

Priority Policy Program 2006

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IT Strategic Headquarters

Priority Policy Program—2006
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I Basic Principles

1. Introduction

In order to become “the world’s most advanced IT nation,” the “e-Japan Strategy” and the “e-Japan Strategy II,” were implemented under the leadership of the IT Strategic Headquarters. As a result, Japan attained the highest global standards, as demonstrated in our nation’s improved broadband infrastructure and its widened use, by the greater utilization of state-of-the-art cellular phones, and by the improved electronic commerce environment and its dramatic increase in transaction size. In addition, during the process in which we were working toward the realization of these achievements, we succeeded in building a mechanism to strongly promote the progress of IT, such as public –private partnership and the establishment of an assessment system concerning our IT strategy. Dramatic progress at both the infrastructure and consumer levels resulted in the world’s highest standards in its market and technological environment. Japan is now transitioning from taking a following position to such foremost countries as the United States, which pioneered the IT revolution, to becoming a front-runner in leading the world to create an IT society for the next generation.

Meanwhile, issues do exist that require urgent improvement. These include: increasing public satisfaction in utilizing IT in the fields of government services, healthcare and education; rectifying the difference in information utilization between localities and generations (i.e. the digital divide); promoting security measures, disaster prevention and damage control measures; integrating IT in business management and strengthening worldwide competitiveness of industries; and, making international contributions.

Under the New IT Reform Strategy, focus was put on the ability of IT to reform the social structure. Not only will this characteristic of IT be used to benefit national life from a user-standpoint and improve industrial competitiveness, but also to reform the major societal challenges Japan faces, and to disseminate the achieved results to the world. Ideally, our nation

should primarily aim to achieve a ubiquitous network society, whereby “anybody, can use IT anywhere, at anytime,” while taking care to assure security and protect privacy. And secondly, by this means, continue to be the most advanced IT nation with the world’s highest-level of infrastructure, potential applicability and technological environment.

To realize such an IT society, we must continue to build our nation so that we can take pride in being the front-runner, leading the internationally progressing IT revolution. For this we will establish, “Priority Policy Program 2006,” as the first step toward reaching the New IT Reform Strategy’s goal of, “completing IT reform by the year 2010.” Outlined hereunder, is the extent of measures that the government must follow promptly and intensively, in order to build an advanced information and communications network society.

By implementing “Priority Policy Program 2006” promptly and precisely, under the leadership of the IT Strategic Headquarters within the Cabinet and by the government as a whole, continuing to assess achievements and speeding up the measures stated in this program depending on the situation, we aim to create a society where “anybody, anywhere, at anytime” can experience the benefits of IT.

2. Basic guidelines

2.1 Policy aspects

(1) Aspects of prioritization

In order to realize the New IT Reform Strategy's goals in a focused and efficient manner, "Priority Policy Program 2006" outlined the basic aspects of actual implementation of policies for each individual strategy field

On this basis, specific policies under the Priority Policy Program conform to these aspects and have been selected for prioritization using the following criteria:

- (i) The policy should actualize measures aimed at achieving the New IT Reform Strategy's goals, and the prioritized undertaking necessary due to such issues as the policy's pursued result, its deadline, and anticipated effect.
- (ii) The policy should fit the New IT Reform Strategy's fundamental principles of promoting structural reform using IT and also focus on the users /public as well as the strengthening of competitiveness.
- (iii) The policy's pursued result and deadline are clear, so an accurate and powerful undertaking can be promoted, by conducting regular evaluations in PDCA cycles, with adjustments being made as necessary.

Additionally, we clarified as much as possible, the advantages these measures would provide, from the public's/user's point of view.

Furthermore, in implementing these policies, it is imperative to actively engage in the reengineering of existing systems for both IT and non-IT institutions while keeping the original policy goals in mind, if it leads to the application and utilization of IT in each of the areas, as well as to the realization of an advanced information and communications network society. .

(2) Future IT policies

We must respond to societal challenges that need to be resolved in the 21st Century, namely the pressing problems our country faces, such as healthcare to support an aging society and environmental problems. We must also actively engage in issues requiring accelerated advancement, such as realizing a safe and secure society, business management utilizing IT to support 21st century socioeconomic activities, and working toward the formation of a convenient and efficient electronic government. It is important not only to create an IT society without digital divides, improve the environment to allow secure usage of IT, enrich education and educate high level human resources to support the future IT society, and promote research and development, but also to help users actually experience the benefits and convenience of IT, by realizing its application and utilization in forward-thinking model areas. Furthermore, as a country bound to be a frontrunner in the IT revolution, it is important to enhance Japan's presence within the international society and successfully contribute to the Asian nations and others, by disseminating problem-solving models using IT's structural reform capabilities.

(3) Relationships with the IT Basic Law

Our country's IT policy follows the direction established by IT strategies encompassing the below measures, which are outlined in the Priority Policy Program under the IT Basic Law.

- (i) As set forth in Article 35, section 2. issues 2-6 of the IT Basic Law, the following initiatives are to be prioritized, in order to realize an advanced information and communications network society:
 - (a) Create the world's most advanced information and communications network society
 - (b) Encourage education and learning and develop human resources
 - (c) Propel electronic commerce, etc.
 - (d) Promote the use of information and communications technology in the public sector as well as government
 - (e) Secure a reliable and safe advanced information and communications network
- (ii) Policies concerning lateral issues, as set forth in Article 35, section 2.

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In addition to (a)—(e) above, the government must proactively respond to existing lateral issues that require coordinated actions, such as: promoting research and development, creating new international relations centered around IT, and eliminating the digital divide, in realizing an advanced information and communications network society.

2.2 Implementation framework

(1) Leadership of the IT Strategic Headquarters

Promotion of structural reform by IT is a pressing issue for our country, and the IT Strategic Headquarters must actively indicate the direction that complies with the New IT Reform Strategy and help to eliminate vertical segmentation within ministries to tackle policies.

Based on this perspective, for steady execution of measures outlined in this Priority Policy, the IT Strategic Headquarters must reexamine it appropriately and must also avoid redundant investments by considering past evaluations, and determine priorities, etc., when preparing for budget requests. It must also be responsible for managing the progress and providing ex-post evaluation during the policy implementation stage. As for cross-ministry policies, the headquarters will be especially instrumental in unifying the efforts of all related ministries to secure a consistent and effective operation. Evaluation results should be released regularly.

Promoting structural reform by IT, the intent of the New IT Reform Strategy, will solve problems caused by regulations and systems that hinder private economic activities and thereby holds the key to continued growth of the future Japanese economy. This initiative is also shared with the Council on Economic and Fiscal Policy and the Council for the Promotion of Regulatory Reform. Moreover, close coordination with the Council for Science and Technology Policy is essential since the strategic development of technology obviously serves as the foundation of an IT society, just as it is a fact that IT supports the advancement of technology.

The IT Strategic Headquarters will maximize the results through close cooperation on policy proposals and through executing and routinely exchanging opinions with the Council on Economic and Fiscal Policy, the Council for the Promotion of Regulatory Reform, the Headquarters for the Promotion of Regulatory Reform, the Council for Science and Technology Policy, the Intellectual Property Strategy Headquarters, and other such related councils and headquarters.

(2) Enhancing and strengthening the assessment system (the PDCA approach)

The success or failure of the New IT Reform Strategy and this Priority Policy Program can be further clarified by correctly evaluating the implementation of various government policies in accordance with their performance targets. For this reason, the Expert Committee on IT Strategy Evaluation, made up of intellectuals from the private sector, serve as the wheels of a car and contribute to the IT Strategic Headquarters from a civilian standpoint, by evaluating the government's status of progress on the New IT Reform Strategy, making comparisons with other nations, and proposing new policies, etc.

Consequently, the assessment results provided by the Expert Committee on IT Strategy Evaluation will be reflected appropriately in future priority policy programs. This will make it possible to go through the "Plan—Do—Check—Act" or PDCA cycle and enable a medium- to long-term continued effort to achieve goals, through the creation of virtuous cycles where issues needing directional corrections are immediately rectified (immediately adding requirements and promptly stopping the unnecessary, etc.)

Evaluation activities will be performed by "objectively understanding the benefits of IT from a user point of view." For this reason, emphasis will be on the comprehensive perspective of the level of the result returned to the user, by first determining which policies contributed to what degree toward attaining the target goal of a socially desirable state from a user's viewpoint. Appropriate evaluation will take place by utilizing gaugeable

and appropriate indicators and criteria such as cost effectiveness, user satisfaction, etc.

Especially since FY2006 marks the pioneering year of the New IT Reform Strategy, evaluation systems and indicators needed to achieve the targets outlined in the above strategy and this Priority Policy Program will be deliberated, evaluations will be conducted at a suitable time, and the results will be used in establishing future priority policy programs, etc. Additionally, creating subcommittee meetings under the Expert Committee on IT Strategy Evaluation for the two areas— “healthcare” and “e-Government” —especially delayed within the priority policy fields, will secure a framework that enables necessary research, and powerfully implements continuous evaluation.

These evaluation results will be reported to the IT Strategic Headquarters which, in turn, will consult the minister in charge regarding policies touching on the relevant issues and point out revisions of related policies as necessary. With these ways, it will be possible to establish an evaluation system that is continuously abreast of individual issues, and combines not only expertise and neutrality, but also effectiveness.

(3) Private and public sector roles

The basic principle behind the public-private division of duties in creating an advanced information and communications network society is, “The private sector plays a leading role with support from the government.” The private sector must first have the enthusiasm and demonstrate the ingenuity through free and fair competition and forward drive into the IT reforms.

On this basis, and as a way for the government to further support the private sector, the environment can be improved, allowing markets to function more smoothly through initiatives such as promoting free and fair competition and reevaluating policies, as well as by eliminating the negative effects of a vertical administrative system and by strengthening the cooperation between central and local governments. In these ways,

the government shall thereby provide an environment to bring out the best from the people's vitality. It remains necessary to secure safety and reliability for the future, while ceaseless revisions are made regarding the state of competition policy, and a suitable market environment is created. Additionally, in order to promote private-led initiatives, it is imperative for the government to actively urge people to share the same visions and necessary actions.

On the other hand, as to its own set of initiatives, the government shall proactively tackle issues not easily realized by the private sector-led movement, such as: structural reform of healthcare by IT, establishment of e-Government, development of a safe and secure usage environment by assuring information security, correction of the digital divide, research and development of foundational technology, and promotion of international coordination, while keeping in mind the focused and efficient distribution and execution of the budget.

To summarize, the government's role can be divided into the following five categories:

- (a) Presenting the overall direction
- (b) Establishing regulatory reform and competition policy focused on market competition
- (c) Motivating private activity
- (d) Securing safety, rectifying disparities, minimizing investments
- (e) Appropriate distributing of resources, streamlining, and upgrading of sectors receiving public funding and pertaining to the government's own activities

The government will work hand-in-hand with the private sector to realize the IT revolution, by taking the above roles into consideration, and by ensuring the policies outlined in this Priority Policy Program are carried out.

The specific targets listed under each of the areas in this Priority Policy Program are set as action goals for the society as a whole, and should be achieved by a division of responsibilities between the public and private

sectors and through their individual efforts. To become the true worldwide frontrunner, it is ever more important for the private sector to initiate key actions. Consequently, it is critical for the government to increase the citizen's understanding of the IT Strategic Headquarters, share the New IT Reform Strategy's perspectives with the people, utilize cutting-edge technology, etc., and must actively participate in such measures that further people's understanding.

II Measures to promote the New IT Reform Strategy

In this section, we shall outline the basic aspects regarding priority policies, as well as the priority policies to be tackled in FY 2006, in order to accomplish the targets set in the New IT Reform Strategy.

