which was for ¥390.8 billion (about 26.8 billion SEK), each one representing budgets in connection with the formation of an advanced information and communications network society.

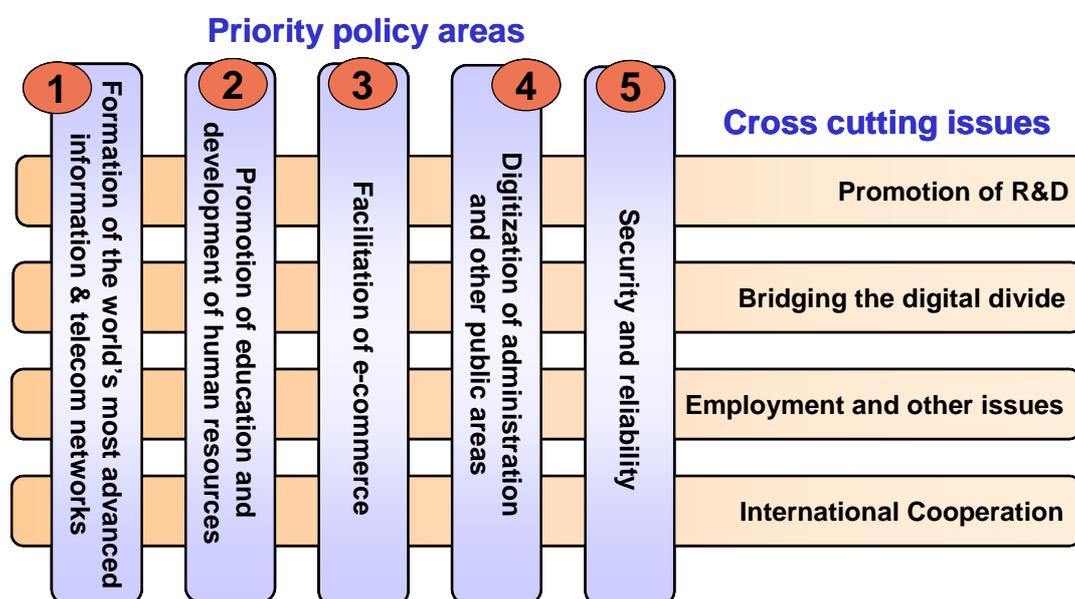
By end 2002 the ISHQ felt that the infrastructural objectives that had been the focus of the e-Japan strategy released 2001 had mainly been achieved, and that it was time to update the strategy to instead focus on usage. The updated e-Japan strategy II was supposed to be published in May 2003 but was delayed until July, and no official translation was available at the time this report was written. The updated strategy is briefly discussed in chapter 4.2.

## 1.2 The policy program areas

The objective of the e-Japan strategy is to make Japan the world's leading IT nation by 2005. To realize this goal, the strategy has defined five policy program areas to focus on:

- Development of network infrastructure and the promotion of competition
- Human resource development
- Promotion of e-commerce
- Rapid realization of e-government
- Establishment of a safe and reliable environment

FIGURE 2 THE E-JAPAN STRATEGY



### 1.2.1 Infrastructure

The two main objectives for the first priority policy area were formulated as:

1. Establishment of environment for internet utilization

Realization of 24-hour internet connection available to everyone by FY2005

- High-speed access available to 30M households
- Ultra high-speed access available to 10M households

2. Low rates for internet connection by FY2005

The measures applied were a wide range of deregulations and relaxations of rules, as well as large sums allocated as support for establishment of infrastructure in less populated areas.

By end 2001, 35 million households had the possibility to connect via high-speed access, and 14 million households had the possibility to connect with ultra high-speed access (30 Mbps to 100 Mbps), and the first objective was therefore met well ahead of the original deadline set for 2005. Japan had also by then launched what MPHPT refers to as the world's first commercial FTTH service.

Through fierce competition, the rates were also arguably the world's lowest, with 24-hour high-speed connection available at 2,394 Japanese yen (about 210 SEK), and the second objective for this policy area could therefore also be written off as met.

However, the actual number of subscribers for high-speed and ultra high-speed services only numbered 4.4 and 0.035 million households respectively, which was discussed extensively, and eventually led to the decision to revise the e-Japan strategy to focus on promotion of usage. "The highways are in place, but nobody is driving on them" as representatives of MPHPT put it. Policies that are discussed for the future to promote the usage include extensive promotion of IPv6 and R&D of new, networked appliances, as well as promotion of usage (and thereby a consumer market for the domestic Japanese industry) in neighbouring Asian countries through the Asia Broadband program,

### 1.2.2 Education

The policy area of education had three types of objectives, namely competence development of students, the public and IT related professionals respectively.

Regarding the students, and their school environment, the objective to have internet access in all public schools was achieved already fiscal year 2001. However, the penetration of PCs and internet in the classroom, as well as the availability of teachers who themselves know how to use the technology, still lags behind for example the US and South Korea. This is therefore one of the targets for future policies.

Regarding the public, 5,5 million persons had been given basic IT training during the first year of the IT program, and future policies are now focusing on training 250 000 so called "local IT leaders" that will be available in municipalities and local community centres to continue the effort. Centrally organised education will instead focus on elderly and handicapped persons, who are today lagging behind in IT usage.

Regarding the IT training for professionals, basic training had been offered to 1.4 million persons by 2001. The policy will in the future focus on specialists in certain fields, such as professionals at universities as well as creators of digital contents.

The Japanese government also see foreign experts as a valuable addition to the Japanese competence pool, and are looking into how to make it easier for foreign professionals to work in Japan.

### 1.2.3 E-commerce

The objectives set for the policy area of e-commerce are that the market sizes for B2B and B2C should reach 70 trillion and 3 trillion yen respectively by 2003. In 2001 the actual figures were 34 and 1.5 trillion yen respectively, and the ISHQ believe the targets will be met as scheduled.

The government is supporting this through revision and creation of a number of business and commercial laws and frameworks to enable use of internet as a secure media for contracting, delivery and payment. The creation of a digital rights management system is seen as the next key factor to enable trading in digital goods over the internet, and a fully developed e-commerce market.

### 1.2.4 E-government

The e-government area has two applications: the administration and other public areas.

Regarding the administration, the objective is that all governmental procedures should be able to be handled equally either by paper or electronically by 2003. To realise this, a law has been submitted which enables and enforces that all administrative services be available online. Electronic tendering and bid opening of some public works has also been initiated. Future policies will aim to support the central and local authorities with tools and guidelines to establish and apply electronic procedures.

Regarding other public areas, informatization in the areas of healthcare and transport has already been looked into, and culture, art and food is coming up next.<sup>1</sup>

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<sup>1</sup> On the 17<sup>th</sup> of July 2003, the "e-Government Construction Plan" was adopted by the Ministries and Agencies CIO Council. It consists of a basic strategy and action plans to be carried out by each ministry and agency until the end of fiscal year 2005. One of the main goals is to realize a 7days-24hours governmental services and information portal; another is implementing Business Process Reengineering (BPR) and Enterprise Resource Planning (ERP) within the government, including outsourcing as much IT administration and support as possible.

### 1.2.5 Security

The policy area of security had as initial objective to ensure reliable and un-interrupted service and access, but has been expanded to also address protection of privacy and information. The government has realized that Japan's laws for protection of personal data and privacy are lagging far behind other industrialized nations, and are not adequate for e.g. e-government and e-commerce. Work that is ongoing and will continue include for example a revision of laws and procedures concerning high-tech crimes, a new law regarding protection of private information, a framework for information security within the government and a taskforce working with countermeasures for cyber terrorism.

See appendices B and C for more information about the latest privacy laws and security issues in Japan.



## 2 Other initiatives to promote IT usage

Except for the centrally endorsed programs in the e-Japan scheme, there are a number of other initiatives taken by one or several ministries to promote IT usage. Some of the more important ones are described below.

### 2.1 Education of the public

The subject “Information and computer” is now being incorporated into the curriculum from elementary to high school level.

In addition to this, several ministries are allocating large budgets for initiatives to educate the public or specific professional groups, on IT. The Ministry of Economy, Trade and Industry (METI) are running some of the most ambitious programs. It plans to support IT training programs at companies and universities with a view to creating in the next three years about 50 000 experts capable of heading major software development projects. The aim is to promote the nation's IT industry by readying a vast pool of specialists who can meet diverse needs for new technology. One of the focus areas for the training is development of information systems for use at financial institutions and those linking firms' global operations. Less than 1% of the 560 000 engineers now employed by the IT industry can perform such tasks, according to government sources. METI deems it necessary to raise the figure to about 50,000, or about 10% of the work force, in the belief that a country's industrial competitiveness hinges on its software development capability.

In another initiative, METI has set aside 1.3 billion yen to be used as subsidies to selected IT companies and universities that are implementing promising programs for personnel training. The money will be given out during this fiscal year, and the effectiveness of the training programs that receive subsidies will be judged using a method developed by METI to gauge engineers' skills in such tasks as development of application software or information networks on a scale of one to seven. The ministry will use the gauge to build up experience on IT training by analyzing, for example, how companies and universities prepare their teaching materials or how they train their engineers. The gathered information will also be made available to other companies so as to “improve the nation's technological prowess”.

Some other examples of activities that have already been carried out are listed in the table below:

IMPLEMENTED POLICY (MINISTRY)	RESULT SO FAR
Basic IT usage course (MPHPT)	3.86 million Persons by Dec 2001
IT lecture targeting SME managers (METI)	230 000 persons by March 2002
IT lecture for consumers (Cabinet Office)	185 000 persons in 2001
Support to set up corporate IT investment plan, targeting corporate managers (METI)	15 000 people by March 2002
IT course for people engaged in agriculture, forestry and fishery (MAFF)	15 000 persons by March 2002
Provide municipal centers and libraries with PC (MEXT)	7 000 regional centers and libraries nationwide were provided with 110 000 PCs with Internet access by March 2002
Support for IT learning by appointing "IT supporters" at regional centers and libraries (MEXT)	2 199 regional centers nationwide and 352 libraries nationwide according to March 2003 data

Below are some examples of initiatives that are currently under way:

IMPLEMENTED POLICY (MINISTRY)	TARGET (NO RESULTS AVAILABLE YET)
Support for IT training held locally at municipalities (MPHPT)	5.5 million Persons for 2002
IT course to promote understanding of IT for SME managers (METI)	300 000 managers for 2002
IT course for those engaged in agriculture, fishery and forestry (MAFF)	10 000 additional persons
Train IT instructor to help raise local residents' IT literacy. (MPHPT)	250 000 IT instructors trained by the year 2004
Support for IT related learning, education in collaboration with NPOs (MEXT)	2002-2006
Position libraries as 'IT learning plaza' in local areas and provide necessary IT equipment and facilities to libraries which are not well equipped with PCs	The 1 300 libraries which currently have no PCs

## 2.2 Support for IT introduction at companies

### 2.2.1 IT strategy consultants for SMEs

Since a couple of years, the government has run a national program to support managers at SME's who cannot employ an in-house CIO to plan effective IT strategies by offering the possibility to consult with "IT coordinators". These are trained, objective and licensed professional who understands both management and IT, and can give comprehensive support ranging from management strategy to IT introduction, in response to the needs of SME corporate management. They are marketed by the local municipalities as the local "IT doctor on call" for small companies.