Additionally, we will take appropriate strategic actions in areas that require immediate preparation for the future, from a mid- to long-term viewpoint while keeping an eye on future technological trends, in order to , successfully complete IT reforms in FY 2010.

1. The Pursuit of IT Structural Reform Capabilities

1.1 Structural reform of healthcare through IT

— Full online processing of all medical insurance claims and lifetime self healthcare management —

<Basic Aspects>

Since the adoption of the e-Japan Strategy II, priority measures have been taken for the computerization of healthcare as one of seven leading areas, but computerization remains at low levels. With estimations showing the rapid increase in national healthcare expenditure resulting from our aging society in the future and so on, it is with urgency that we must: prevent illnesses, improve medical quality and increase medical efficiency, streamline healthcare costs and rectify healthcare disparity by utilizing IT's structural reform capabilities to its fullest.

First, we must effectively utilize the health information collected and accumulated from medical records, health check results, and medical insurance claim data, etc. with computerization, to prevent illnesses and raise the quality and efficiency of medical care. Possible policies would be lifetime self healthcare management, nationwide statistical and epidemiological analysis with personal information protection such as ensuring anonymity of health information, and medical cooperation among institutions by utilizing IT. We must actively work toward realizing these measures by developing a standard for computerization, reducing costs to implement medical information systems, and creating incentives to encourage medical cooperation using IT.

Secondly, there is a need to streamline healthcare costs, by cutting healthcare insurance administration costs through promoting medical computerization. For example, complex medical fee calculations and processing of medical insurance claims mostly on paper lead to higher costs for healthcare insurance administration. Therefore, we have paved the way, in principle, to oblige online processing of medical insurance claims from medical institutions to

screening and payment institutions by 2011 at the latest, by amending ordinances designed by the Ministry of Health, Labour, and Welfare. We must continue to steadily realize complete online processing of medical insurance claims among medical institutions, screening and payment institutions, and the insurer.

Thirdly, it is necessary to minimize the regional gap of available medical services between cities and remote areas such as islands and mountainous zones, and also the difference depending upon time (daytime, night, or holiday). Therefore, we must approach emergency care utilizing telemedicine and terrestrial digital television broadcasting through conducting demonstration experiments of telemedicine and so on.

Under these premises, a multidisciplinary grand design will be promptly established that encompasses digitization of the medical, healthcare, nursing care, and welfare fields, in order to steadily construct a common infrastructure of medical computerization, such as a safe and inexpensive large-capacity network and authentication systems for medical institutions, healthcare professionals, and patients, etc. Also, we will support initiatives at the local level that aim to provide better healthcare through medical cooperation using IT, and focus on policies that help to extend these initiatives to the national level.

Establish a cross-boundary grand design for medical fields

Implement organized and effective computerization for all medical, healthcare, nursing care, and social welfare fields

<Priority Policies>

(1) Establishing a responsible organization for promoting computerization and developing the grand design (Ministry of Health, Labour, and Welfare)

The grand design for computerizing the medical and healthcare fields will be organized to a certain extent by Summer 2006, under the overall responsible organization for IT policies for the medical field, healthcare, nursing care, and welfare. Furthermore, careful consideration will be given through

coordination with related ministries and utilization of knowledgeable persons, to develop a cross-boundary grand design encompassing the medical, healthcare, nursing care, and welfare fields by the end of FY2006.

Support advanced preventive healthcare by utilizing health information and high quality medical care realized by medical institutions

Provide by FY2010, an infrastructure for managing “lifetime” self healthcare information and support people to utilize their own health information to enhance well-being, and also realize advanced health guidance by insurers. Foster growth of medical information systems such as electronic charts, and significantly promote: the advancement of medical quality, the securing of medical safety, the coordination between medical institutions, and the utilization of national health information.

<Priority Policies>

(1) Establish a common infrastructure for the computerization of healthcare

(a) Create an authentication infrastructure for healthcare professionals (Ministry of Health, Labour and Welfare)

As a basis for safe and smooth circulation of electronically certified medical documents that utilize the individual HPKI (Healthcare Public Key Infrastructure) certification authority (used to verify official certification of healthcare professionals), a root certification authority, which issues documentation proving that common HPKI certification policies are followed by each authority, must be created and commence operation by FY2006.

(b) Create a safe and inexpensive large capacity network and develop the related technologies (Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, and Ministry of Economy, Trade and Industry)

We must primarily develop technology that utilizes encryption technology at the IP level and secures communication pathways on demand by FY2008, to realize safe and smooth circulation of health information. By FY2007, we must also clarify such things as security

requirements necessary for networks to safely and smoothly circulate health information. Additionally, we will proceed with such initiatives that guarantee secure inter-network connections, and work toward the practical use of existing networks, such as the public network in medical and social welfare fields.

- (c) Deliberate ways of introducing the IC card into public services such as healthcare, nursing care, and pensions. (Ministry of Health, Labour and Welfare and other relevant ministries)**

Deliberations will be held on introducing IC cards into the fields of healthcare, nursing care, and pension administration, consistent with the way of its introduction to public services (See 1.5 The world's most convenient and efficient e-Government (1)(h)) and a conclusion must be reached by Summer 2007.

- (d) Promote standardization of medically related computerization (Ministry of Health, Labour and Welfare, and Ministry of Economy, Trade, and Industry)**

We will promote the standardization of health information data exchange, namely a standard protocol, to ensure inter-institutional/intra-institutional interoperability and consistency of information systems.

- (2) Establish medical information systems within hospitals and localities, and promote its interconnection**

- (a) Organize an evaluation index for the computerization of medical institutions**

By FY2007, we will develop indexes to appropriately evaluate the necessity and utilization of computerization depending on the objective, with regard to function, size, and characteristic of medical institutions.

- (b) Support computerization in large-scale medical institutions (Ministry of Health, Labour and Welfare, and Ministry of Economy, Trade and Industry)**

We will promote computerization in large-scale medical institutions and introduce a comprehensive healthcare information system to most of them with more than 200 beds (by FY2008 for 400 beds or more, by FY2010 for less than 400 beds). For diffusion and promotion of the medical information system, we will start standardizing its data format and rules for data exchange, and basically pre-installing these standards to the medical information system from FY2006. A standard code for disease names will also be organized by FY2007. We shall create a system where medical information system vendors can perform interoperability demonstration experiments, to secure the interoperability between subsystems of medical information systems by FY2007. This interoperability status will be publicly released.

(c) Support computerization in small-scale medical institutions (Ministry of Health, Labour and Welfare)

In order to promote digitization in small-scale medical institutions and bring about comprehensive healthcare collaboration, software that enables small-scale medical institutions to input/output the standard data format and data sets, allowed by the data exchange rules, must be developed.

(d) Promote information linkage between medical institutions within localities (Ministry of Health, Labour and Welfare, Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Economy, Trade and Industry)

Support will be given to initiatives of local medical institutions, striving for higher quality healthcare by utilizing treatment information, such as text and images, exchanged as necessary between other medical institutions. Standardization and technological development necessary for this will be worked on.

(e) Train human resources for medical computerization (Ministry of Health, Labour and Welfare)

Medical institutions will be advised and counseled regarding computerization, and a system to train CIOs within the medical

department of municipalities will be developed by FY2007, to help increase the potential of the medical computerization infrastructure.

(3) Analyze health information on a nationwide scale and promote utilization of results

(a) Develop technology to enable sophisticated analysis of health information (Ministry of Health, Labour and Welfare)

In FY2006, development of a healthcare terminology system (ontology) with multiaxial cross-references will begin, to enable sophisticated analysis of health information obtained, which can be utilized for medical support, epidemiological research, etc., and contribute to the moderation of healthcare costs.

(b) Establish an evaluation structure and the role of nationwide health information that should be collected (Ministry of Health, Labour and Welfare)

In order to utilize results academically and epidemiologically, and incorporate findings into healthcare policies, deliberations on health information that should be collected and analyzed on a national scale will begin, and the nature of its use determined by FY2007. Consideration will be given to personal information protection by enforcing anonymity, etc., coordinated with the results from (4) (a).

(4) Promote the collection and utilization of information for preventive healthcare by individuals and insurers

(a) Establish a scheme for collecting health checkup results and medical insurance claim data (Ministry of Health, Labour and Welfare)

We will proceed with measures that support health checkups and guidance by insurers, becoming obligatory by FY2008. Experts will begin discussions for this in FY2006, examining check-up results that insurers should collect and utilize, such as, standard agenda, electronic data format, a scheme of collection, and ways to coordinate with medical insurance claim data and treatment information, etc., and reach a conclusion by FY2007. On that basis, discussions will be held

about organizing a database to manage the health information.

- (b) Establish a system that enables personal management of one's health information to utilize in health monitoring, etc. (Ministry of Health, Labour and Welfare)**

By FY2008, we will indicate policies that outline structure, such as rules in obtaining health information, so that individuals can electronically access their information and use it to monitor their health, etc.

Realize full transition to online medical insurance claims

By early FY2011, we will streamline national healthcare costs by greatly reducing the cost of healthcare insurance administration as a result of full online processing of medical insurance claims and promotion of preventive care by epidemiologically utilizing the databases accumulated from medical insurance claims.

<Priority Policies>

(1) Promote full online submission and reception of medical insurance claims

- (a) Full online exchange of medical insurance claims between medical institutions, pharmacies and screening and payment institutions (Ministry of Health, Labour and Welfare)**

In order to steadily realize the principle of full online processing of medical insurance claims prior to the beginning of 2011 at the latest, we will surely advertise and disseminate the principle to medical institutions and pharmacies, while consulting screening and payment institutions to begin online reception of medical insurance claims as early as possible. In addition to this, all items on medical insurance claims that medical institutions, pharmacies, and screening and payment institutions provide and accept online or via electronic medium, shall be in an analyzable data format.

- (b) Full online exchange of medical insurance claims between screening and payment institutions and insurers (Ministry of Health, Labour and**

Welfare)

In order to smoothly realize the principle of online processing of medical insurance claims prior to the beginning of 2011, we will grant medical insurance claims, previously specified to be in writing, to be exchanged online or via electronic medium between screening and payment institutions and insurers, starting FY2006. We will also promote and disseminate the full computerization efforts to those concerned. In addition to this, all items on medical insurance claims that screening and payment institutions and insurers provide and accept online or via electronic medium, shall be in an analyzable data format.

(2) Encourage a smooth transition to full online processing of medical insurance claims (Ministry of Health, Labour and Welfare)

We will proceed with measures that aim to improve convenience of online submittal. During FY2006, we will consider the computerization of documents related to claims for medical fees (screening result notice, itemized claim form, etc.). By FY2007, we will discuss the standardization of online billing formats for municipal medical care aids. Additionally, we will discuss the possibility of a system allowing online billing of medication by pharmacological effect.

(3) Install standardized codes for billing computer systems (Ministry of Economy, Trade and Industry)

We will focus on guidance during FY2006, assisting medical institutions undergoing computerization to manage the necessary system introductions and modifications at a fair price. Prior to FY2010, all billing computer systems sold will have the basic master of electronic billing processing preinstalled as a standard code.

(4) Simplification/computerization of the medical treatment fee scale (Ministry of Health, Labour and Welfare)

In order to develop a medical fee scale, suitable for computer processing and effective utilization of medical insurance claims data, by early FY2008, a provisional version will be created within FY2006 and discussions on its modification will start in FY2007.

(5) Promote academic and epidemiological use of medical insurance claims data (Ministry of Health, Labour and Welfare)

In order to help medical insurance claims data be used academically and epidemiologically and also be utilized for medical policies, we will deliberate on measures relating to medical insurance claims data collection on a national scale and establish a system for this national medical insurance claims data collection and analysis by FY2008.