When the IT Coordinator is hired through the prefecture's SME centre for the purpose of SME IT seminar and/or IT strategy planning, two-thirds of the cost is covered by a national grant. For investments made on recommendation by an IT Coordinator, companies are entitled to low interest loan from governmental related financial institutions (ranging from 0.9% to 1.9%, as of March 2001).

### 2.2.2 Tax deductions for IT investments

With the objective to promote strategic IT investment by companies through tax deduction METI and other ministries are since January 2003 offering a tax incentive of either 10 % of the purchased price or 50% of the depreciation. The deduction applies to purchase of computers, digital broadcasting receivers, digital copiers, IP telephones, faxes, router switches, equipment needed for IC card usage, digital service units and software.

The target is to create 10 000 cases of advised corporate IT investment by the end of Mach 2006.

## 2.3 Support for service trials: the e!project

In 2001, a supplemental budget was set aside for the financing of show case projects realizing possible future applications of IT, preferably for municipal governments. The **MPHPT** allocated 1 billion yen for development of equipment and software for advanced and safe mobile information electric home appliances.

The **METI** allocated 1 billion yen for digitalization of administrative service, promotion of E-municipal government, and development and implementation of an experimental project to disseminate and promote information home appliances.

The **Ministry of land and transport** finally, allocated 100 million yen for development of a program to analyze transportation policy using data obtained from the usage of IC card at subway and busses.

Below are some examples of awarded projects:

Sapporo City:

- System for purchasing subway ticket using mobile terminal.
- Development and experiment of IC card to be used for subway, bus and shopping. Usable both for Japanese yen and Korean wan during 2002 World Cup games.
- Experimental research for receiving and recreating moving pictures.

Yokosuka City:

- Electric portal site for municipality government to make personalized information available to the residents.

Fukuoka City:

- Residential health information database and on-demand home page to enable personalized guidance to residents.

Roppongi Hills in Tokyo:

- PDA-based system for wireless transmission of local, site-dependant information to residents and visitors
- RFID tag-based system for automatic localization of books in library.
- System for safe, remote printing of documents

In the example of the projects developed for the residential and business area Roppongi Hills in Tokyo, all costs were covered by the governmental grant and the projects in turn submitted a report with results, user reactions, etc to the ministry. The reports will be made available to the public. The first project, concerning hot spots with local information, has already been concluded but the management of Roppongi Hills have no plans to themselves finance or run any follow-up or continuation of the project.

### 3 Bridging the digital divide

The MPHPT has identified two types of digital divides affecting Japan.

The first one is based on **geography**, separating those living in the urban areas from those living in less populated areas. This divide is exemplified by the numbers for optical fibre access and internet usage in the urban areas being 61% and 41.7% respectively, while they in rural areas are 22% and 23.6% respectively.

The second divide identified by the Japanese government is based on **age and physical ability**. One example given is that the number of programs subtitled for hearing impaired people on public TV is 67.6% while it on commercial channels is only 8.6%. Another example is that the percentage of persons with internet access in the age group 20-29 is 80%, while it in the age group 60-69 is 15%, and for physically disabled persons 7.8%.

#### 3.1 Eliminating differences based on geography

In order to eliminate differences in IT access and usage based on geography, the MPHPT sees as the main mission to support the private industry in establishing nationwide access networks for internet, broadband and mobile.

##### 3.1.1 Deregulation to promote competition

Changes to the telecom law being discussed for implementation 2003 include:

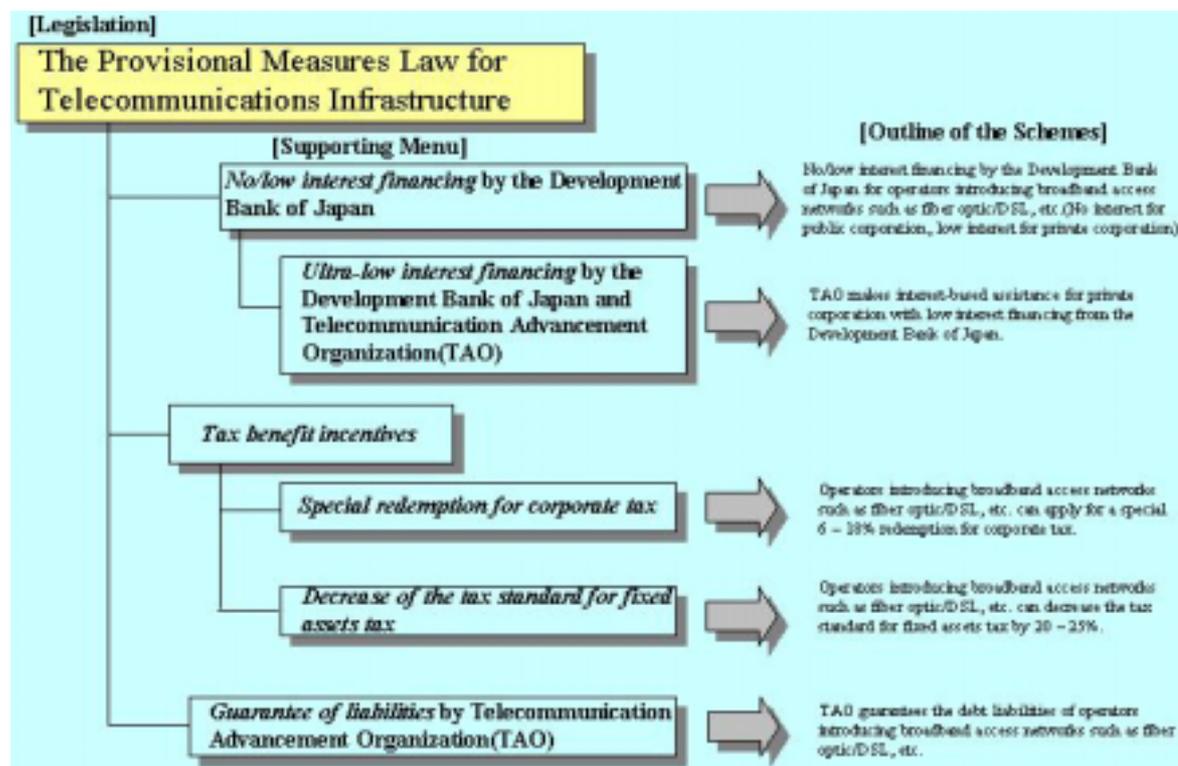
- Abolition of permission system for market entry
- Abolition of type 1 and type 2 operator categories
- Broad relaxation of regulations on the competitive business sector. In principle, abolition of all obligations of notifications of charges, tariffs, etc so that tariffs can be set and changed freely. (This is something which has been a long-time woe of all global operators trying to do business in Japan. Even a company like Vodaphone, with business in numerous countries around the globe, has to notify the Japanese MPHPT of all tariffs and changes applied by *any* of its subsidiaries.)
- Maintained regulations for domestic carriers
- Relaxation of market exit regulations. This concerns for example prior announcement to user in case of suspensions and abolitions of business.
- Opening up of spaces such as train stations and public squares for WLAN base stations, in the same way as for telephone poles today.

##### 3.1.2 Financial support for private establishment of infrastructure

Financial support for private establishment of **optical subscriber access**, in the form of tax benefits, has been available since 1991. In addition to this, there have been loans with favourable interest rates available for any initiatives in local areas since 2001. In part thanks to this, the establishment has been faster than predicted, and the original ambition to have a nationwide optical fibre network by year 2010 was in 1999 revised with the target date changed to 2005.

In October 2001, the National Broadband Initiative was launched, specifying a number of efforts to speed up the establishment of **fixed broadband networks**. The different types of support available are described in the figure below.

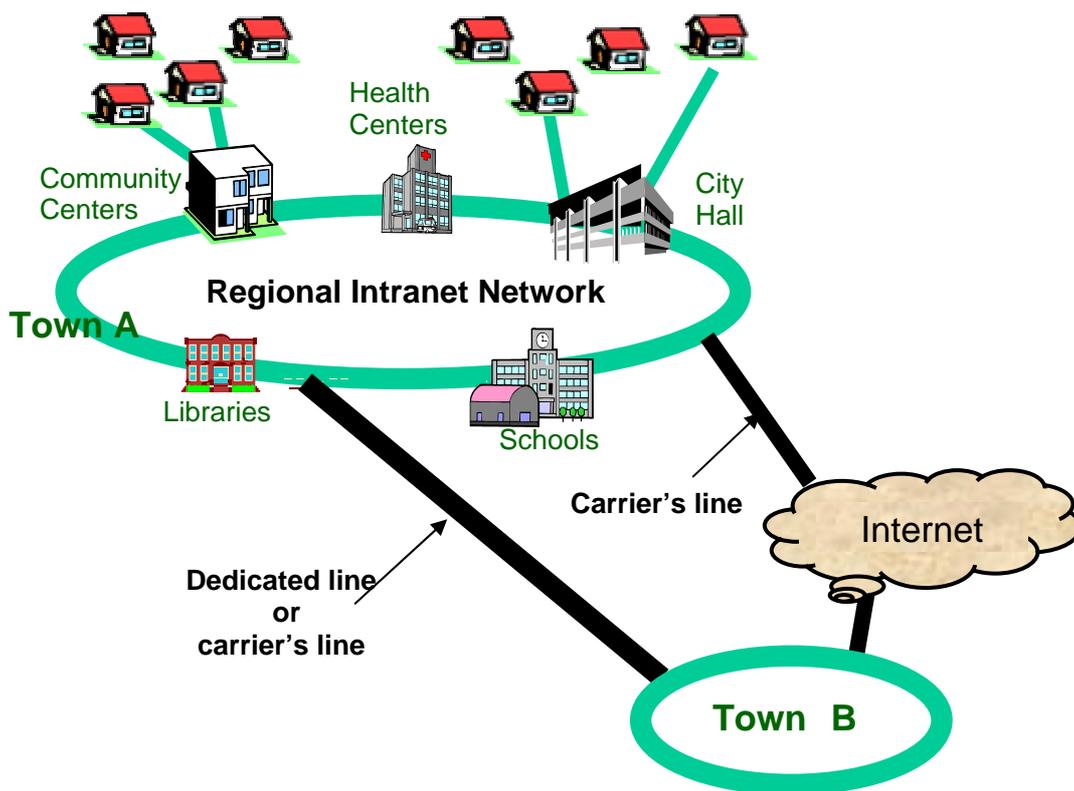
FIGURE 3 GOVERNMENTAL SUPPORT FOR BROADBAND INITIATIVES



Local governments installing base stations for **mobile** communications in places where private operators can not make it profitable can receive financial support from the central government. In fiscal year 2001, 1.88 billion yen were set aside for this purpose.