Accumulated medical insurance claims data will be widely used with respect to such things as public benefit.

(6) Establish an instant online reference system for the eligibility of insured persons at medical institutions (Ministry of Health, Labour and Welfare)

To coincide with the principle of full online processing of medical insurance claims by early FY2011, necessary measures will be promoted that allow medical institutions to access insurer-managed registers of insured persons online, as a means of instantly checking for insurance eligibility at the time of consultation.

Realize better communication in healthcare

Remote healthcare will be promoted and disparities in medical standards between localities eliminated, including advanced treatments. Terrestrial digital broadcasting, etc. will also be utilized, to realize effective patient guidance and consultation during emergencies.

<Priority Policies>

(1) Strengthen collaboration between medical institutions and promote diagnostic assistance in the remote healthcare field (Ministry of Health, Labour and Welfare, and Ministry of Economy, Trade and Industry)

Using cerebral strokes and other illnesses as case studies, and aiming for verification tests in the actual field requiring the exchange of dynamic images to support advanced operations and diagnostic imaging assistance, beginning in FY2006, decisions will be made regarding which items require regular exchange of information and the standard operating

procedures for diagnostic imaging. With respect to cancer treatment, a “Cancer Control Information Center (provisional name)” will be created in the National Cancer Center during FY2006, which will handle pathologic diagnosis, “remote consultation” using diagnostic imaging, etc., thereby providing diagnostic support to cancer treatment collaborative base hospitals.

(2) Promote medical services utilizing terrestrial digital broadcasting (Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare)

The advanced functions of terrestrial digital broadcasting such as the cellular phone receiver service (One-seg, or one-segment broadcasting), which began in FY2006, and server-type broadcasting scheduled to start in FY2008, will be utilized to improve convenience in the medical field and provide better quality medical services for children’s emergency healthcare and when ambulances are requested. Verification tests will be conducted by FY2007.

(3) Utilization of ubiquitous network technology in medical institutions (Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare)

In order to prevent medical accidents resulting from drug mix-ups, efforts will be made to utilize ubiquitous technology, and during FY2006 a drug code system will be decided upon and code labeling will be implemented. By FY2010, education and dissemination will be provided for medical institutions through symposiums and such, regarding the utilization of ubiquitous network-related technology, as in the use of electronic tags to attain a high level of medical safety and efficiency in services.

1.2 An environmentally-friendly society that utilizes IT **—Efficient use of energy and resources—**

<Basic Aspects>

It is vital to further promote the efforts and initiatives addressing environmental issues, taken by every entity and sector/level in society, because these are the driving forces in overcoming various environmental problems. The utilization of IT is effective in this case due to its capability of providing environmental information in an easy-to-understand and timely manner to the public. The government will utilize IT and conduct a well-planned, strategic and cross-sectoral collection of environmental information, and support in its organization, analysis, accumulation, and provision.

Under the Japanese national plan to achieve the goals of the Kyoto Protocol in the field of global warming, various environmental measures that utilize IT for energy management are being implemented. It is necessary to maximize the effects of IT-driven efforts aimed at reducing CO₂ emissions, especially where increases are substantial, such as in homes, office buildings, and in the transportation/distribution fields. On the other hand, efforts are needed to minimize higher CO₂ emissions from the increased quantity of IT equipment and their advanced functions. From this standpoint, the following IT-driven environmental strategies and minimizations of energy consumption through the use of IT equipment, will be implemented in collaboration with the Global Warming Prevention Headquarters: office and household energy consumption management (BEMS, HEMS); telecommuting; alleviation of traffic congestion through the use of intelligent transportation systems (ITS); and the creation of logistics systems.

In the field of waste and recycling, utilization of IT is effective in: increasing efficiency and convenience in waste management; improving waste traceability; and, facilitating smooth international resource transfers. Thus, through collaboration between public and private sectors, we shall promote the use of electronic manifests and support international resource recycling initiatives that utilize IT.

Collect, organize, analyze, accumulate, and provide environmental information, using IT

Further promote each sector's efforts and initiatives, addressing environmental issues, through the efficient collection of environmental information and systematic organization, analysis, accumulation, and provision of that information using IT.

<Priority Policies>

(1) Collection, organization and provision of environmental information, using IT

(a) Develop an environmental information infrastructure (Ministry of the Environment)

We will prioritize: systematically organizing an environmental information infrastructure to aid in citizens' efforts to overcome environmental problems; organizing environmental data from the user's perspective; promoting the circulation of environmental information; and, developing an infrastructure for international information exchange.

In FY2006, we will conduct an analysis of the current state of collection, organization, and provision of environmental information in our country, and also begin deliberations on aspects of providing necessary information to users. We will decide on our country's policies regarding the collection, organization, and provision of environmental information, by FY2007.

(b) Promote environmentally-friendly actions through the provision of environmental information (Ministry of Economy, Trade and Industry, Ministry of the Environment, and related ministries)

Through such actions as regular updating and organizing of each of the ministries' environment-related websites, we will provide a structure where entrepreneurs, local public entities, and the general public can obtain necessary environmental information whenever desirable. We will also provide information through websites as

“General environmental database,” “Team –6%,” “Global warming prevention portal site,” and “Environmental report plaza,” and promote environmentally-friendly actions in all sectors. Likewise, local public entities will work to provide appropriate environmental information through the updating and maintenance of their websites.

We will continually implement measures that promote utilization of environmental information by companies, such as, through the designing of a system wherein small and medium enterprises can actively provide environmental information. Furthermore, we will aid in the education and diffusion of “standard environmental management system contents” and “information technology-utilizing environment management system” for each industry, in order to promote the development of an environment management system for small and medium enterprises based on ISO14001 acquisition.

(c) Developing forest GIS (Ministry of Agriculture, Forestry and Fisheries)

By developing and utilizing forest GIS in national forests by FY2006, we will effectively collect forest information and systematically organize and analyze it with respect to global warming strategies and biodiversity preservation. In this way, we will realize a more suitable management and administrative system for national forests.

We will also support the organizing of forest GIS data, to enable each prefecture to efficiently collect and systematically organize, analyze, accumulate and provide forest-related information.

**Advanced energy management and efficient physical distribution/
traffic flow through IT**

Lighten the environment-related load on socio-economic activities by creating environmental policies that utilize IT for advanced energy management and efficient physical distribution and traffic flow.

<Priority Policies>

(1) Promote policies that utilize IT for various environment-related plans

(a) Appropriately implement IT-related global warming policies following the Japanese national plan to achieve the goals of the Kyoto Protocol (related ministries)

We must work to appropriately implement IT-related global warming policies that are included in the Japanese national plan to achieve the goals of the Kyoto Protocol. Specifically, we must promote measures such as the following, which reduce environmental impact by utilizing IT: office and household energy consumption management (BEMS, HEMS); telecommuting; alleviation of traffic congestion through the use of intelligent transportation systems (ITS); and, the creation of logistics systems.

(b) Promote IT-utilizing energy demand optimization management in homes and offices, such as BEMS and HEMS (Ministry of Economy, Trade and Industry)

We will popularize BEMS by supporting civilian enterprises with introductory costs, and by FY2010, establish energy management techniques utilizing BEMS (building energy management system) within the public welfare department. By FY2007, we will verify compliance with factory criteria that promote the use of BEMS, by conducting field investigations at the 1st class Designated Energy Management Factories. We will aim to establish and spread HEMS (home energy management system) by working on cost cutting technical developments.

(c) Promote telecommuting (Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure and Transport and other related ministries)

<See II 1.7 Prosperous lifestyles throughout people's lifetimes (1)>

(d) Smooth traffic flow through the use of ITS (ETC, VICS, etc.) (Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure and Transport, and the National Police Agency)

<See II 1.4 The world's safest road traffic environment >

(e) Efficient physical distribution by promoting green logistics (Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transport)

Shippers and physical distributors will work together in introducing IT related equipment and creating physical distribution systems, by participating in the "Green Physical Distribution Conference." We will support superior cases as model businesses, to promote physical distribution systems with minimal environmental impact, through efforts at computerization and increases in efficiency. We will also further promote and spread green logistics through IT by widely publicizing the results.

Control energy usage of IT equipment

<Priority Policies>

(1) Promote research and development of energy saving IT equipment

(a) Research and development of information and communications systems and networks to minimize environmental load (Ministry of Internal Affairs and Communications, and Ministry of Economy, Trade and Industry)

In order to minimize the environmental load of information and communications systems and networks, in FY2006, we will carry out a present condition investigational analysis of the environmental load created by information and communications systems and networks, and conduct trend evaluations of related energy-saving and efficiency technologies to put together a report.

Through public-private cooperation, we will establish a strategy for efficient energy use by IT equipment during FY2007, following the global warming strategies' trends of our country.

(a) Adopt the "Top runner" system according to the Rationalization in Energy Use Law (Ministry of Economy, Trade and Industry)

We will establish energy-conservation standards for routers, in accordance with the Rationalization in Energy Use Law, during FY2006. FY2007 marks the target year for achieving energy-conservation standards and a progress analysis will be conducted for electronic calculators and magnetic disc devices. Appropriate measures will be taken based on these results and the Rationalization in Energy Use Law.

(b) Promote research and development of energy-saving IT equipment such as devices, systems, and networks (Ministry of Internal Affairs and Communications, and Ministry of Economy, Trade and Industry)

By FY2010, we shall create a high performing/energy-efficient device through a 45nm level miniaturization of semiconductors, and energy-conserving technologies (displays, storage, networks, application chips, etc.) for information appliances and information systems.

Additionally, by making use of the superior characteristics of nanotechnology, work will be done to significantly upgrade and lower energy consumption of ultra-high speed optical/electrical interface technology, and establish elemental technology used to build the next-generation information and telecommunications network, by FY2008. Furthermore, by FY2010, we will establish the fundamental technology of optical multiplex processing node systems that enables breakthrough reductions of system switching energy through LSI technology.

Promote electronic manifests

Through collaboration between the public and private sectors, by FY2010, we will promote the use of electronic tags, and work to digitize 80% of manifests (industrial waste management documents) issued to businesses generating large volumes of waste (50% for all businesses generating waste).

<Priority Policies>

(1) Promoting the diffusion of electronic manifests

(a) Promoting the diffusion of electronic manifests (Ministry of the Environment and other related ministries)

We will aim for more than 30% diffusion of electronic manifests by FY2008. To accomplish this, in FY2006, related ministries will cooperate to educate and spread electronic manifests and will also create an electronic government reporting system, utilizing electronic manifest information, and look into possible collaboration between electronic manifests and private internal accounting systems.

Promote resource recycling by utilizing IT for improving waste traceability

Promote fair resource recycling by improving waste traceability using IT, taking into consideration the facilitation of international transfer of waste.

<Priority Policies>

(1) Create an appropriate international resource recycling system through IT

(a) Promote model businesses to improve international waste traceability through IT (Ministry of Economy, Trade and Industry, and Ministry of the Environment)

From FY2008, we will start model businesses that utilize IT to secure traceability, and its effectiveness and availability in partner countries will be examined. In FY2006, we will conduct basic studies for the securing of IT-driven traceability and the possibility of model businesses, and a feasibility study focusing on such things as the technical side, policies, and cooperation with foreign countries. Taking this information into consideration, we will clarify the positioning and directionality of utilization regarding satellite systems, in creating an effective waste traceability system.

In FY2007, we will hold talks with Asian countries, regarding policies and actual projects.

1.3 The world's leading safe and secure society

—Using IT for disaster prevention, public safety, and food safety and security—

<Basic Aspects>

We all share in our wish to live in a safe and secure society, with special attention to disaster prevention, public safety, and food safety, as it directly affects our daily lives.

In the field of disaster prevention, it is of primary importance to secure safety during times of calamity, as our country is prone to natural disasters. Numerous efforts have been made to accurately collect and communicate information between disaster prevention-related institutions of the country and local public entities. In the future, further improvement is needed for cross-institutional sharing of information to enable immediate response to disaster situations and support of revival/restoration efforts. For this reason, we shall create a general system that shares disaster prevention information, where disaster prevention-related institutions of the country and local public entities can quickly gain access to and utilize accurate information. Additionally, we shall modify and expand the system that will provide the public with higher quality information at a higher speed, and advance/strengthen the shared disaster information platform that supports this.

With regards to public safety, although the constant increase in reported penal offences has been stopped in recent years, there is a limit to how effective existing measures are in dramatically restoring safety, and for this reason, realizing new policies that utilize IT would be valid. Therefore, it is necessary to further promote the use of IT for various public safety policies including counter-terrorism measures and the prevention of atrocious crimes as well as the security of children.

With respect to food safety, although measures are currently being taken to create a system for tracing beef products, linked to problems such as the outbreaks of BSE (bovine spongiform encephalopathy), additional actions must be taken to improve the safety and security of food. In the future, we

will make it possible to confirm production and distribution data for major domestic perishable foodstuffs with high consumer demand by the Internet and other means. And, in order to enhance public understanding and achieve plentiful and secure dietary practices, we must disseminate information on the measures that are being taken for the security of food and for related consumer confidence .

In the future, it will be necessary to use and fully utilize IT to resolve various related issues and to create a safe society where all people can live with a sense of security.

Reduce disaster damage

Use IT so that the public can appropriately minimize harm from earthquakes and tsunamis, sources of great concern to the public because of the potential for extensive damage, thereby halving by FY2014 the expected damage from earthquakes in the Tokai, Tonankai, and Nankai ocean regions. And improve public safety by utilizing IT.

<Priority Policies>

(1) Create a comprehensive system to serve as a base for disaster prevention information

(a) Create a comprehensive system to serve as a disaster prevention information infrastructure (Cabinet Office, Ministry of Internal Affairs and Communications)

The “shared disaster information platform”*(see below) is a comprehensive system that enables cross-institutional information sharing and understanding of the extent of disasters, and collaboration among rescue-related institutions. We will upgrade functions such as those relating to shared disaster prevention information and the information collaboration system. We will start sharing weather and geographic information, etc, within the disaster prevention agencies of the central ministries in FY2006.

We will create a disaster prevention application, closely dovetailed with the shared disaster information platform, which utilizes public networks and would be equally accessible by regional public bodies. We will then proceed to hold demonstration experiments of models that enable the collection and sharing of disaster images, in FY2006. Based on the results, we will decide upon standard specifications by FY2008 and aim for deployment in all prefectures and municipalities by FY2010.

* Shared disaster information platform:

A shared information system that uses national disaster information and collects and shares among agencies geographic information system (GIS) map data for use by disaster response agencies for responding to natural and other disasters.

(2) Promoting the provision of information regarding disaster prevention to the public and realizing the technology to reduce damage

(a) Reduction of damage from earthquakes / tsunamis through emergency earthquake reports (Ministry of Land, Infrastructure and Transport, Ministry of Education, Culture, Sports, Science and Technology)

To work on panic prevention, we will raise overall awareness and familiarize the public about emergency earthquake reports, that aim to warn people of large tremors before they arrive, by using data collected near seismic origins. Following this, information is scheduled to be provided to the general public by the end of FY2006.

By early 2006, we will begin providing information to facility managers in charge of implementing antidisaster measures, such as, stopping elevators, railroads, and securing safety systems. Additionally, by FY2007, we will develop a system that automatically runs antidisaster measures through the use of emergency earthquake reports, and also continue to improve on the speed and accuracy of these announcements.

(b) Advance and accelerate tsunami forecasts/information (Ministry of Land, Infrastructure and Transport)

Within FY2006, we will further accelerate tsunami forecasts by utilizing emergency earthquake reports and starting in FY2007, more accurate tsunami forecasts will be provided by expanding the tsunami database. This will be done by enabling the Meteorological Agency to collect data such as the following: estimation of seabed deformation by an earthquake; tidal level information of institutions concerned; and, tsunami observation data in forecast divisions without tidal observatories.

Within FY2006, we will work to accelerate sending out navigation alerts to ships.

(c) Provide local and detailed disaster prevention information (Ministry of Land, Infrastructure and Transport)

Within FY2006, we will prepare a system to provide local and detailed disaster prevention weather information to municipalities. Also in 2006, we will start to provide river disaster prevention information such as river levels, to all municipalities, prefectures, disaster prevention organizations, and individuals, over the Internet.

(d) Provide public transportation information during disasters (Ministry of Land, Infrastructure and Transport)

In FY2007, we will work to develop a unified system that provides real-time service information of public transportation during disasters, to be put in actual operation after FY2008.

(e) Improve the ability to prevent disasters within localities (Ministry of Agriculture, Forestry, and Fisheries)

Between FY2006 and FY2008, we will implement a system in 40 prefectures that, should disasters such as reservoir collapses occur, would promptly and accurately communicate damage assessments to reservoir managers and local residents.

Additionally, we will develop a homepage by the end of FY2008, where

local authorities and residents can share information on disaster prevention in mountainous areas. Furthermore, we will provide local authorities with observation data from rain gauges and extensometers, as a part of conservation efforts.

(f) Develop technology that contributes to disaster victim rescue, etc (Ministry of Internal Affairs and Communications)

By FY2010, we will establish the basic technology of a system utilizing terahertz waves to obtain image data at times of limited visibility due to fires or smoke, to aid in victim rescue.

(3) Advance and strengthen the information infrastructure for disaster prevention/public safety and offer various related measures

(a) Advance and strengthen the disaster prevention information providing infrastructure for residents, etc (Ministry of Internal Affairs and Communications)

In order to promptly and accurately transmit disaster prevention information to residents, etc., we will work to develop MCA land mobile communication systems and simultaneous transmissive communication systems utilizing regional intranet, in addition to municipal Disaster Management Related Communication Network. We will investigate the current situation within FY2006, and proceed to steadily disseminate and raise awareness.

Within FY2006, we will begin transmission of tsunami warnings and emergency volcanic alerts, while rapidly improving multiple-addressing municipal Disaster Management Related Communication Network, receiving devices, and automatic starting apparatus, so that all municipalities can have access to the J-ALERT system (emergency earthquake reports, tsunami warnings, and weather warnings are transmitted to municipalities through communication satellites and broadcast communication systems are automatically started).

Furthermore, by FY2007, we will aim to promote the realization and

utilization of disaster prevention information that is transmitted through terrestrial digital television broadcast waves such as a cellular phone receiver service to be linked to an emergency signal.

(b) Advance and strengthen the disaster prevention information infrastructure of the government (National Police Agency, Ministry of Defense, Ministry of Internal Affairs and Communications, Ministry of Land, Infrastructure and Transport, Ministry of Health, Labour and Welfare)

We will further digitize and broadbandize the government's disaster prevention information infrastructure as well as strengthen gemination.

(i) Helicopter television system

In the field of fire protection, we will conduct demonstration experiments to directly send images from helicopters to satellites and continue to support implementation by municipalities, in FY2006. We will aim to further equip the helicopter television system of prefectural police with infrared night-vision capabilities by FY2009.

(ii) Satellite communication

We will station mobile satellite communication equipment for the Self-Defense Forces to aid in disaster relief activities and to communicate with the Defense Agency and the official residence, by FY2007. And by FY2008 it will be available for urgent communications with local administrative organs of the National Police Agency. We will work to digitize local satellite communication networks by FY2007.

(iii) Police basic communication

We will advance and strengthen systems, as well as start wide area LAN service in FY2006, and schedule to follow sequentially with higher-speed circuits, such as optical networks by FY2010.

(iv) Fire-fighting and disaster prevention information

We will research and develop a support system for fire fighting by FY2010. We will continue to support installing municipal Disaster Management Related Communication Network, promote connection to J-ALERT, and aim to digitize the fire defense and emergency radio transmissions by FY2016.

(v) Marine accident information

We will aim to create an inter-organ system that can compare marine accident information, position data from 118 calls, and ship movement information using the automatic identification system (AIS), with various information the Maritime Safety Agency possesses, by FY2008.

(vi) Disaster medical information

In FY2006, we will consider implementing a tracing system of those seriously injured or sick, during large-scale disasters, for use by healthcare professionals.

(4) Improve ability to continue crucial operations during disasters

**(a) Adopt and promote dissemination of business continuity plans
(Cabinet Office)**

To enable businesses to continue crucial operations even in the event of an unanticipated disaster, we will enhance guidelines supporting the establishment of business continuity plans, by holding conferences by an exploratory committee, consisting mainly of experts, and discuss “business continuity guidelines” depending on type of business and size. We will disseminate and publicize these guidelines and promote assessment of disaster management measures and the publication of this information. Also, we will formulate the business continuity plan guideline for central ministries in FY2006.

(5) Realize a crime resistant society

(a) Provide the public with crime prevention information (National Police Agency)

In order for citizens to understand local crime situations and crime prevention strategies, and thereby be able to voluntarily take crime prevention measures in a timely manner, within FY2006, we will deliberate on the most effective way to provide information collected by the police. Websites and email will be utilized to provide prompt and accurate information to citizens through this system and we will work to spread it nationwide.

(b) Effective sharing/provision of information regarding children's safety (Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Internal Affairs and Communications)

Regarding activities currently carried out nationwide to watch over children, we will create a national network system where searching and browsing according to prefecture or policy will be possible, during FY2006.

In FY2006, we will carry out investigative research where IT would be utilized to effectively share information on children's safety among related parties in model areas, and actual results from these measures be analyzed, organized, and widely disseminated to those concerned.

Also in FY2006, we will discuss ways to utilize IT in order to create a safety ensuring system for children, and promote the dissemination of systems appropriate for various marginal environments, such as in local public authorities and schools.

(c) Tighten international passenger procedures by utilizing biometrics while securing convenience (Ministry of Justice, Ministry of Land, Infrastructure and Transport, Ministry of Economy, Trade and Industry and related ministries)

We will start using face recognition capabilities of our nation's IC passport to check if people match their identity, during customs and immigration procedures at ports of entry. In FY 2007, along with the mandatory provision of personal-identifying information (face and fingerprints) by foreign immigrants, we will work to establish a customs and immigration procedure framework that utilizes

biometrics.

By utilizing biometrics, we will be able to increase efficiency of passenger procedures at international airports, while securing safety. We will cooperate with related ministries, airline companies, and airports to deliberate and investigate the optimum model for passenger procedures by FY2007, and work towards its realization in FY2008.

Regarding e-Passports that are issued by each country in accordance to ICAO (International Civil Aviation Organization) standards, we will operate a Depository Center and also conduct investigations to determine operability in Asian countries, in order to secure international compatibility.

(d) Utilize IT for management of radioactive sources (Ministry of Education, Culture, Sports, Science and Technology)

By FY2008, as required under the “Code of Conduct on the Safety and Security of Radioactive Sources,” established by the IAEA (International Atomic Energy Agency), we will organize and start to operate a radioactive source registration system, to make it possible to trace radioactive isotopes in the country by registering their location information.

(6) Strengthen the foundations of criminal arrests

(a) Promote online DNA records search systems (National Police Agency)

We will register DNA records from information relating to recovered articles and suspects to create an online “DNA records search system” by the end of FY2008, that will allow prefectural police to directly register and access this information.