The Regional Intranet Project supports local governments in establishing **local area intranets** for residents and municipal functions where private operators don't want to do establish access. By July 2002, 34.8% of local governments had established these types of regional intranets. The MPHPT assists with 1/3 of the constructions costs, and had set aside a budget 8.53 million US\$ for this fiscal year 2002.

FIGURE 4 THE REGIONAL INTRANET NETWORK CONCEPT



### 3.2 Eliminating differences due to age and handicap

Japanese manufacturing industry and government alike have during the last year paid much attention to the concept of accessibility, also discussed under the terms “universal usability” and “barrier free”. The idea is to make technology, services and equipment easy to use also for people who are old, handicapped, temporarily disabled etc, and who therefore may have difficulties to read small print, handle complex user interfaces or operate small controls or buttons. The government wants to reach those citizens who are today as of yet largely un-connected, and the industry is interested in tapping into a not yet exploited user group.

Practically there are three approaches to making technology accessible.

- **Developing special aid for the user** (i.e. the appliance or service itself is not affected)
- **Adding the possibility to change e.g. input/output method** (i.e. the appliance or service is outfitted with an option that can be activated when required by a user with certain needs)
- **Designed for accessibility** (i.e. the appliance is already from the start designed with all special user needs in mind, and nothing particular has to be added or activated to make it accessible to any user)

The Japanese government has so far decided to offer financial support to the following groups:

- **local governments** when they embark on project to offer to construct so called “Information Barrier-free Telework Centres”
- **training providers** that offer ICT Training Courses for elderly people and people with disabilities
- **the private sector for R&D** aimed to produce ICT equipment and services (other than PCs) for elderly and people with disabilities

In the latter group, R&D by the private sector, projects that have received support so far include for example development of “machine translation technologies to make Websites in any language accessible to everyone”, and “communication system to facilitate communication between elderly people and care workers with secure and easy network access”.

Supported R&D aiming at developing terminals for user groups with special needs include for example:

- A Braille printer where documents are translated into and printed in Braille



- A Braille display, where text on the PC screen is translated into and displayed in Braille line by line



- A Hiragana keyboard, which offers direct input in Japanese characters instead of the alphabet



- A touch sensor that moves the cursor for input to wherever the screen is being touched



### 3.3 Eliminating differences between countries

Japan has in recent years spent much time, money and effort on reducing the digital divide between Japan and its neighbouring, developing countries. The reasons are of course not entirely philanthropic; the developing Asia Pacific region represents a huge market for the Japanese manufacturing and service providing industries in the high-tech sector.

These initiatives take mainly one of the following three forms:

#### *ODA*

In year 2001, countries in the Asian region received 56% of the Japanese ODA, and most of it was in the form of loans. There are also some direct grants and a number of projects where Japan offers technical cooperation. The assistance in the latter case is offered for example in the form of policy support, the dispatching of experts or through training of local human resources.

Examples of projects where Japan has offered assistance include:

- Telecommunications Development in Laos
- Enhancement of Info-Communications Access in Rural Communities in Malaysia
- Development of Rural Telecommunication System in Mongolia

#### *Joint Pilot Projects*

In some cases, Japan is running joint pilot projects with developing countries in the region. Examples include a project for distance learning, run together with Thailand and Malaysia, and the “Asia Frontier satellite” project run together with Vietnam.

#### *Cooperation through International Organisations*

The main bodies for international cooperation relevant for Japan are ITU (the International Telecom Union) and APT (The Asia Pacific Telecommunity). The APT discusses things like policy coordination and human resource development, while ITU Japan has been involved in e.g. organising events for training of policy makers in neighbouring countries.

Since March this year, Japan has also initiated something called the Asia Broadband Initiative, where Japan together with other Asian nations work to make “entire Asia the world’s information transmission hub, by increasing intra-regional information flow.”

The objectives, to be reached by 2010, state that the initiative should:

- (1) Enable all people in Asia to gain access to broadband platforms (including access from various public facilities).
- (2) Construct international networks with sufficient bandwidths for linking directly each country, increase amounts of information flows “ between Asia-North America” and “ between Asia-Europe” to the same level as “ between North America-Europe.”
- (3) Facilitate transition of networks to IPv6-ready ones and make Asia the leading region in ICT.

- (4) Prepare environments under which people are able to use ICT safely and easily.
  - (5) Digitize and archive major cultural assets in Asian countries/economies
  - (6) Develop machine-translation technologies between major Asian languages and put them into practical use.
  - (7) Dramatically increase the number of engineers/researchers in the ICT field in Asia.
- See appendix D for further information about the Asia Broadband Program.

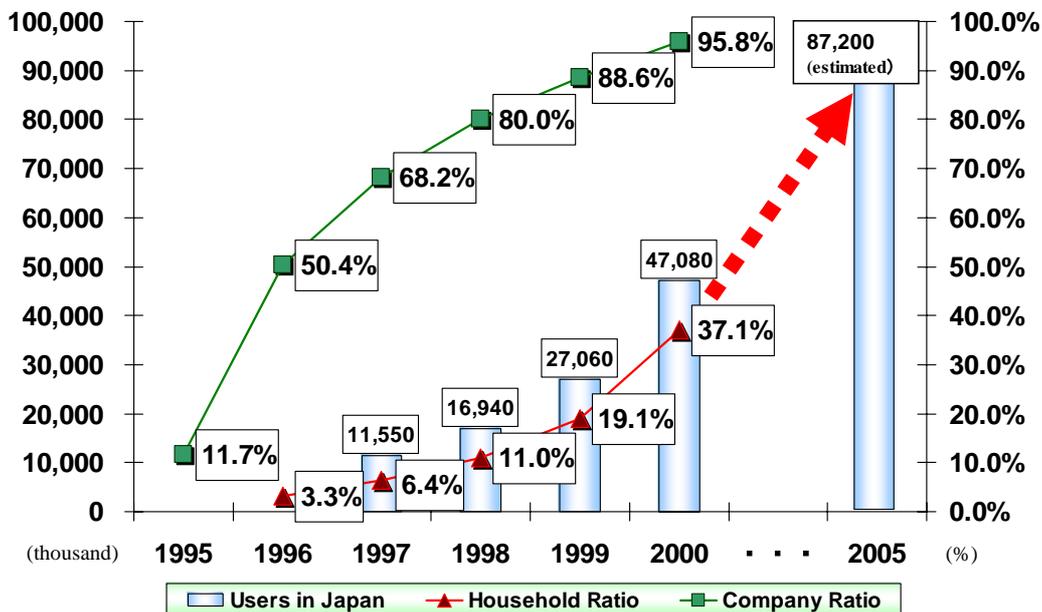


## 4 The next step

### 4.1 Results so far

Thanks to much focused efforts by government and industry, Japan has made a quick catch-up from what was considered a position hopelessly behind the US and Northern Europe in terms of PC penetration.

FIGURE 5 THE PC PENETRATION IN JAPAN, ACCORDING TO MPHPT



According to MPHPT numbers published in February this year, Japan is now second in the world when it comes to absolute numbers of Internet user, with 69 million regular surfers. This includes over 6 millions DSL service users, about 233 000 FTTH (optical fibre) service users, and about 2 million CATV network users. The number of mobile phone Internet users is about 60 millions.

When it comes to Internet penetration as a ratio of population however, Japan is still lagging behind. In spite of a huge uptake the last few years, world ranking for Japan actually went down from being number 13 year 1999 to being 16<sup>th</sup> mid last year, showing that the rest of the world, not least Asia, is also making significant efforts to informatize their societies. “The mountains grow as we climb them”, as the MPHPT philosophically put it.

There are however areas where Japan is the undisputed leader both with regard to technology and market.

One such area is mobile internet. The three largest internet service providers in Japan are the mobile operators, which together have over 60 million internet subscribers among their mobile phone users. And there are plenty of services to attract the subscribers, and business to attract the service providers. Among the 43 million subscribers of NTT DoCoMo for example, the incumbent mobile operator, 37 million (86%) have mobile internet and 17 millions (40%) have Java applet phones, allowing the users to download software in the form of games, etc. These subscribers have access to 3 407 official sites managed by DoCoMo in its portal, 63 167 open sites, 432 sites for Java programs and 80 channels offering 300 video programs and 4 000 music titles.

(The reasons for the success of mobile internet in Japan have been thoroughly discussed earlier by the same author, and will not be a subject in this report.)

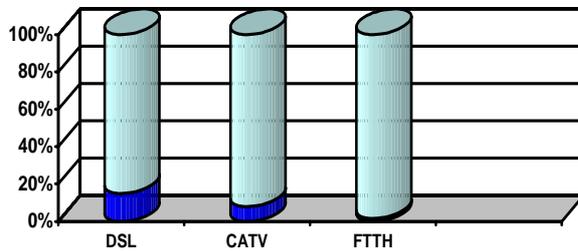
Another area where Japan has developed a thriving market is broadband access. Deregulation led to a fragmented market where telephone operators, cable TV operators, utility companies, ISPs and financial institutions all scrambled to get a piece of the action. Where the incumbent operator in West-European countries often has higher than 80% market share, the Japanese NTT has below 40% of the broadband market. The competition led to the world's lowest prices, levelling out at about 180 SEK per month for unlimited ADSL access from May 2002, and phenomenal growth especially for ADSL subscriptions.

In August 2003 Japan had almost 11 million broadband subscribers, which represents a significant share of the world's estimated 45 million subscribers. When it comes to penetration rate, only South Korea has a larger per capita base of broadband subscribers with almost 50% of households surfing via high-speed connections.

Also when it comes to wireless LAN connections, so called hot-spots, Japan has been the driving engine in Asia-Pacific with a similar development as in the broadband area. Deregulation led to a multitude of actors teaming up for trial services, and e.g. the incumbent operator NTT is now offering hundreds of spots nationwide with a fixed price for unlimited access of approximately 115 SEK per month or 35 SEK per day. (The price for Telia's equivalent service in Sweden is around 1 900 SEK per month and 140 SEK per day.)

In other comparisons however, reflecting usage, Japan is scoring much lower. This applies for example to internet access in classrooms, ecommerce market B2B and B2C, governmental services available online, firewalls installed at companies, etc. The most striking indication of how IT has not yet penetrated as a tool used by citizens for everyday life may be the numbers for actual traffic over broadband connections compared to the available bandwidth. (For more information about IT usage in Japan, please see appendix E and the special report about that subject released on that subject by ITPS.)

FIGURE 6 ACTUAL TRAFFIC OVER BB CONNECTIONS, AS RATIO OF AVAILABLE BANDWIDTH.

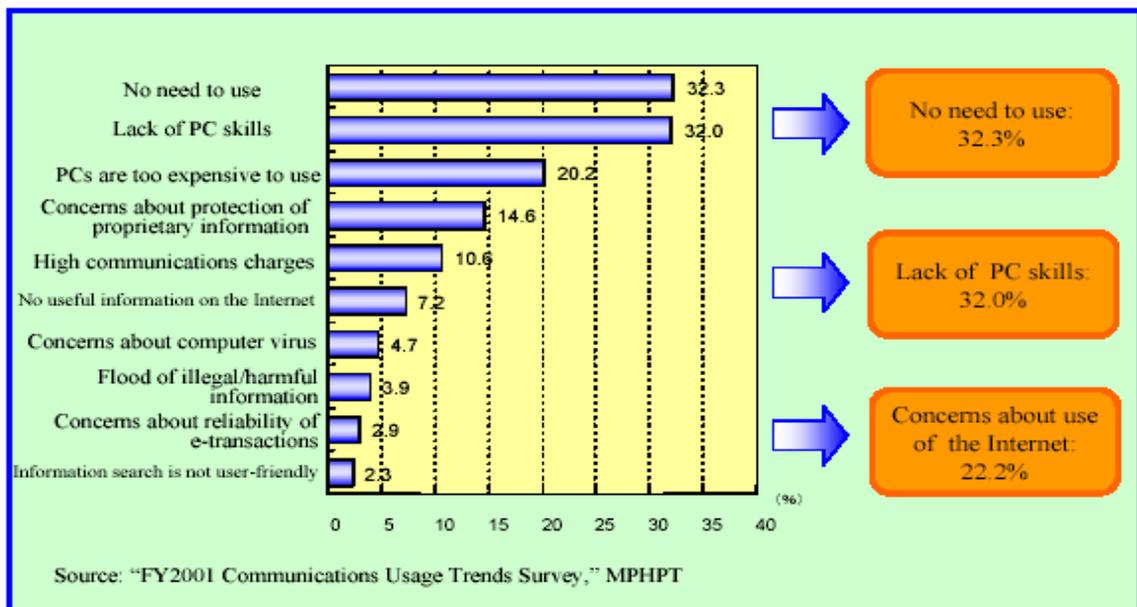


Source: MPHPT, end of Jan 2003

The Japanese government has summarised the problem: “The highways are in place, but there are no cars using them.” The IT infrastructure is in place. Now they need to make the citizens see the benefits of using it. Or enable the services that create the benefits.

What is holding the users back? The MPHPT asked, and found that the reasons given were that people didn’t see the benefits, didn’t know how to profit due to lack of skills, or felt that the risks outweighed the advantages.

FIGURE 7 REASONS FOR NOT ACCESSING THE INTERNET



With this in mind, the IT Strategic Headquarter was commissioned to design a new and updated e-Japan strategy, focusing on usage, and it was published in July 2003.

## 4.2 The e-Japan strategy II

### 4.2.1 Overall objectives

The e-Japan Strategy II was decided in a meeting of the IT Strategic Headquarters on July the 2, 2003, and was the result of several months work in cooperation with a number of industry leaders from the IT field. Based on the "e-Japan Strategy II", the government is to decide "e-Japan Priority Policy Program 2003" with concrete measures for each ministry to implement.

The strategy offers a road map for the second phase of the IT strategy aiming to realize the world's most advanced IT nation and a "vibrant, safe, impressive and convenient" society with the active use of IT. The overall objectives identified in the updated strategy to be achieved through the increased IT usage are three-fold:

- **Supporting sustainable economic growth**  
This should be achieved through structural reforms such as better labour mobility (*IT in business*), and the creation of new values such as ubiquitous networking (*environment creation*) with digital electronic appliances (*IT in consumer electronics*)
- **Empowering individuals while enhancing cyber security**  
The government should use open-source software and operating systems
- **Developing an international strategy encompassing Asia**  
This involves a vision for an Asia-wide broadband network, and financial and technical support for using Asian languages in the IT environment.

Key concepts mentioned in the new strategy include:

- Emphasis on structural reform
- Private sector leadership in implementation
- Improved coordination among the relevant ministries and agencies
- The establishment of a new organization that will become an experts committee under the ITSH to evaluate implementation of e-Japan II
- Telework population accounting for 20 % of workforce (by 2010)
- Promotion and development of guidelines to introduce telework to enterprises
- Review of conventional labour-related regulations and development of institutional environment of telework for public employees, etc.

The ambitious targets concerning telework are set to “realize a society where national individuals give full scope to their more creative abilities most efficiently in their best employment styles that meet their respective life designs, selecting from various employment styles. This, in turn, helps to materialize a society in which both men and women can take part to enable to successfully combine their work with house-keeping, child-care, nursing care, etc.”

#### 4.2.2 Budget

In the budget for fiscal year 2003 (running from April 1<sup>st</sup>), IT is again one of the prioritized areas hoped to re-vitalise the economy, and it received in total 1 536 billion JPY (about 111 billion SEK) representing 1.8 % of the general account.

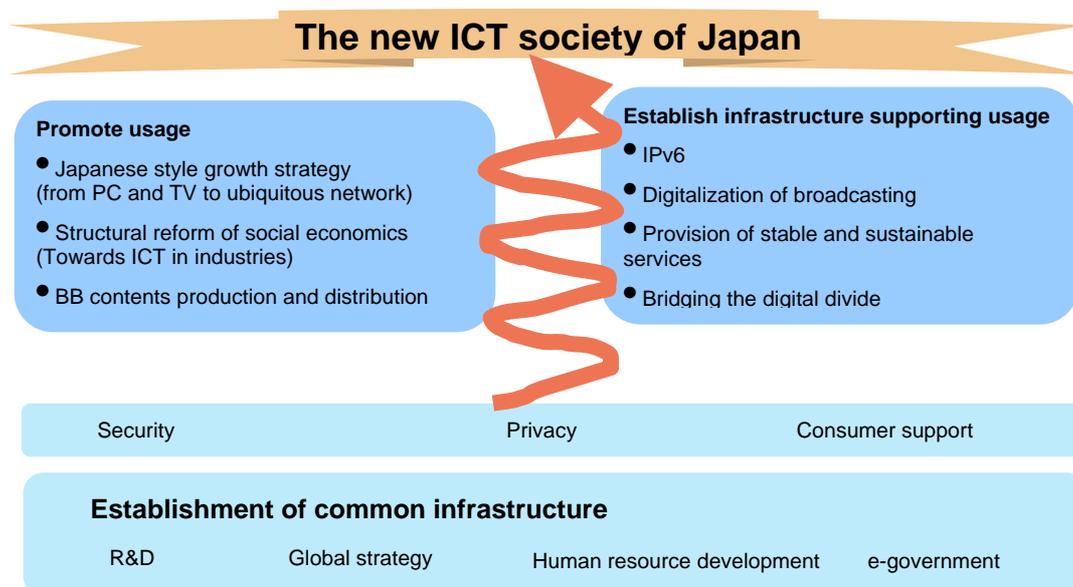
This is to be spent as follows (numbers represent billions of yen):

Development of Network	222
Education and HRD	112.5
e-Commerce	6.7
Informatization in Govt. offices	575.5
IT in Public Sector	328.6
Security	26.4
R&D	199
International cooperation	2.9
Others	61.8

#### 4.2.3 Approach

Taking its base in the infrastructure realised from the strategy formulated 2001, and with continued development of measures targeting security, privacy and accessibility, it proposes to promote usage focusing on on-line appliances, contents development and an industry effectively using IT for increased productivity. In parallel, the strategy asks to advance the development of new IT infrastructures, including introduction of IPv6 and digital broadcasting, deemed essential for the sophistication of the active use of IT.

FIGURE 8 THE OBJECTIVES OF THE E-JAPAN STRATEGY II.



More specifically, the strategy focuses on seven areas identified as where IT implementation could render the highest benefits:

1. Medical care (Example: Digitization of patients' charts, national patient database (2005)...) )
2. Food (Example: Chips attached to food identifying origin)
3. Livelihood
4. Small-and-medium-sized-enterprises
5. Knowledge
6. Employment/Work
7. Government services (Example: governmental meetings recorded and stored online, electronic voting (2010))

#### 4.2.4 Issues raised

Below are some issues that have been raised in connection with the publication of the updated strategy.

##### *Technological Neutrality*

E-Japan II proposes a range of policy initiatives, such as promoting and expanding the utilization of IT in key areas including government services, deployment of a next-generation communication infrastructure, and a focus on security. In implementing these policies, voices have been warning against resorting to promoting specific companies, technologies, and standards, in order to not distort the market or cripple innovation.

##### *Transparency*

Commentators have been urging the IT Strategic Headquarter to ensure that the Priority Policy Program clarifies specific measures on how policies/goals are to be implemented, and to use an open and transparent public comment process during all stages of the development and implementation of e-Japan II.

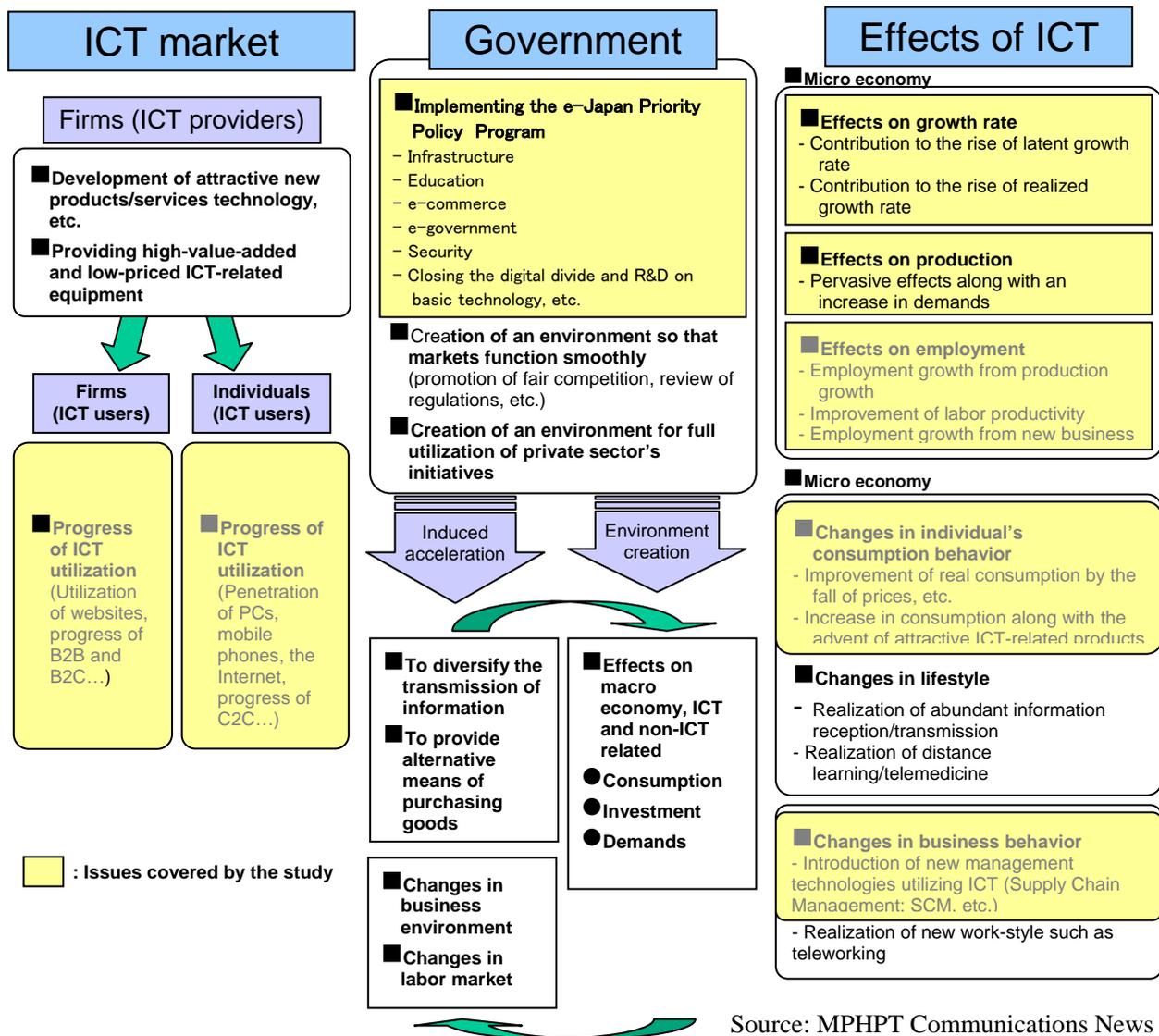
##### *Evaluation and foreign involvement*

The American embassy has in its public comment to the strategy applauded the initiative to implement an expert committee to evaluate implementation of e-Japan II, and urged the inclusion of foreign observers and experts.