(b) Support comprehensive analysis of information leading to speedy arrests of significant crime (National Police Agency)

In order to promote even more efficient and sophisticated investigations, we will develop a profiling system based on the

geographical information system (GIS), statistical analyses, and geographical analyses, by the end of FY2007.

(c) Promote the use of various image data, such as from security cameras, for criminal investigations (National Police Agency)

Regarding equipment that sharpens blurred images recorded by security cameras, etc., starting FY2006, we will enhance functionality in devices to respond to diversified image data recording methods.

To contribute to individual identification of criminals filmed on security cameras, we will create a nationwide 3-dimensional facial image database of suspects, and research ways to create a system that enables search and verification of 1:N facial images, when necessary.

Enhance the production and distribution data of main foods

Make it possible by FY 2010, for large portions of the public to confirm production and distribution data for major domestic perishable foodstuffs with high consumer demand, by the Internet and other means, and for the public to use that information in selecting foodstuffs.

<Priority Policies>

(1) Promote dissemination of food traceability systems

(a) Establish guidelines on the introduction of traceability systems (Ministry of Agriculture, Forestry and Fisheries)

In order to promote the spread of food traceability systems, by FY2007, we will develop such systems with lower costs that will enable small and medium enterprises to adopt them, or such systems that will enable us to trace food, even if they are complicated, by linking numerous existing systems. We will also establish guidelines on the introduction of traceability systems for each category of highly necessary perishable foodstuffs.

(2) Enhance the JAS Standard with Production Information, etc.

**(a) Enhance the JAS Standard with Production Information, etc
(Ministry of Agriculture, Forestry and Fisheries)**

By FY2007, we will establish JAS standards covering production information the third-party organization certifies, for farmed fish in great consumer demand. We will also proceed with discussions about JAS standards covering distribution information the third-party organization certifies.

(3) Promote awareness of achieving plentiful and secure dietary practices

**(a) Promote awareness of achieving plentiful and secure dietary practices
(Ministry of Agriculture, Forestry and Fisheries)**

In order to achieve plentiful and secure dietary practices, as from FY2006, we will enhance wide public understanding through measures that promote the dissemination of food traceability systems and food labeling systems etc., that promote the safety of food and the legal compliance of producers and food companies, and that build close relationships between the consumer and the producer as if their faces are visible, and so on.

1.4 The world's safest road traffic environment

—Reducing traffic fatalities to 5,000 or below—

<Basic Aspects>

In the field of road traffic, related ministries and private companies have collaborated to put intelligent transportation systems (ITS) into practical use and increase convenience through IT, but our future holds a big challenge to realize a safe road traffic society, by decreasing the number of traffic accident occurrences that continue to remain high.

An examination about the causes of these accidents indicate that the vast majority are due to delayed or mistaken “recognition,” “judgment,” or “operation,” and it will be effective to use IT to enhance the driver’s ability to perceive and make judgments, while working to realize the “Driving Safety Support System,” which will prevent accidents from happening. In the past, related ministries and private companies have worked on such measures as technological development, but in order to achieve the government’s goal of reducing traffic fatalities to 5000 or below by the end of 2012, further collaboration between related ministries and private companies will be necessary for practical realization of these measures.

Additionally, in order to minimize the damage after an accident, we will enable multi-media emergency calls and improve on the fast emergency vehicle preemption system.

Furthermore, we will promote smooth traffic flow by ETC and VICS, which provide road traffic information.

Realize Driving Safety Support Systems

We will reduce the number of traffic fatalities and traffic accidents by realizing the “Driving safety support system that cooperates with traffic infrastructure, ” which will prevent accidents from happening.

<Priority Policies>

(1) Promote comprehensive measures to realize Driving Safety Support Systems (Cabinet Secretariat, National Police Agency, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transport)

For the realization of Driving Safety Support Systems, in FY2006, we will work on the following measures that will establish the requisite system, and, through collaboration between the private and public sectors, we will also decide upon a comprehensive test plan, aiming at systematically evaluating on-board equipment specifications, the types of media to use, and the effective system to reduce accidents. This plan will: conduct tests in FY2007, in which related ministries collaborate for a comprehensive system evaluation; and, conduct a large-scale field operation test in FY2008, in which related ministries, private companies, and municipalities, etc, collaborate to verify the effects on accident reduction.

(a) Promote Driving Safety Support Systems (DSSS) that utilize road-to-vehicle communication (National Police Agency)

In FY2006, we will run model operations aiming to assess subsystems of the collision prevention information providing system utilizing infrared beacons, and the pedestrian crossing information providing system, etc.

(b) Promote advanced cruise-assist highway systems (AHS) (Ministry of Land, Infrastructure and Transport)

In FY2006, we will examine the practical use of obstruction information providing systems, anterior information providing systems, merging support systems, etc, that utilize dedicated short-range communication (DSRC) systems, etc.

(c) Promote the development and dissemination of Advanced Safety Vehicles (ASV) (Ministry of Land, Infrastructure and Transport)

Taking into consideration the results from the vehicle-to-vehicle communication verification testing conducted last year, in FY2006 the industrial, academic and public sectors will collaborate to tackle technological challenges.

(d) Promote development and dissemination of information communications systems (Ministry of Internal Affairs and Communications)

In FY2006, we will develop and verify technology that allows for the provision of anterior danger information by utilizing terrestrial digital broadcasting and road-to-vehicle/vehicle-to-vehicle communication technology that promptly transmits information on detected danger from roadside units and vehicles.

(2) Promote the technical development of Driving Safety Support Systems (National Police Agency, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transport)

We will develop: detection technology, such as sensors, to aid in the realization of Driving Safety Support Systems; communications technology between pedestrians and vehicles; and human-machine-interface technology, etc.

Prompt rescue of traffic victims

We will reduce the time it takes from the detection of traffic accidents to the admission of injured persons at medical facilities.

<Priority policies>

(1) Develop the location information sharing system for use when accidents occur

(a) Enable emergency calls to be made through various information telecommunication means, such as cell phones and IP phones (National Police Agency, Ministry of Internal Affairs and Communications)

Starting in FY2006, we will create a system in which each police and fire headquarter will have access to the originating location of 110 and 119 calls, made using cell phones and IP phones, and we will promote its adoption by prefectural police and fire headquarters, etc.

(b) Promote dissemination of the Help system for Emergency Life saving and Public safety (HELP) (National Police Agency)

We will further promote dissemination of on-board units that automatically transmit location information, should the vehicle be involved in an accident.

(2) Develop a quick-response system for use in the event of accidents

(a) Promote dissemination of Fast. Emergency Vehicle Preemption Systems (FAST) (National Police Agency and Ministry of Internal Affairs and Communications)

By FY2010, we will evaluate the impact of Fast Emergency Vehicle Preemption Systems (FAST), which give emergency vehicles priority traffic signal control, and promote its use in major cities. By FY2007, we will verify introductory effects on emergency vehicles in certain areas.

Smoothing transportation through the utilization of ITS

We will work towards smoother transportation and reduced risk of traffic accidents, while lessening environmental impact, through the provision of accurate traffic information to drivers and stabilization of traffic demand.

<Priority policies>

(1) Promote the provision of road traffic information, etc.

(a) Promote the provision of highly accurate road traffic information, etc. (National Police Agency, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transport)

For the provision of more accurate road traffic information, in FY2006, the industrial, academic, and public sectors will collaborate to examine aspects of road traffic information providing service, where information (probe information) collected from cars with on-board VICS units will be utilized.

We will also discuss aspects of probes that collect information from vehicles using various communication media, such as cell phones, etc.

(2) Promote the stabilization of traffic demand

(a) Promote the dissemination of ETC (Ministry of Land, Infrastructure and Transport)

We will support efforts to increase ETC usage opportunities such as: varied and flexible charge policies for ETC users; on-board unit lease systems; one-stop services; etc. We will also promote the use of ETC by implementing the Smart IC (IC exclusively made for ETC), and promoting various ITS service deployments, utilizing on-board ETC, initiated by private companies, and thereby increase ETC users to 75% of toll road users by the spring of FY2007.

(b) Promote advanced signal control using the profile signal control method (National Police Agency)

In order to realize a profile signal control method that is flexible to rapid changes in traffic volume, by FY2008, we will conduct model operations in numerous areas to evaluate results of differences in intersection configuration and traffic volume.

(c) Provide real time location information on buses (Ministry of Land, Infrastructure and Transport)

In order to achieve smoother transportation by increasing convenience of public transportation, we will work to implement a comprehensive system by FY2010, which will provide real time location information of buses from several bus companies in major cities nationwide, and conduct model operations in specified areas in FY2006.

1.5 The world's most convenient and efficient e-Government **—Handling 50% or more of all filings online and creating a simple and efficient government—**

<Basic Aspects>

The purpose of computerizing government is to increase convenience for the people and enhance transparency and efficiency, while upgrading and simplifying administrative management through the utilization of IT in government. Therefore, we must not only work to increase convenience so that the general public can truly enjoy the benefits of IT utilization, but we must also carry out measures, such as streamlining operations, that lead to administrative and financial reforms (i.e. reductions in cost, operation processing time, and number of employees) in order to realize a “simple and efficient government.” Also, implementation of the above must occur after clarifying policy priorities.

In regard to increasing convenience, most applications and filings to the government can now be processed online, due to improvement in infrastructure through implementation of policies, such as the Three Online Administrative Procedure laws. However, the system is not user-friendly, nor is computerization adequate for local government bodies that are directly linked to resident services, and usage rates of e-Government services by individuals and businesses have not progressed, because the users cannot feel the increase in convenience and quality of services. Therefore, in the future, it is important that the country and local districts strongly implement measures that increase convenience and quality of service, such as promoting online applications and processing.

In regard to increasing convenience and simplifying administrative management, business/system optimization plans have been formulated, including reevaluation of legacy systems, in efforts toward administrative and financial reforms, leading to the realization of a “simple and efficient government.” We must promote accurate implementation and evaluation according to these plans, and realize operational efficiency, such as reductions in cost, processing time, and number of employees. It is

important to implement, evaluate, and adjust these policies along the PDCA cycle, but the readiness of each of the ministries is not necessarily adequate. We must develop a structure within each ministry with control over responsibilities, and systematically train internal human resources in these functions, while developing the government's overall review and evaluation structure. It is also necessary to promote similar measures within local government bodies.

Furthermore, it is essential to promote measures that ensure reliability and security of systems, and raise security levels, in order to realize an advanced and safe e-Government.

In accordance with these fundamental philosophies, during FY2006, we must engage in the following measures in order to realize the goals set in the New IT Reform Strategy:

- Actively promote online submittal of filings and notices, fully launched this year;
- Steadily advance operational/system optimization, aimed at accomplishing administrative and financial reforms, such as reductions in cost, processing time, and number of employees;
- Develop a structure of information system procurement and evaluation, within each ministry concerned, and establish a program throughout government to train internal human resources to serve this function;
- Create an e-Government Evaluation Committee within the evaluation expert panel, to ensure continuous and strict review and evaluation on the current status of operational/system optimization in each ministry.

Regarding e-Government, we will steadily implement various policies that reflect the "e-Government Promotion Plan (tentative name), which will be specified separately through CIO conferences set under this Priority Policy Program.

Create e-Government in which convenience and enhanced services can be experienced

Create e-Government (on national and local government levels) in which

convenience and enhanced services can be experienced, and raise online application/filing service usage rates to at least 50% by FY2010.

<Priority Policies>

(1) Promote usage of online application/filing services

(a) Steadily implement the “Action Plans for Encouraging Online Services” (related ministries)

In order to achieve the goal of raising online application/filing service usage rates to at least 50% by FY2010, related ministries should vigorously push forward to promote usage under the “Action Plans for Encouraging Online Services,” which will last for 3 years starting FY2006.

Regarding the online services being promoted, various additional policies, including systemic revisions, will be considered for those that require further discussion on the promotion of effective usage, and conclusions on future goals and procedures will be renewed by the end of FY2006.

(b) Consider incentive measures for the three major fields (Ministry of Justice, Ministry of Finance, and Ministry of Health, Labour and Welfare)

For the three major fields (registration, national tax, and social insurance/labor insurance) within the online services being promoted, vigorous and concrete deliberations will be conducted on topics like systemic revisions for such measures as granting effective incentives, etc., and a conclusion will be reached within FY2006.

(c) Promote one-stop services for procedures related to automobile possession (Ministry of Land, Infrastructure and Transport, National Police Agency, and Ministry of Internal Affairs and Communications)

In order to promote one-stop services for procedures related to automobile possession, promotional policies will be devised within the Ministry of Land, Infrastructure and Transport, such as considering

discounted online processing fees, and creating systems where letters of commendation will be given to car dealers who engage in extensive use. Requests will also be made for measures to be taken within the National Police Agency and Ministry of Internal Affairs and Communications, that will bring about early implementation and increases in usage rates in each prefecture.

(d) Promote computerization of commercial, corporate and real estate registration application (Ministry of Justice)

Efforts will be made to computerize commercial, corporate and real estate registration applications in registry offices nationwide as early as possible in FY2008.

(e) Promote online application usage by utilizing the comprehensive portal site for e-Government (e-Gov) (Ministry of Internal Affairs and Communications and other related ministries)

Among the total online services being promoted, in order to meet individual goals for online applications that utilize the comprehensive portal site for e-Government (e-Gov), necessary measures will be successively implemented for e-Gov and individual filing systems in each ministry by FY2008, with due consideration to cost-effectiveness and user convenience.

(f) Promote online use in local government bodies (Ministry of Internal Affairs and Communications)

By early FY2006, as an indicator for measures promoting online procedures in local government bodies, such as for application and filing, the local government's efforts will be promoted by establishing the "indicator for the promotion of online use in electronic local administration (tentative name)" and by distributing practical manuals explaining the main points for usage promotion.

(g) Increase online usage for filing local taxes, etc. (Ministry of Internal Affairs and Communications)

Regarding online filing of local taxes, as of January 2006, electronic filing of corporate enterprise tax, corporate inhabitant tax, and

depreciable property of property tax is possible in almost all prefectures and ordinance-designated cities. Online usage in local government bodies will continue to be promoted through the Ministry of Internal Affairs and Communications, and the further promotion of electronic filing of local taxes will be requested.

(h) Review optimal methods for introducing IC cards into public fields (Cabinet Secretariat, Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, and other related ministries)

In order to promote the safe, rapid, and accurate provision of services using IC cards, not only for national and local government filing procedures but also in the public fields of healthcare, nursing care, and pensions, related ministries will collaborate to discuss and reach conclusions regarding the optimal methods of introduction, by summer of 2007.

(2) Promote the use and utilization of the public personal identification system/Basic Residential Registers Network System

(a) Promote the use and utilization of the public personal identification system (Ministry of Internal Affairs and Communications and all other ministries)

While increasing online administrative procedures compliant to the public personal identification system, by FY2006 in principle, electronic application systems in each ministry that will be affected by the window system to be created in e-Gov will be reviewed and revised. Also within FY2006, deliberations will be launched on concrete measures to promote the use and utilization of the public personal identification system, such as discussions on expanding usage into fields that benefit the public, such as electricity, gas, and healthcare. Additionally in FY2006, efforts will be made to spread multi-faceted utilization methods, other than electronic application and filing, such as electronic lockers and personnel identity authentication.

(b) Promote the use and utilization of the Basic Residential Registers

Network System (Ministry of Internal Affairs and Communications and all other ministries)

Necessary support will be provided to coordinate between our country's administrative bodies and designated information processing organizations, in order to use and utilize the Basic Residential Registers Network System by FY2010, within our country's administrative bodies, while following laws and regulations.

(3) Improve the electronic application system in local government bodies

(a) Develop an electronic application system for use in local government bodies that is compatible with the public personal identification system (Ministry of Internal Affairs and Communications)

Measures to promote the development of electronic application systems compatible with the public personal identification system will be supported for implementation in all prefectures by FY2008, and in all municipalities by FY2010.

(4) Promote the electronic provision of administrative information

(a) Electronic provision of administrative information (Ministry of Internal Affairs and Communications and all other ministries)

In light of the low utilization and lack of recognition of the current government portal site, from FY2006, information provision in e-Gov will be successively improved through collaboration with ministries, while taking into consideration convenience for all persons, including the elderly and disabled, so that citizens/users can smoothly find administrative information needed. Additionally, in order for the "electronic government support center" to accurately handle specific inquiries from users concerning e-Gov, from FY2006, through collaboration with related ministries, necessary measures will be taken in providing prompt replies and guidance, one of them being improving the FAQs (frequently asked questions). Furthermore, collaboration with local government bodies will be promoted in ways such as providing links to procedural guidance information in local government body homepages. Each ministry will also continue to improve on electronic provision of administrative information on

homepages, while taking care to provide convenience for all persons including the elderly and disabled.

(b) Promote the utilization of geospatial information as a common basis for the provision of administrative information (Ministry of Land, Infrastructure and Transport and other related ministries)

Geospatial information, such as digital maps and national numerical (digital) information, that are important integral components of the National Spatial Data Infrastructure (NSDI) will be organized and provided, active utilization of the Geographical Information Systems (GIS) will be promoted to provide this information to the public.

Special emphasis will be on updating digital map 2500, digital map 25000, and block level positional reference information every five years as these serve as the common basis for geospatial information for administrative bodies and reduce the burden of map maintenance which, in turn, will lead to cost reduction in administrative bodies.

Promote optimization of operations and systems

Optimization of operations and systems for the entire government will be promoted as early and accurately as possible, to create an efficient electronic government. We will also promote similar measures for local government bodies.

<Priority Policies>

(1) Promote optimization of operations and systems

(a) Conduct optimization of operations and systems (all ministries)

Optimization for target operations and systems will be conducted as early as possible, following the optimization plans, to achieve reductions in cost, processing time, and number of employees. For this purpose, efforts will be made for thorough work restructuring and reduction of total cost, by reevaluating system structure and also procurement methods, which use general competitive bidding in principle. In realizing optimization, focus will be on consolidation of information systems, standardization/automation of business

processes, such as regarding proposals and approvals, and simplification of procedures, while actively outsourcing operations that do not require decision-making by employees. Regarding legacy systems, large expense reductions from total cost and rationalization of business management, will be achieved by reevaluating system structure and procurement methods and through total work restructuring.

(b) Evaluation of operation and system optimization (all ministries)

Operation and system optimization is not a temporary measure and requires uninterrupted improvements using the PDCA cycle, with close attention on recent technological trends, etc. For this reason, the implementation of optimization in each ministry will be evaluated and key performance indicators (KPI) and their target dates will be clarified according to the “Operation/System Optimization Guidelines.” For future optimization plans, these will be clarified at the time of establishment. Implementation will be promptly reexamined and plans for optimization revised, depending on evaluation results.

(c) Monitoring operation and system optimization (Ministry of Internal Affairs and Communications, and other related ministries)

Under the authority of the CIO conference, the optimization plans established by each ministry will be identified and necessary adjustments for “Operation/System Optimization Guidelines” --compliance will be made by the Ministry of Internal Affairs and Communications, and the current state of optimization implementation and evaluation will be monitored. In each system authority, the optimization plan and implementation state will be utilized to manage budget, structure, and number of employees.

(d) Cooperation and coordination for optimization of operations and systems common to all ministries (Cabinet Secretariat, Ministry of Internal Affairs and Communications, and other related ministries)

In order to bring about smooth and effective development and management of operations/systems common to all ministries, under

the authority of the CIO conference, a meeting will be organized in the first half of FY2006, between offices in charge of these common systems, to coordinate necessary specifications related to both operations and systems, and manage process flow, etc. To accomplish this, the Cabinet Secretariat will play a central role and utilize its overall coordinating functions to promote cooperation and adjustment between ministries in charge.

Note: For this reason, a Government Program Management Office has been established in the IT Policy Office of the Cabinet Secretariat in April, 2006.

(e) Consider joint use of systems common to each ministry (Cabinet Secretariat, Ministry of Internal Affairs, and other related ministries)

A scheme of jointly using systems that are common to each ministry will be considered from the standpoint of eliminating duplicate operations and costs and to aim for further operation/system optimization in the entire government, and a conclusion will be reached by early FY2007.

(2) Improve government procurement

(a) Develop guidelines for information system procurement (Ministry of Internal Affairs and Communications, and all other ministries)

In regard to information systems targeted for optimization, procurement will be steadily managed by standardized operation/system management methods following the "Operation/System Optimization Guidelines." In order to further vigorously promote strategic information system procurement within ministries as by these guidelines, in FY2006 the "Basic Guidelines for government procurement related to information systems (tentative name)" will be established, that include viewpoints for additional improvements on government procurement related to information systems, such as increasing opportunities for businesses with technological capabilities to participate in competition, and promoting separated/divided procurement.

(b) Promote electronic bidding (all ministries)

The introduction of electronic tendering and bid opening is expected to streamline operations and reduce bidding related costs, as well as prevent fraudulent activities such as bid-rigging, to a certain degree. By fully utilizing IT in these ways, the general handling of electronic tendering and bid opening, as well as the disclosure of tenders and successful bids will be promoted.

(3) Promote efficiency in local government bodies

(a) Active utilization of Kasumigaseki WAN and LGWAN (Ministry of Internal Affairs and Communications, and all other ministries)

The necessary follow-up field surveys (ministry network surveys) for individual networks that link each ministry with local government bodies will be conducted, and with the results in mind, the institutions concerned will be requested to encourage integration with the Local Government Wide Area Network (LGWAN).

Additionally, an inter-ministry shared system will be created by FY2007, utilizing the Kasumigaseki WAN and the Local Government Wide Area Network (LGWAN), for research and reference operations that national administrative organs perform on local governments.

System portalization and the standardization/rationalization of systems will be brought about, and thus efficiency of business processes related to research and reference operations for local government bodies will be promoted.

(b) Promote operation /system optimization and data standardization in local government bodies (Ministry of Internal Affairs and Communications)

Measures that aim for systemic operation/system optimization in local government bodies will be promoted (Local Government Enterprise Architecture Operation). Standardization of information in e-municipality systems will also be promoted. In FY2006, data systems that will be used in operations/systems in Local Government EA operations will be organized, and these results will be used to advance data standardization.

(c) Develop a cooperative basis for information systems (Ministry of Internal Affairs and Communications)

By utilizing R&D results on ubiquitous platforms, specifications for the “Regional Information Platform,” a cooperative basis for systems supporting efficient and high-quality digitization of local government bodies, will be drawn up by 2008, in order to realize a ubiquitous environment. Efforts will be made for its national standardization. By 2010, the spread of applications will be promoted by allowing cooperation using this standard.

During FY2006: verification tests for one-stop services and disaster prevention cooperation within e-municipalities will be conducted; technological development necessary for information system collaboration in municipalities will be continued; and the establishment of specifications for the “Regional Information Platform” will be promoted, by utilizing results attained from the Local Government EA operations and data standardization.