## 5 Assessing the effects of the e-Japan program

In year 2002, a researcher at the Waseda University, Prof Hitoshi Motomo, did a study for the institute for Post and Telecommunications Policy trying to evaluate the possible economic effects that the e-Japan policy program and the measures it proposes would have on the society until year 2005 compared with if no program had been in place and the measures not taken. The scope of the study is explained in the figure below.

FIGURE 9 SCOPE OF STUDY ASSESSING THE POSSIBLE EFFECTS OF THE E-JAPAN PROGRAM



Regarding for example how consumer expenditure would be affected, Professor Motomo for his estimations took into account the effects of increased productivity and creativity in the industry and the society as a whole, changes in private and professional lifestyles and behaviour, as well as new ways of doing business, that would be enabled if ICT was effectively applied throughout the society. In his calculations, he differentiates between 1/ consumers that are not online, and therefore do all the consumption via traditional channels, 2/ consumers who have internet access but pay based on usage, and who therefore can be presumed to restrain their internet usage, and finally 3/ consumers who are online with unlimited access, and therefore can benefit fully from development of e-commerce, digital products and distribution, etc.

FIGURE 10 ESTIMATED IMPACT ON CONSUMER EXPENDITURE BY THE E-JAPAN PROGRAM

Estimate results			(Annual consumption)		
			Non-users of the Internet	Users of access service on a usage-sensitive rate basis	Users of flat-rate access service
Analysis of current status	Expansion of real consumption	Consumption with lower prices from productivity improvement in distribution	i) 27,477 yen	ii) 27,477 yen	iii) 27,477 yen
		Consumption with price differentials between actual and electronic commerce	0	2,856 yen	3,064 yen
Future prospect	Expansion of nominal consumption	Impulse consumption via e-commerce	0	1,908 yen	3,120 yen
		Consumption with the advent of attractive ICT-related products	-	58,000 yen	66,000 yen
		Additional consumption through diversification of information sources utilizing ICT and relief of future anxiety	-	168,000 yen	180,000 yen

ii) 4,800 - 7,100 yen  
 v) 22,000 yen

i) "Consumption expansion by lower prices from distribution sector's productivity improvement" is about 27,000 yen a year.  
 ii) "Consumption expansion from price differentials between actual and electronic commerce" and "impulsive consumption through e-commerce" is 4,800-7,100 yen a year.  
 iii) "Consumption expansion with the advent of attractive ICT-related products" is 60-70 thousand yen a year.  
 iv) "Consumption expansion through diversification of information sources utilizing ICT and relief of future anxiety" is 170-180 thousand yen a year.  
 v) "Users of flat-rate access service" have higher propensity to consume in comparison with those of access service on a usage-sensitive rate basis (by some 22,000 yen a year).

Source: MPHPT Communications News, Vol.12, No.23

The result of his estimations is that the economic effects of the e-Japan Priority Policy Program year 2005, compared to if no e-Japan program had been in place, will be:

- The potential economic growth rate increased by **0.5%**.
- The inducement coefficient **1.86**, which is higher than the average of all industries of 1.65.
- Higher demand leading to **1.85 million new jobs**.
- Labor productivity improved by **2.8-3.5%**.

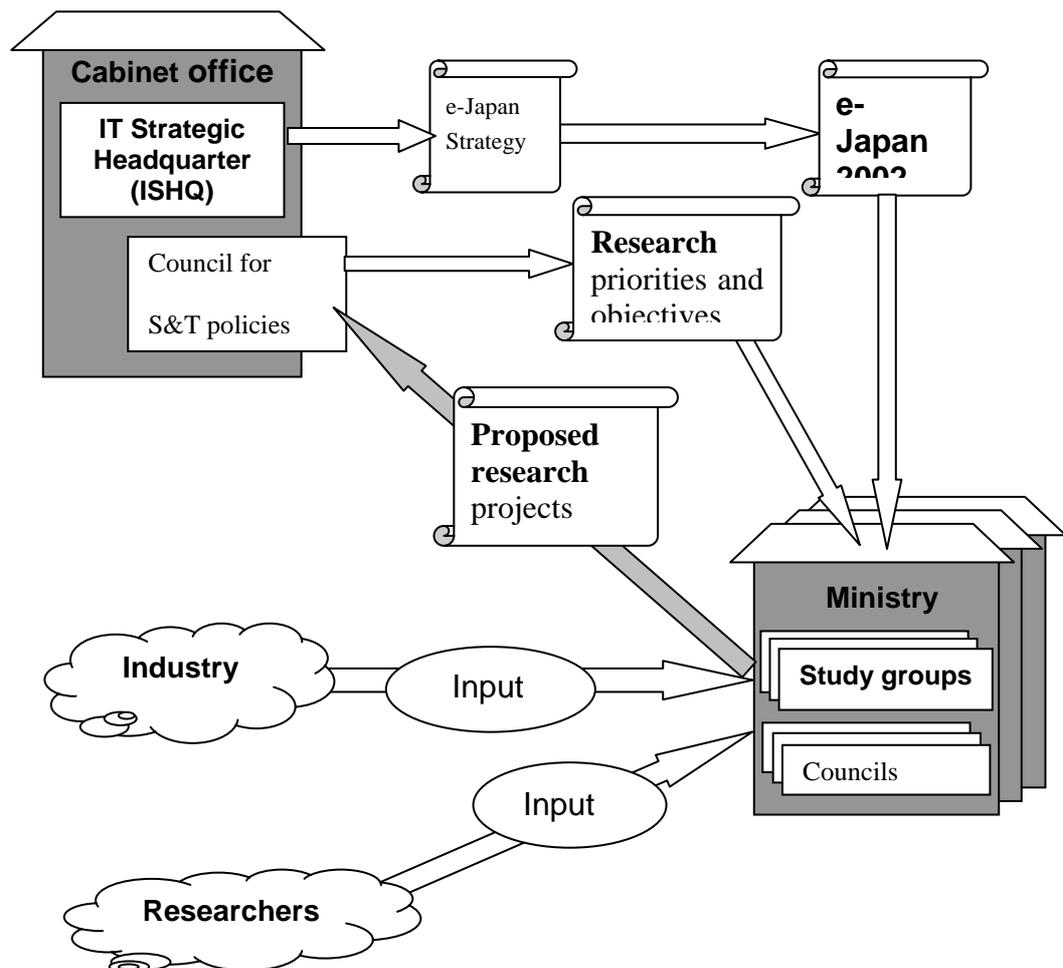
See

[http://www.soumu.go.jp/joho\\_tsusin/eng/Releases/NewsLetter/Vol12/Vol12\\_23/Vol12\\_23.html#3](http://www.soumu.go.jp/joho_tsusin/eng/Releases/NewsLetter/Vol12/Vol12_23/Vol12_23.html#3) for more information.

## APPENDIX A: The National IT program “e-Japan 2002”

In the current recession the Japanese government is promoting IT use as a means to effect a structural reform and thereby a genuine economic recovery and sustained growth. Based on this understanding, the government-appointed IT Strategic Headquarters (ISHQ) year 2001 set forth an “**e-Japan Strategy**” and an action plan to make Japan the world’s most advanced IT nation within five years. The fiscal **e-Japan 2002 program** was drawn up in alignment with that strategy, and a transcript of an English summary provided by the ISHQ is included below.

The Council for Science and Technology Policies (CSTP) chaired by the prime minister and including relevant ministers and representatives from the industry and the academic community, is the central advisory body to the Japanese government in matters of Science and Technology. IT is one of the four prioritised fields that CSTP looks at, the others being environment, life sciences and nanotechnology/materials. During the fall 2001, the council released the **priorities and objectives** they recommended that Japan should set for the government funded research and development done in the country during the coming years.



The e-Japan 2002 program can be found at:  
[http://www.kantei.go.jp/foreign/it/network/0626\\_e.html](http://www.kantei.go.jp/foreign/it/network/0626_e.html)

For a summary of the e-Japan strategy, please see the following web site:  
[http://www.kantei.go.jp/foreign/it/network/0122full\\_e.html](http://www.kantei.go.jp/foreign/it/network/0122full_e.html)

For a summary of the year 2001 e-Japan priority policy program, please see the following site:  
<http://www.kantei.go.jp/foreign/it/network/priority-all/index.html>

## **Promotion of High-Speed and Ultra-High-Speed Internet Infrastructure**

### *Objectives*

In light of the rapid growth in the number of Internet users, falling communications charges, and increasing access to high-speed Internet connection services, it is necessary to promote the further formation of even higher-speed and lower-cost networks. In order to achieve this, expansion of high-speed Internet infrastructure in disadvantaged areas as well as basic research and development will be promoted.

The continued promotion of fair competition and regulatory reform will be supported to encourage the development of networks by the private sector. Also links will be formed with the Council for Regulatory Reform to investigate at the IT Strategic Headquarters models for future competition policies including regulatory reform in the IT field. Based on these results, the necessary systems will be developed.

### *Measures*

The expansion of high-speed Internet access continues, with the cable television Internet and DSL subscribers in urban areas increasing to approximately 850,000 at the end of FY2000 (an increase of approximately fourfold from the previous year), and a variety of other services including optical and wireless access are also undergoing full-scale launches. In addition, the expansion of ADSL services to almost all areas of the country is planned for FY2002. Elimination of the digital divide in disadvantaged areas and the development of backbone networks compatible with higher-speed subscriber networks are also crucial issues. In order to achieve these goals, the promotion of fair competition, the expansion of high-speed and ultra-high-speed Internet infrastructure, the formation of nationwide networks of accommodation space including information boxes installed under national highways, and the development of necessary technologies for core Internet functions such as IX will be pursued.