(d) Promote synergy of municipal systems (Ministry of Internal Affairs and Communications)

Measures that synergize municipal systems will be promoted, such as implementation of municipal model systems and establishment of the framework for this synergy, under the Joint Outsourcing Promotion Association. In order to promote utilization of the model systems, a users group will be created, consisting of introduced municipalities and vendors by early FY2006, and model systems for personnel authentication, electronic authorization, facility reservation, and national health insurance will be developed within FY2006. Furthermore, the dispatch of specialists and technicians that assist the promotion of joint outsourcing will be supported.

(e) Create a localized computerization knowledge base (Ministry of Internal Affairs and Communications)

The utilization of progressive case examples concerning computerization in localities, as shared nation-wide information will

be deliberated on and realized within FY2007. In FY2006, investigation and research experience will be utilized to collect information that will be shared as knowledge, create a temporary system and conduct a trial run.

(f) Promote the interaction of integrated GIS and base map information (Ministry of Internal Affairs and Communications, and Ministry of Land, Infrastructure and Transport)

In order to cut administrative costs, increase efficiency of operations, and synergize data in local government bodies, the development of integrated GIS and interaction of base map information will be promoted.

In order to accelerate the development of integrated GIS, the Ministry of Internal Affairs and Communications will continue to implement local fiscal measures in FY2006 and forward, toward the cost needed to maintain data and systems, and deliberate on the implementation and utilization of integrated GIS within FY2006, and support in such ways as through the provision of these results.

By early FY2008, the Ministry of Land, Infrastructure and Transport will realize one-stop services and commoditizing of base map information which is developed using results from public surveys, etc., implemented by the country and local government bodies. In FY2006, research and examination will be held on commoditizing and services to be provided, as well as considerations for standardization necessary to realize one-stop services.

(4) Operation/system optimization of independent administrative institutions, etc.

(a) Operation/system optimization of independent administrative institutions, etc. (Ministry of Internal Affairs and Communications, and other related ministries)

In order to realize operation/system optimization of independent administrative institutions, etc., ministries holding jurisdiction over

these institutions, will conduct audits on major operations/systems (annual recurring cost of system operation is 100 million yen or more), and request that these institutions establish and implement optimization plans as early as possible in FY2007, in principle. By promoting such measures, the reduction of independent administrative institution-related costs will steadily be realized and operational efficiency increased.

Improve and strengthen e-Government promotional structure

Each ministry's structure in procuring and evaluating information systems will be improved, an evaluation system for information systems of the entire government within the IT Strategic Headquarters will be created, and ceaseless improvements will be made using the PDCA cycle. Similar structural improvements in local government bodies will also be promoted.

<Priority Policies>

(1) Improve and strengthen e-Government promotional structure

(a) Establish a human resource development program for internal personnel training (Ministry of Internal Affairs and Communications, and all other ministries)

In order to train personnel throughout government that will bear a part in IT work restructuring, as early as possible in FY2006, the "IT Personnel Training Guidelines (tentative name)" will be established through CIO conferences, that will outline the promotion of enhanced internal training, active utilization of private training curriculums, and the interchange of public and private personnel in PMO departments, etc. Following these guidelines, each ministry will establish specific action plans for human resource development, and successively implement them as early as possible in FY2007.

(b) Improve PMOs (Program Management Office) (all ministries)

The Program Management Offices (PMO) created within each ministry shall be responsible for overseeing measures related to

e-Government, such as the promotion of computerizing procedures related to interministry information system planning, development, operation, evaluation, budget request/execution, and application/filing, under the authority of the chief information officer (CIO) of each respective office and with support and advice from the deputy CIOs.

(c) Cooperation and coordination for optimization of operations/systems common to all ministries (Cabinet Secretariat, Ministry of Internal Affairs and Communications, and other related ministries)

<See II. 1.5 The world's most convenient and efficient e-Government (1)(d)>

(d) Review and evaluation by the e-Government Evaluation Committee (Cabinet Secretariat, and Ministry of Internal Affairs and Communications)

In promoting measures related to e-Government such as the promotion of online applications and filings and operation/system optimization in each ministry, the e-Government Evaluation Committee will conduct rigorous audits and evaluations including those from a cost effective perspective, and provide the necessary support and recommendations, as well as evaluate the status of PMO activities in each ministry.

(e) Local government CIO development program (Ministry of Internal Affairs and Communications)

In order to train personnel that can handle legacy reforms, building e-municipalities, appropriate procurement of information systems, and community computerization, a CIO development training curriculum will be developed by 2008, and deployment will begin in medium to large-size municipalities by 2010. In FY2006, training programs will be held using the material developed in FY2005, and educational material will be created on new themes.

Ensure system reliability/safety and security enhancement

Reliability/safety will be ensured and security will be enhanced for national and local systems, and advanced technology will be nurtured and spread through our country's transformation to an e-Government.

<Priority Policies>

(1) Improve security features of e-Government

(a) Strengthen cooperation between the Cabinet Secretariat and deputy CIOs of each ministry (Cabinet Secretariat, and Ministry of Internal Affairs and Communications)

Regarding operations/systems that are common or partly related to each ministry, in FY2006, the collaboration between the Cabinet Secretariat and deputy CIOs will be strengthened and efficient information security features will be promoted when developing concerned systems.

(b) Create the framework of deliberations for next generation e-Government (Cabinet Secretariat, and Ministry of Internal Affairs and Communications)

In building the next generation e-Government, in FY2006 a framework for technical and functional deliberations will be created, which is necessary in building and improving a common platform that will serve as a base for operations/systems of the entire government.

(c) Establish a rating scale for security quality of OS being used in e-Government (Ministry of Internal Affairs and Communications)

Deliberations will be held in FY2006, on establishing a rating scale for the security quality of OS that support information systems of e-Government, and efforts will be made to establish rating criteria, usable at system procurement, and their respective rating scales.

(2) Ipv6-ready e-Government systems

(a) Ipv6-ready e-Government systems (Ministry of Internal Affairs and

Communications, and all other ministries)

In light of the fact that use of Ipv6 in e-Government will strengthen security in its services and be beneficial in building an interministry shared use system, and as an early countermeasure before Ipv4 address depletion, each ministry will make information and telecommunications equipment and software Ipv6 compatible, when new information systems are developed or updated, by FY2008 in principle. The following measures will be put in force for smooth implementation.

- i) The Ministry of Internal Affairs and Communications will establish guidelines for IPv6 network readiness in e-Government systems by the first half of FY2006.
- ii) Each ministry will consider the results from each e-Government system's IPv6 readiness following the above guidelines, and establish specific plans to attain IPv6 compatibility in various information systems by FY2006, in principle.
- iii) In order to enable electronic applications and access by citizens using IPv6, it is necessary for Internet service providers to offer IPv6 connection service for individual users. For this reason, the Ministry of Internal Affairs and Communications will post information on their homepage, regarding Internet service providers and their IPv6 connection service availability, starting in FY2006.

(3) Strengthen information security measures in local government bodies

**(a) Strengthen information security measures in local government bodies
(Ministry of Internal Affairs and Communications)**

<See II 2.3 The world's most secure IT society (6)>

1.6 Enhanced business competitiveness through establishment of management by utilizing IT

—Achieving the world's leading IT business management—

<Basic Aspects>

In order for enterprises in Japan to maintain competitiveness in a rapidly changing market environment and succeed in the world, it is essential to promote increases in productivity and the creation of new values through enhancing IT utilization and engaging in business reforms as a people's movement. The introduction of IT in businesses has progressed through acknowledgement of IT-utilization's great importance in the growth of enterprises, and in some cases IT has become a crucial management foundation for the conduct of global business. On the other hand, there are many instances in which introduced systems are not used or every division or factory in the enterprise creates its own system. Most enterprises cannot overcome the "wall of departments," and very few companies utilize IT to its full potential. This is the current state of IT utilization in enterprises in Japan.

For this reason, we will establish IT utilization guidelines for the structural reform in businesses, and promote the training of human resources that can utilize IT. We will also help business managers accurately understand the importance and necessity of enhanced IT utilization in corporate management, and support them in its introduction.

Furthermore, through the promotion of introduction and standardization of the Internet EDI, etc., it will be possible to increase our country's execution rate of e-commerce and realize efficient and prompt provision of products and services. And then, we will also be able to create a scheme to help enterprises increase productivity and strengthen competitiveness.

In comparison with large enterprises, small and medium-sized enterprises (SMEs) promote less effective IT utilization such as in the introduction of IT for fundamental businesses and the facilitation of electronic commerce. For this reason, we will analyze the factors hindering utilization of IT in SMEs,

and discuss solutions for them, while supporting the advance of management innovations in SMEs through IT utilization, and actively participating in measures to raise the business skills of managers in SMEs and widen boundaries of IT utilization.

Realize the world's highest level of corporate management through IT utilization

By promoting measures supported by both the private sector and the public sector we will spread IT utilization in corporate management. By FY2010, we will raise the percentage of large enterprises and small and medium-sized enterprises that have optimized corporate management in ways that transcend divisions and enterprises and utilize IT to the world's highest level.

<Priority Policies>

(1) Promote structural reform in businesses through IT utilization

(a) Adopt Action Guidelines for the Strategic Introduction of IT (tentative name) (Ministry of Economy, Trade and Industry)

In order to promote strategic investment in enterprises, aimed at increasing customer satisfaction and productivity through business integrations by utilizing IT, etc., within FY2006, we will schematize best practices, by obtaining information from CIOs of enterprises that are making leading-edge investments in IT. We will also further materialize details based on IT investment trends and the "Action Guidelines for the Strategic Introduction of IT (tentative name)" will be established.

During FY2006, we will release the "IT Management Index (tentative name)" in which self-evaluations of IT utilization levels are possible. We will also make international comparisons by conducting surveys including foreign enterprises, and implement trial "ratings" of IT utilization levels in enterprises.

Furthermore, to promote the IT utilization standards of our country's

enterprises as a whole, we will make honorable recognition of enterprises that practice outstanding management through IT utilization.

(b) Promote visualization of IT investment value (Ministry of Economy, Trade and Industry)

In view of the fact that effectiveness of IT investment is unclear, within FY2006, we will develop an evaluation index for corporate investment values of matters that are considered especially difficult to visualize, such as the reliability of information services software and the skills of human resources. By promoting industrial measures based on this index, we will support advanced IT management in enterprises.

(2) Assist the development of human resources that can utilize IT

(a) Promote the appointment of Chief Information Officers (CIOs) (Ministry of Economy, Trade and Industry)

In order to strengthen competitiveness of our country's enterprises through IT business management, within FY2006, we will examine CIO best practices, disseminate the importance of CIOs by disclosing their functional requirements and work to promote their appointment. We will run workshops for SME managers covering corporate restructuring realization through IT utilization, and assist in the development of human resources taking on CIO responsibilities.

(b) Establish and disseminate skill standards for human resources of enterprises utilizing IT (Ministry of Economy, Trade and Industry)

To strengthen IT utilization capabilities in enterprises, within FY2006, we will establish and disseminate the "Users Information Systems Skill Standards (UISS)," and its general information manual and installation guide used to promote its utilization.

Construct and utilize a general-purpose shared infrastructure for electronic commerce
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We will construct a general-purpose shared infrastructure, that enterprises can jointly use for electronic-commerce and is harmonized internationally (e.g. EDI platforms), and increase the percentage of enterprises that use such shared infrastructure to 60% or more of all enterprises that engage in electronic-commerce by FY2010.

<Priority Policies>

(1) Develop a general-purpose shared infrastructure for electronic-commerce

(a) Promote the development of EDI shared infrastructure for inter-industry transactions (Ministry of Economy, Trade and Industry)

In order to improve the EDI environment for transactions between different industries, from the beginning of FY2006, we will promote measures that aim to develop EDI shared infrastructure. These include supporting the establishment of study groups where discussions will be held between related industries concerning such issues as standardizing EDI messages between EDI standards in industries.