### **(1) Expansion of High-Speed and Ultra-High-Speed Internet Infrastructure**

a) In order to promote the expansion of high-speed and ultra-high-speed Internet infrastructure, the development of networks by private sector business will be supported as will the development of wide-area public networks by local governments to foster the installation of high-speed Internet in disadvantaged areas. (Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT), Ministry of Agriculture, Forestry and Fisheries (MAFF))

- b) In order to facilitate the development of inter-regional and intra-regional backbone optical fibre networks, the preparation and opening of accommodation space will be promoted, in conjunction with the construction of optical fibre networks for the administration of public facilities such as highways, rivers, and ports, including a nationwide network of information boxes installed under national highways. (Ministry of Land, Infrastructure and Transport (MLIT))
- c) In order to promote the creation of networks by the private sector, measures to foster fair competition will be implemented, and the structure of the Fair Trade Commission reinforced to facilitate the rapid and accurate resolution of cases violating the Antimonopoly Act. (MPHPT, Fair Trade Commission (FTC))
- d. In order to respond to the explosive growth in data traffic accompanying the expansion of high-speed and ultra-high-speed Internet Infrastructure, technologies necessary for core Internet functions such as IX will be established. (MPHPT)
- e. The introduction of IT into apartments constructed by the Housing Corporation will be promoted. Besides, in order to facilitate high-speed Internet access in apartment complexes, IT standards for housing will be adopted as a support measure for the introduction of IT to housing. (MLIT)

## **(2) Research and Development**

- a) In order to promote a transition to IPv6-equipped Internet, research and development will be conducted on technologies that will effectively promote the diffusion of IPv6, including those that can enhance and utilize IPv6 functions and those that will expand the scope of devices other than PCs that can access the Internet. (MPHPT)
  
- b) In order to promote the expansion of seamless high-speed mobile communication services, research and development on technologies necessary for mobile communications services that act in tandem with Intelligent Transport Systems (ITS) and Geographic Information Systems (GIS) will be supported. In addition, research and development on technologies necessary for the realization of fourth-generation mobile communications systems will be promoted and proposals made for the establishment of global standards. (MPHPT, Ministry of Economy, Trade and Industry (METI))

## **Digitization of School Education and Reinforcement of Human Resource Development**

### *Objectives*

Japan will seek to become a superpower in terms of IT human resources by FY2005 and will promote an IT Human Resource Development Scheme in order to intensively implement the measures necessary for this. Specifically, further development and improvement of connectivity environments will be conducted according to the status of Internet access in schools and the degree of progress in increasing access speeds and lowering the costs of network infrastructure in order to promote the digitization of education. In addition, a wide variety of educational content will be enhanced and applied for the further use of IT in school lessons. Also, the information literacy of the general public will be raised and the training of creative personnel with specialized knowledge and skills promoted.

### *Measures*

During FY2001, action is being undertaken to provide all public elementary, lower- and upper-secondary schools, etc. with Internet access. By FY2005, virtually all public schools will have 24-hour connection to high-speed Internet access with the aim of enabling children to enhance their capability, so Japan can become a human resources superpower. During FY2002, school lessons utilizing networks will be enriched. To this end, schools will be provided high-speed Internet access and a wide variety of educational content that utilizes networks will be developed and their widespread use promoted.

### **(1) Digitization of School Education**

- a) In light of the status of the overall development of high-speed and ultra-high-speed Internet access, a transition to ADSL and optical fibre Internet access by schools will be promoted. (Ministry of Education, Culture, Sports, Science and Technology (MEXT), MPHPT)
- b) The utilization of visual content in the possession of public bodies, the creation of digital archives of education resources, and the aggressive development of content distributed through networks will be promoted to enhance and distribute a wide variety of educational content. Also, an educational content portal site will be enriched to allow for searching and downloading of such content. Thus, the distribution of educational content will be promoted systematically as a means to fully utilize IT at actual education sites.
- c) The IT instructional skills of teachers will be improved to promote the further utilization of IT in school education. (MEXT)

**(2) Provision of IT Learning Opportunities**

- a) Based on the results of the Basic IT Skill Training Program, action will be taken to improve the information literacy of the general public including the development of IT environments at public facilities. Action will also be taken to improve the information literacy of seniors and the disabled. (MPHPT, MEXT, MAFF)
- b) From the perspective of employment creation, job-related IT skills will be developed at various levels among unemployed persons effectively and efficiently. (Ministry of Health, Labour and Welfare (MHLW))

**(3) Development of Creative Human Resources with Specialized Knowledge and Skills**

- a) In order to develop IT human resources with specialized skills and creativity in accordance with the needs of industry, new IT-related departments in universities and graduate schools will be created and existing departments reorganized. The number limit of students will be increased to raise the number of highly-skilled IT human resources. Also, IT-related programs at specialized training colleges will be improved and further development of educational environments promoted. (MEXT)
- b) In order to develop highly-skilled IT human resources of both public and private sectors necessary in a broadband era, research and development projects by private sector engineers and local government employees will be encouraged. (MPHPT)
- c) In order to facilitate the development and use of highly-skilled IT engineers, standards concerning IT-related job skills will be established and diffused. (METI)
- d) The widespread application of e-learning (remote education) will be promoted by providing educational content according to skill standards common to Asian countries from the perspective of the effective development and use of IT human resources across various Asian countries. (METI)
- e) In order to develop excellent digital content creators, necessary action will be undertaken for improving the content production environment and distribution structures, and for facilitating the distribution of digital content via the Internet, taking into consideration the enhancement of international competitiveness in digital content. (MPHPT, METI)
- f) As globalization progresses, environments in which foreigners can study Japanese easily will be developed both in Japan and overseas to encourage the widespread application of the Japanese language and the dissemination of Japanese culture. (MEXT)

## Enhancement of Network Content

### Objectives

For Japan to become the world's most advanced IT society, the volume of high-quality digital content provided via the Internet and transmitted globally must be increased greatly. The production of digital content itself will likely be handled largely by the private sector, but the national government must act to create an environment in which this can take place. Specifically, highly skilled content creators will be trained and measures implemented that promote the production and distribution of high-quality digital content, including the protection of intellectual property rights. Also, the development of an environment that encourages introduction of IT by small and medium-sized enterprises will be accelerated including various measures to support start-ups.

### Measures

The scale of the electronic commerce market is increasing rapidly, with the business to business (B to B) market reaching approximately 22 trillion yen (about 2.5 times greater than in CY1998) and the business to consumer (B to C) market reaching approximately 820 billion yen (about 2.5 times greater than in the previous year) in CY2000. In FY2002, while continued efforts will be made to develop a necessary environment for the growth of e-commerce market, specific focus will be placed on promoting the production and distribution of high-quality digital content, including the protection of intellectual property rights to encourage the rapid growth of digital content distributed via the Internet.

#### **(1) Reviews of Regulations (Ministry of Justice (MOJ), and the relevant office and ministries)**

The Commercial Code will be amended to allow for the introduction of systems for storage of corporate documents in electronic forms and electronic notification using the Internet, and necessary reviews of regulations that impede electronic commerce will be conducted.

#### **(2) Appropriate Protection and Use of Intellectual Property Rights (MEXT, METI)**

In order to promote the appropriate protection and use of intellectual property rights on the Internet, necessary legal structures including systems related to copyrights and patents will be created to ensure the smooth distribution of digital content including computer software, images, and music.

#### **(3) Facilitation of Digital Content Distribution (MPHPT, METI)**

Action necessary for the development of environments to establish commercial rules of broadcast content and technology for the prevention of unlawful copying will be taken to facilitate the distribution of broadband content.

#### **(4) Consumer Protection (Cabinet Office, METI, FTC, and the relevant office and ministries)**

Consumer protection will be promoted in the electronic commerce field including the creation of systems for the rapid resolution of consumer complaints and the protection of personal information through the provision of related information.

**(5) Digital Signatures and Authentication Systems (MPHPT, MOJ, METI)**

In order to ensure the efficient implementation of digital signatures and authentication systems, necessary action will be taken including international mutual recognition of authorizing authentication operations, research and investigations with regard to the evaluation of technologies concerning the security and reliability of authentication operations, and activities to publicize such operations among the general public.

**(6) Extension and Encouragement of Alternative Dispute Resolution (MOJ, and the relevant office and ministries)**

In order to develop the foundations to expand and encourage the use of Alternative Dispute Resolution (ADR), the investigations on a legislation for arbitration will be hastened, taking into consideration international developments such as those of United Nations Communication on International Trade Law (UNCITRAL), and investigations will be made in view of adopting Basic Law on ADR (tentative) to create a basic framework for ADR.

**(7) Development of Common IT Foundations for Small- and Medium-Sized Enterprises (SMEs) (METI, MAFF)**

In order to promote the introduction of IT to SMEs, a suitable environment will be developed and support measures provided in a comprehensive and systematic manner, including the promotion of human resource development and business tie-ups as well as an enhancement of information provision through implementation of an "e-SME Agency." In addition, the development of an electronic commerce environment will be encouraged in agriculture, forestry and fisheries business areas that are lagging behind other industries.

**(8) Coordination with International Rules (MPHPT, MOJ, METI, and the relevant office and ministries)**

Active discussions will be conducted on a range of topics including infringement of intellectual property rights, consumer protection, information security, international court jurisdiction, and conflicts of laws in various forums such as World Intellectual Property Organization (WIPO), Organization for Economic Co-operation and Development (OECD), UNCITRAL, the Hague Conference on Private International Law, and the World Trade Organization (WTO), taking into consideration Japan's legal systems, in order to effect coordination with international legal systems.

**Promotion of Electronic Government and Electronic Local Government****Objectives**

It is necessary to promote the development of foundations in FY2002 to realize both electronic government (e-government) and promote the creation of electronic local government by FY2003. In order to do this, the foundations necessary for submitting electronic applications and notifications including public individual certification services by local governments will be developed and necessary support will be provided by the national government so that local governments can undertake such developments, keeping pace with the national government. Also, all possible measures will be taken to ensure security, which is the foundation of all IT services.

## Measures

During FY2002, all the ministries will engage in the development of a common system infrastructure to electronically handle applications and notifications, and will also promote electronic delivery of administrative information and electronic government procurement, so that electronic information can be handled administratively in the same way as information on paper by FY2003.

### **(1) Electronic Delivery of Administrative Information (MPHPT, and all the ministries)**

Based on the Action Plan Concerning the Promotion of Electronic Information Delivery to be formulated by each office and ministry according to the Framework for Electronic Delivery of the Administrative Information (Guideline), systematic and priority action will be taken for the electronic delivery of administrative information such as basic information concerning administrative organizations and structures, information regarding budget and settlement of account, and information that will contribute to effective social use.

### **(2) Electronic filing (application, notification and other procedures) (MPHPT, Ministry of Finance (MOF), and all the ministries)**

The following items will be promoted based on a new action plan.

- a) Creation of authentication systems and General-Purpose Acceptance System
- b) Creation of systems necessary for electronic payment of fees
- c) Creation of individual systems necessary for handling separate procedures
- d) Creation of inspection support databases, internal memo and decision-making systems, and document management systems that will contribute to efficient internal administration and the enhancement of the functions of such systems.

### **(3) Construction of Public Authentication Infrastructure for Individuals (MPHPT)**

A public authentication system for individuals by local governments using data from basic resident registers is scheduled to start operations in FY2003. In preparation, trial operations will be conducted, legal and other necessary foundations will be prepared, and systems will be constructed.

### **(4) Electronic Government Procurement**

- a) Based on investigations into specifications for electronic bidding and bid opening with respect to government procurement except public works, a system will be developed and put into trial operations. (MPHPT, and all the ministries)
- b) An electronic procurement system for public works that exceed a certain scale will be operated under the direct control of the office and ministries, and a system compatible with various bidding formats will be developed. (MLIT, and the relevant office and ministries)

**(5) Paperless (Electronic) Administration (MPHPT, and all the ministries)**

Each office and ministry will jointly shift certain tasks to paperless (electronic) administration. While the functions of existing systems will be upgraded as necessary, LANs of national ministries and those of their regional bureaus and branch offices will be connected, and networks linking the national government and local governments will be installed.

**(6) Support to Local Governments (MPHPT, and the relevant office and ministries)**

In coordination with the introduction of electronic administration in the national government, Priority Policy Program will be steadily implemented by the national government to provide support to the undertakings of local governments.

**(7) Development of Wide-Area Systems by Local Governments (MPHPT)**

The construction of wide-area systems by multiple local governments will be supported. To carry this out, the construction of jointly operated systems by such means as ASP will be promoted through trial operations.

**(8) Electronic Voting in Local Elections (MPHPT)**

In order to make voting more convenient for voters and to facilitate ballot counting, action will be taken to make possible trial operations of electronic voting in local elections.

**(9) Formulation and Widespread Use of Evaluation Indicators concerning System Development (METI, and the relevant office and ministries)**

Based on the result of the adoption of Process Evaluation Indicators' Model for Development and Procurement of Software, action will be conducted to promote the widespread adoption of that model in both the public and private sectors including preparation of a training environment for evaluators.

**(10) Introduction of IT in the Public Sector (relevant office and ministries)**

Priority Policy Program will be steadily implemented by promoting research and development, by digitizing such fields as science and technology, academic research, the arts and culture, health care and social welfare, the environment, disaster prevention, and public transportation, and by aggressively introducing advanced telecommunications infrastructure and applications into various fields, including the promotion of ITS and GIS.

**(11) Effective Promotion of Measures (all the ministries)**

The following action will be taken to encourage effective promotion of measures: (1) use of existing systems; (2) development of an effective system that corresponds to diversification of communications services and progress of technology; (3) sharing of design and development results; (4) elimination of duplicative measures; and (5) coordination of measures.

## Ensuring the Security and Reliability over Advanced Information and Telecom Networks

### Measures

Ensuring information security is a necessary prerequisite for the advancement of the IT revolution. In CY2000, the number of computer virus notifications was 11,000 (approximately three times the number in the previous year), and the number of reported unauthorized access incidents was 143 (approximately 2.6 times the previous year's figure). In FY2002, particular emphasis will be placed on constructing security systems in electronic government, constructing response systems to cyber terrorism, and raising security levels in the private sector.

#### **(1) Construction of a Highly Reliable e-government**

a) In order to ensure information security in the e-government, investigations will be launched on the construction of a system for information security, which, in an integrated manner, supports each ministry and agency as well as local governments, evaluates and examines security conditions of each ministry and agency, and responds to emergency situations. (Cabinet Secretariat)

b) In order to evaluate and review security policies on a continuous basis, effective measures will be investigated including the use of ethical hacking. (Cabinet Secretariat)

c) The information security measures of local governments will be supported through such means as the creation of emergency response systems and the implementation of local financial measures. (MPHPT)

#### **(2) Reinforcement of Countermeasures against Cyber-Terrorism (Cabinet Secretariat, National Police Agency (NPA), Defence Agency (JDA), Financial Services Agency (FSA), MPHPT, METI, and MLIT)**

Cyber Terrorism Response Database (tentative name) will be constructed and its functions reinforced to collect, transmit, and accumulate information concerning cyber terrorism as well as share such information between the private and public sectors. In addition, training of personnel with advanced skills, development of systems, and international cooperation will be promoted to respond to emergency situations.

#### **(3) Raising Awareness concerning Information Security**

Basic education concerning information security will be introduced to the compulsory education level, structures that promote cooperation among private sector initiatives will be developed, and support will be provided for a human resource development program that takes into consideration the needs in various areas. (MPHPT, MEXT, MHLW, METI)

#### **(4) Support for Information Security Measures in the Private Sector**

a) Functions whereby ministries and organizations involved in information security provide and accept information and provide guidance and advice to the private sector will be reinforced, consulting services at prefectural police offices for the private sector will be improved, and high-tech anti-crime measures will be strengthened. (NPA, MPHPT, METI)

b) Activities will be conducted to raise public awareness concerning information security, and support will be provided to private companies to promote the introduction of advanced information security facilities and purchase information security related services. (MPHPT, METI)

**(5) Development of Key Technologies Concerning Information Security (NPA, JDA, MPHPT, MEXT, METI)**

Basic technologies including encryption technology and information security evaluation technology will be developed and shared with other ministries and the private sector to the extent there is no influence to national security issues.

**Reinforcement of International Activities**

Objectives

It is important for Japan to play a central role in the IT revolution in Asia. We will disseminate large volumes of digital content, and act as an Asian Internet hub, while engaging in international cooperation concerning IT-related rules and regulations, including those on intellectual property rights and consumer protection. Furthermore, we will contribute to the expansion of the global IT revolution mainly in Asia by promoting the spread of IPv6 and the development of human resources.



## APPENDIX B: Privacy laws

The "Law Concerning Access to Information Held by Administrative Organs" (1988) prescribes basic rules for restrictions on the possession of electronic personal data or requests from the owners to access it to protect personal rights and interests. (See [http://www.soumu.go.jp/gyoukan/kanri/b\\_11e.htm](http://www.soumu.go.jp/gyoukan/kanri/b_11e.htm) for more information.)

As of September 2002, the bill of "the Law on the Protection of Personal Information" and the Revision of "the Law Concerning Access to Information Held by Administrative Organs" are under deliberation in the diet.

The Law on the Protection of Personal Information is the basic regulatory framework for the protection of personal information. Its purpose is protecting individuals' rights and interests in consideration of the usefulness of personal information. It also includes basic principles regarding the appropriate handling of personal information; obligations that must be fulfilled by companies utilizing databases of personal information for their businesses, and measures that shall be implemented by the government.

The Diet passed the following five laws concerning personal information protection and use in May 23, 2003.

1. Law on the Protection of Personal Information
2. Law Concerning the Protection of Personal Information Held by Administrative Organs
3. Law Concerning the Protection of Personal Information Held by Independent administrative agencies and other organizations
4. Law of the Examining Committee on Information disclosure and the protection of personal information
5. Preparation Law on enforcement of the Law Concerning the Protection of Personal Information Held by Administrative Organs

A summary of the contents of the first two laws is given in the table below.

	The Law on the Protection of Personal Information	The Law Concerning the Protection of Personal Information held by Administrative Organs
Purpose	Protecting individuals' rights and interests in consideration of the usefulness of personal information.	Having the management of public administration proper and smooth and protecting individuals' rights and interests.
Type	Fundamental Law: the basic regulatory framework for the protection of personal information.	Individual Law: the regulation on the handling of personal information held by government agencies based on the fundamental law.
Principle	Respecting the independency and autonomy of the entrepreneurs, the minimum necessary regulation shall be done from a viewpoint of protection of personal information.	The handling of personal information by government shall be strictly regulated from a viewpoint of protection of personal information, and also improving openness and transparency of public administration.
Information to be regulated	Personal information arranged systematically on a prescribed scale like databases.	All personal information held by government agency regardless of record form. Paper document and dispersed information are also included.
Subject and Exception	Person, company and any type of organization handling personal information with the exception of the press, writing, scientific research, religion activity and political activity. The duties of central and local governments are also prescribed.	All administrative agencies of central government. Each local self-governing body are to establish local regulations based on the law. Independent administrative agencies and other organizations are regulated as well by a different law.
Rights of Person Concerned	Claim for indication, correction and suspension. Purpose of using information shall be noticed.	Claim for indication, correction and suspension.
Penalty	Penal servitude in six months or 300,000 yen fine for the disobedience to command by the minister in charge, etc.	Penal servitude in two years or 1,000,000 yen fine for the leakage of personal information file by government officials or theirs equal, etc.
Remedy	Mediation by local governments. Settlement by authorized private organization.	Investigation and deliberation by a special committee according to the protest system against public administration.
Effect Date	May 30, 2003. The provisions on the duty of private entities will take effect within two years.	The law will take effect within two years from May 30, 2003.

The ministry has also established a privacy mark system which is designed to promote the appropriate protection of personal information processed by private enterprises with computers. The right to use the Privacy Mark is granted to private enterprises if they have fulfilled requirements for sufficient measures for protection of personal information. See <http://privacymark.org/> for more information.



## APPENDIX C: Security issues identified by the government

The Japanese government has stated that ensuring security and reliability is a major concern for realizing e-government and e-commerce. The following measures were therefore identified:

### **(1) Construction of a Highly Reliable e-government**

It is necessary to

- investigate on the construction of a system for information Security
- support each ministry and agency as well as local governments
- evaluate and examine security conditions of each ministry and agency
- evaluate and review Security policies on a continuous basis
- create emergency response systems

### **(2) Reinforcement of Countermeasures against Cyber-Terrorism**

- Cyber Terrorism Response Database will be constructed to collect, transmit, and accumulate information concerning cyber terrorism as well as share such information between the private and public sectors.
- Training of personnel with advanced skills, development of systems as well as international cooperation will be promoted to respond to emergency situations.

### **(3) Raising Awareness concerning Information Security**

- Basic education concerning information Security will be introduced to the compulsory education level.
- Cooperation among private sector initiatives will be developed.

### **(4) Support for Information Security Measures in the Private Sector**

- Public sector shall provide guidance and advice on information security to the private sector.
- Prefectural police offices shall provide consulting services for the private sector about high-tech anti-crime measures.

### **(5) Development of Key Technologies Concerning Information Security**

Encryption technology and information security evaluation technology will be developed and shared with other ministries and the private sector.

However, not satisfied that the attention and scope given to the security issues would suffice, METI recently decided to appoint a study group to look into the security issues from a broader perspective. Please see press release below for further info. The results from this study group were not yet published at the time this report was written.

METI Press Release, spring 2003

## **1. Problems to Solve**

### (1) Necessity to Overview Entire Situation of Information Security

- The government, local governments, companies and citizens have come to utilize IT as an essential tool for their activities, and the IT economic society has rapidly spread to the public. At same time, threats to information security are increasing, such as leakage of information and illegal invasion of information systems, and each party is experiencing a vague anxiety and sense of risk.
- To this end, from the viewpoint of establishing trusted fundamentals of the information economy by which each party can express its maximum vitality in the IT economic society. It is time to develop a general strategy, which summarizes the information security policy implemented up till now, and outlines the kinds of guidelines the government should follow and the policies it should implement.
- Meanwhile, when considering information security, it is important to add views on crisis management for cyber-terrorism and security of the information itself to the grand design of Japan's policy.
- Taking the above points into account, we decide to study an overview of the entire situation of information security policy and established the Information Security Committee under the Information Economy Committee, Industrial Structure Council. In addition, we established the Study Group to Plan General Strategy for Information Security, in which professional and practical issues will be discussed, as an advisory study group of the General-Director, Commerce and Information Policy Bureau, and started discussions.

### (2) Cooperation with Cabinet Office and other organizations

- In cooperation with the IT Security Office and the IT Strategic Headquarters, both under the Cabinet Secretariat, and the Council for Science and Technology Policy of the Cabinet Office, we aim to contribute to implementing information security policies by which each separate body in Japan can work together.

## **2. Contents and System of Study**

- The goals are establishing General Strategy for Information Security, and overview the entire situation of information security in Japan.
- The Information Security Committee will be organized by experts from academia, business, the mass media, etc.

**Schedule**

May 14th

The First meeting of the Study Group to Plan General Strategy for Information Security was held.

Middle of June

The first meeting of the Information Security Committee was held.

End of September: The interim report will be published.



## APPENDIX D: The Asia Broadband Program

### ASIA BROADBAND PROGRAM

(Unofficial Translation)

March 28, 2003

Ministry of Public Management, Home Affairs, Posts and Telecommunications

Fair Trade Commission

Ministry of Justice

Ministry of Foreign Affairs

Ministry of Education, Culture, Sports, Science and Technology

Ministry of Health, Labor and Welfare

Ministry of Economy, Trade and Industry

Based upon the "e-Japan Priority Policy Program – 2002 (June 18, 2002, Decision of IT Strategic Headquarters)" and the "Basic Policies for Economic and Fiscal Policy Management and Structural Reform 2002 (Cabinet Decision of June 25, 2002)," the "Asia Broadband Program" is hereby set forth as follows.

In order to realize a globally-balanced IT society, various IT-related policy measures for Asia, including measures contained in this Program, being implemented by the relevant ministries are expected to be carried out in unison, according to the "e-Japan Strategy."

#### **I. Basic concepts**

##### (1) Strengthening of relationships among Asian countries/economies

Asian countries/economies, including Japan, are rich in diversity, as exemplified by their geographical, social, economic, cultural and linguistic diversities, and are mutually and closely linked with each other. Especially in recent years, as exemplified by positive business deployments in Asia, flows and exchanges of people, products, funds, information, etc. among Asian countries/economies are rapidly developing and trends toward conclusions of economic partnership agreements (EPAs) and other agreements are prevailing as well. The significance of Asia for Japan has been growing further.

##### (2) Significance of broadband platforms in Asia

On the other hand, the socioeconomic importance of ICT has been shared internationally by the G8 Leaders' "Okinawa Charter on Global Information Society (July 2000)," the United Nations "Millennium Declaration (September 8, 2000)" and other statements. In order to develop Asia and enhance mutual ties, ICT is an indispensable infrastructure and is anticipated to play a vital role in the future.

The advantages of broadband platforms (Note1) are i) high speed and large capacity, and ii) constant connection and flat rates. They provide people with a new environment, thus enabling the dramatic overcoming of time and space restraints in human communications. These features will enhance living standards and individual creativity; invigorate corporations, NPOs, administrations and other entities and improve efficiency thereof; help economies grow dynamically; promote trade, wide-ranging sharing of cultural diversities, science, transborder activities and other mutual benefits.

It can be said that Asia is already one of the most developed regions in terms of deployment of broadband platforms. But toward a ubiquitous network society in the future, all people in Asia will benefit from ICT through more widespread use and full utilization of broadband platforms.

Moreover, broadband platforms will lead to further socioeconomic and cultural developments of Asia including Japan, and thus to peace and stability in the Asian region as well as the world.

### (3) Current status of Asia

When looking into the current status of Asia, the following problems exist:

- (i) While there are countries/economies with higher penetration rates of broadband platforms, at the same time there are countries/economies with penetration rates of 1% or less for telephone networks and the Internet. The significant digital divide exists between respective Asian countries/economies and between urban and rural areas, which looms as a potential danger that may increase economic and social disparities further.
- (ii) Even in some environments accessible to broadband platforms, there are situations under which broadband penetration is still stagnant due to inhibited use derived from lack of demand.
- (iii) The volume of information flows between countries/economies within the Asian region, compared to those within North America and Europe, is not high. Furthermore, when comparing the tripolar hubs of Asia, North America and Europe, whereas trade volumes between each of any two of the those hubs are nearly balanced, information flows between Asia-North America and between Asia-Europe are significantly small compared to those between North America and Europe.

1 The term "broadband," in general, means networks that enable high-speed access to the Internet, such as ADSL, cable television and fibre-optic networks. In this Program, "broadband" covers networks enabling access to the Internet at speeds of 1 Mbps or higher.

## APPENDIX E: Internet Users

Source: Ministry of Home Management, Public Affairs, Posts and Telecommunications, February 28, 2003

### 1 DSL Service Users

		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Users (subs)	01	16,194	34,372	70,655	112,182	178,737	291,333	400,760	510,339	650,796	921,867	1,204,564	1,524,564
	02	1,787,598	2,976,302	2,378,795	2,699,285	3,028,556	3,300,926	3,610,199	3,915,740	4,223,216	4,639,545	5,117,867	5,645,728
	03	6,119,883											

Note) The number of subscribers using terminal lines offered by the NTT regional companies.  
For father details, see [http://www.soumu.go.jp/joho\\_tsusin/whatsnew/dsl/](http://www.soumu.go.jp/joho_tsusin/whatsnew/dsl/)

### 2 FTTH Service Users

		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Users (subscribers)	2002	12,337	18,188	26,400	34,930	50,930	68,600	84,903	99,404	114,608	138,030	172,344	206,189
	2003	233,072											

### 3 Number of Subscribers Using Internet Connection Services that Utilize the CATV Network

		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Subscribers (in 10,000s)	2001			78.4			96.7			115.1			130.3
	2002	133.4	139.9	145.6	153.3	156.7	162.6	171.0	175.8	180.0	185.2	190.1	195.4
	2003	199.2											

Note) Subscribers include those occasionally using a dial-up line. Includes the number of lines of internet service providers whose sole role is to offer the lines.

### 4 Number of Operators Providing Internet Connection Services that Utilize the CATV Network

		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Operators (companies)	2001	190	198	201	217	221	227	232	233	238	240	243	247
	2002	251	251	252	263	265	268	270	272	274	275	276	277
	2003	277											

Note) Number of operators includes the number of Providers whose sole role is offering the lines to other internet service providers.

### 5 Number of Internet Service Users Via Mobile Phone Terminals

		Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Users (in 10,000s)	2001	2,924.4	3,141.1	3,456.7	3,694.4	3,865.7	4,037.5	4,216.7	4,355.0	4,493.7	4,618.2	4,717.8	4,849.5
	2002	4,943.8	5,033.6	5,192.5	5,297.0	5,371.4	5,464.6	5,559.4	5,634.7	5,711.3	5,777.1	5,843.2	5,952.7
	2003	6,023.5											

Note) The total number of subscribers to the i-mode, Ezweb (including the previous EZaccess) and J-Sky services.

6. Increase in the Number of Internet Connection Service Users Utilizing Dial-up Connections on Telephone Lines

		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Index	2001	153.2	156.9	163.1*	166.8	170.2	173.3	176.1	179.3	181.6	183.2	184.4	186.4
	2002	188.4	189.5	191.0	215.4*	217.2	203.9	203.9	204.1	203.1	204.1	201.0	200.0
	2003	196.4											

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## APPENDIX F: Glossary

Please find below explanations to some of the terms, acronyms and abbreviations used in this document.

Broadband:	In general, the term broadband refers to high-speed access to the Internet, usually always on, such as through ADSL, cable television and fiber-optic networks. In the US, the official definition of broadband is any connection faster than 200 kbps in at least one direction, in Europe it is often referring to connections offering at least 265 kbps, while in Japan, in official programs, the term broadband often refers to speeds of 1 Mbps or higher.
B2B:	Business to business, term referring to trade between companies, usually electronically
B2C:	Business to consumers, term referring to commerce aimed at private consumers.
BB:	Broadband
CATV:	Cable TV
CIO:	Chief Information officer
DoCoMo:	The mobile operator subsidiary of NTT.
DSL:	Digital subscriber line, an access technology allowing relatively inexpensive high-speed access over normal copper telephone lines. Special equipment is necessary both on the subscriber and the network side. In Japan, ADSL, Asymmetrical DSL, is very popular among private users.
FTTH:	Fibre to the home, meaning that the optical fibres in the telecommunications network are extended all the way to the subscribers, allowing high-speed access without special equipment.
FY:	Fiscal year, in Japan running from April 1st to March 31 <sup>st</sup>
IPv6:	The 6th, not yet fully implemented, version of the Internet protocol. Promoted strongly in Asia since it enables, among other things, many more IP addresses.
ISHQ:	The government-appointed group, including both bureaucrats and industry representatives, who formulate the IT policy
ISP:	Internet service provider, a company offering internet access.
IT, ICT:	Information Technology, the convergent field of telecommunications, computing and media. Sometimes also termed Information Communications Technology
JDA:	Japan Defence Agency

JPY:	Japanese yen
MAFF:	Ministry of Agriculture, Forestry and Fisheries
MECS:	Former Ministry of Education, Culture and Sports
METI:	Ministry of Economy, Trade and Industry
MEXT:	Ministry of Education, Culture, Sports, Science and Technology
MHLW:	Ministry of Health, Labour and Welfare
MLIT:	Ministry of Land, Infrastructure and Transport
MOE:	Ministry of the Environment
MOF:	Ministry of Finance
MOFA:	Ministry of Foreign Affairs
MOJ:	Ministry of Justice
MPHPT:	Ministry of Public Management, Home Affairs, Posts and Telecommunications
NPA:	National Police Agency
NPO:	Non-profit organisation
NTT:	Nippon Telephone and Telegraph, the incumbent operator of Japan
ODA:	Overseas development aid
PC:	Personal computer
PDA:	Personal digital assistant, handheld digital device for personal information, calendar, etc.
R&D:	Research and development
RFID:	Radio frequency id-tag, a small chip communicating short-range over radio to transmit information for example between a card and a lock on a door or a subway gate.
SEK:	Swedish crowns
SME:	Small and medium-sized enterprises
WLAN:	Wireless local area network, allowing short-range access via radio for example between a PC and a base station installed in a café. Also sometimes referred to as WiFi. The area covered by WLAN is called a hotspot.

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