We will also support the development and introduction of EDI systems enabling electronic ordering—a process that SMEs have struggled to keep pace with large enterprises. We will work to promote the results achieved through these efforts.

(b) Computerize/standardize distribution systems (Ministry of Economy, Trade and Industry)

By FY2006, regarding everyday items and processed foods in supermarkets, the standardizing of data items for the practical application of Internet EDI, and the commoditizing of product information will be completed, and systems that allow interconnection of various product databases will also be created.

By FY2007, we will expand coverage into apparel items, perishable foodstuffs and also fields such as drugstores and proceed with

discussions about the possibility of the practical application of the systems and the data items..

By FY2008, we will create a data standard for use between the retail industry, wholesalers, and manufacturers in communicating product information and processes from ordering to settlement, and thereby establish the commoditizing of product information and Internet EDI.

(c) Develop EDI shared infrastructure in the manufacturing industry (Ministry of Economy, Trade and Industry)

In order to expand IT utilization for inter-business collaboration in the manufacturing industry, by FY2007, we will promote the standardization of engineering information exchanges during the designing and development stages, where the information of the EDI system is delayed compared to ordering processes.

Additionally, toward the development of a simple EDI system for SMEs, we will promote the creation of ground rules to secure interoperability between EDI systems in accordance with the global skill standards on EDI (electronic business eXtensible Markup Language (ebXML)).

Promote IT utilization in fundamental businesses and expand electronic commerce in small and medium-sized enterprises

We will increase the percentage of small and medium-sized enterprises of middle scale (enterprises with annual sales of 500 million to 2 billion yen) that utilize IT for fundamental businesses to 60% or more by FY2010. Also by FY2010, we will increase the percentage of the trade partners of small and medium-sized enterprises that engage in electronic-commerce to 50% or more of total trade partners.

<Priority Policies>

(1) Support small and medium-sized enterprise executives through the “IT Management for SMEs Support Project”

(a) Release successful cases of IT utilization (Ministry of Economy, Trade and Industry)

In order to promote understanding of the value of introducing IT, primarily to business managers, from FY2006 we will release leading-edge and successful cases of IT management through the utilization of IT, provide analyses of the factors hindering utilization of IT in SMEs and discuss solutions for them. We will also offer information about advanced IT utilization cases over the Internet.

(b) Support the promotion of management innovation in small and medium-sized enterprises through the utilization of IT (Ministry of Economy, Trade and Industry)

In order to promote management innovation through IT investments, we will help to create networks of external experts in the area that understand the actual conditions of SMEs, namely, IT coordinators, public assistance organizations, and private enterprises such as financial institutions.

(c) Support the improvement of small and medium-sized enterprise managers' management capabilities (Ministry of Economy, Trade and Industry)

We will provide training courses to enrich the knowledge of SME managers and develop advanced and specialized back-up capabilities for those in charge of supporting SMEs. By FY2007, we will also redesign the training content of distance learning utilizing the Web through expanding the basic knowledge, and increasing convenience by shortening class time, thereby create an environment where SME managers can study on a daily basis.

(2) Expand IT utilization fields for small and medium-sized enterprises

(a) Support the development and introduction of systems enabling electronic commerce (Ministry of Economy, Trade and Industry)

In order to introduce electronic commerce and IT utilization of inter-business transactions and promote advanced IT utilization in

SMEs, from the beginning of FY2006, we will focus on promoting the introduction and use of electronic tags and EDI systems enabling electronic ordering, etc. In these ways, we will support development and introduction of the system by SMEs trying to bring about management innovation through IT utilization, and disseminate the results achieved.

(b) Support the continuation of skills in small and medium-sized enterprises (Ministry of Economy, Trade and Industry)

By FY2008, we will develop highly versatile software that enables digitization, systemization and accumulation of designing and processing know-how that has been implicit knowledge of individual workers in SMEs until now.

Additionally, in order to utilize the accumulated know-how for production activities, we will develop a support tool which will enable SMEs, whether they have the knowledge of software designing or not, to create their own commercial software that is necessary for production management, quality control, and delivery management, etc. By providing SMEs with these results, we will support the continuation of basic skills in SMEs.

(c) Support cooperation between small and medium-sized enterprises in different fields (Ministry of Economy, Trade and Industry)

In order to promote measures that open new business fields through organic cooperation between SMEs of different fields, and effectively combining managerial resources in new business activities, through the utilization of external experts such as IT coordinators, we will support those SMEs whose Plans of advanced corporate networking under the Act for Facilitating New Business Activities of Small and Medium-sized Enterprises are in the process of being approved or have already received approval.

<p>Improve the financing environment of small and medium-sized enterprises by utilizing IT</p>

Establish an electronic receivable system that secures safety of transactions and increases liquidity of monetary claims such as account receivables of small and medium-sized enterprises by utilizing IT.

<Priority Policies>

(1) Establish an electronic receivable system

- (a) Promotion of measures that aim to enact the Law on electronic receivables (tentative name) (Ministry of Justice, Ministry of Economy, Trade and Industry, Financial Services Agency, and other related ministries)**

In order to improve the financing environment of SMEs through electronic transfer of receivables, we will begin deliberations on enacting the Law on electronic receivables (tentative name) with consideration of SME needs on the basis of the framework of the electronic receivable system defined in December of 2005, and aim to materialize the legal framework within FY2006.

1.7 Prosperous lifestyles throughout people's lifetimes

—Creating a society in which all people can enjoy healthy and prosperous lifestyles—

<Basic Aspects>

Japan faces various societal challenges such as a rapidly aging population amid extremely low birthrates that is progressing at speeds unseen anywhere else in the world, and social participation of those requiring nursing care, unemployed youth, and the disabled. Through the appropriate utilization of IT, it is essential that we promote social participation by creating environments where all persons including senior citizens, the disabled, caretakers, parents with young children, and unemployed youth can work or educate themselves whenever they desire to do so.

Although in recent years, Japan has seen an increase in corporations implementing teleworking--an IT-driven flexible style of working with freedom in time and place--introduction delays compared to Western nations, and the necessity of legal and institutional design not bound by the management of working hours have been pointed out. The public, private, and academic sectors will collaborate to effectively promote and spread teleworking, through studies and research on smooth implementation/effective operation, and development of labor-related systems that can take advantage of workers' capabilities. Additionally, by developing/improving a unified employment and labor mechanism, in which anyone can obtain and compare necessary information regardless of time and place, we will for example, further resolve the mismatches in labor supply and demand, and thereby work to create a society where each individual can efficiently maximize their creative potential in a job suited to each of them.

e-Learning can overcome restrictions of time and place by enabling various people from workers and job seekers, to those who interrupted their careers for bearing and raising of children/nursing care, as well as students and part-time jobbers, to conveniently improve or relearn vocational abilities

anywhere and at any time. We will further promote the use of e-Learning and expand the contents according to users' needs.

Furthermore, in order to develop an environment with shared infrastructure to utilize various services, we will actively support the improvement of an information network infrastructure that raises the quality of social welfare, nursing, and child-care, and the development of new technologies such as practical robots that ease the burdens on caretakers.

Through these measures, we will realize social lifestyles where all people can actively and prosperously maximize their capabilities.

By the year 2010, increase teleworkers to 20% of the working population under an appropriate working environment, and create a society where each individual can maximize their capabilities in a job suited to each of them

<Priority Policies>

(1) Promote teleworking

- (a) Promote smooth implementation of teleworking through government-industry-academia collaboration (Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transport)**

In order to provide various work environments including those for baby-boomers/senior citizens, and women challenging re-employment, we will collaborate with the “Telework Promotion Forum,” formed in November 2005 and consisting of members from the government, industry, and academic fields, and consider using model systems (a standard system that accommodates the scale and needs of businesses, yet inexpensive and ensures information security) that are jointly accessible by multiple businesses. Additionally, for the further popularization of teleworking, we will raise awareness/publicize survey results on the health and

operational effects of working from home, hold seminars on implementation effects, and provide various guidebooks.

(b) Investigative research on the aspects of information and telecommunication systems that contribute to smooth and efficient teleworking (Ministry of Internal Affairs and Communications)

In FY2006, we will organize utilization measures for information and telecommunication systems that contribute to smooth implementation/effective operation of teleworking, such as aspects for smooth communication/knowledge sharing between telework employees and the base office, and efficient business execution while ensuring a security level deemed necessary during teleworking. We will thereby support the development of an effective telework environment in the private sector, which helps increase productivity and expand job opportunities, such as supporting returning workers.

(c) Develop labor-related systems for workers to maximize their capabilities (Ministry of Health, Labour and Welfare)

Within FY2006, we will reach a conclusion and take necessary measures regarding the aspects of labor-related systems, including autonomous work hour systems and discretionary labor systems, to adjust to the diverse employment formats/attitudes seen in recent years, and help laborers realize a way of work that utilizes their capabilities while securing living hours and health.

(d) Consideration for the work environment of national civil servants regarding systems promoting teleworking (Cabinet Secretariat, National Personnel Authority, Ministry of Internal Affairs and Communications, and all other ministries)

Each ministry will increase specific measures to promote teleworking such as: consider target groups, depending on work conditions; conduct a trial implementation to develop promotional systems and select/organize issues; hold overall deliberations and decide implementation schedules before formal operation. We will examine the results from these measures in late FY2006, and

clarify implementation policies for FY2007 and forward. The National Personnel Authority and the Ministry of Internal Affairs and Communications will continue with considerations of system environment development for teleworking civil servants, such as under discretionary labor systems. We will utilize the liaison conference of related ministries as needed.

(2) Support for homeworking of disabled persons

(a) Establish support systems for homeworking disabled persons (Ministry of Health, Labour and Welfare)

Under the revised Law for Employment Promotion of Persons with Disabilities and as a part of the movement to promote occupational independence for disabled persons, within FY2006 we will establish support systems for the disabled who homework, as one of the various options of work for disabled persons, and work to expand job opportunities for homeworking disabled persons.

Regarding the corporate assignment of homeworking coordinators who are in charge of employment/business management of disabled homeworkers, we will expand job opportunities for the disabled in the form of homeworking, through the provision of homeworking coordinator grants under the Disabled Employment Payment System.

(b) A special program promoting teleworking for persons with severe disabilities (Virtual Workshop Support Program (Ministry of Health, Labour and Welfare))

To support the employment of homebound disabled persons, starting FY2006, the Virtual Workshop Support Program will be created as one of the Community Life Support Programs following the Law to Help People with Disabilities to Live Independently, and prepared for national implementation, thereby aim to increase the number of virtual workshop users.

(3) Recruitment/job hunting and incubation

(a) Matching services for recruiters and job hunters (Ministry of Health, Labour and Welfare)

Within FY2006, user needs will be considered to upgrade the job information provided on “Job Information Network”, a private-public sector joint portal site, where anyone, from any location, can easily access, view, and search job opportunities from the databases of private employment agencies and public employment security offices, using the Internet or cellular phones.

Additionally, in order to further utilize the potential workforce by eliminating the mismatches in demand and supply for labor, under the “Program to provide labor market information”, a detailed analysis will be included with data from the comprehensive employment information system and widely provided as periodic information that is useful to both recruiters and job hunters.

(b) Support re-employment of women

(i) Create a portal site to support re-employment of women (Cabinet Office)

In FY2006, through collaboration with related ministries, we will create a comprehensive support information portal site, where women considering re-employment or starting a business, can obtain required information efficiently, whenever necessary.

(ii) Enhance the support for women’s re-employment/returning to work (Ministry of Health, Labour and Welfare)

From the viewpoint of enhancing support for women raising children, who also want to return to work, in FY2007, we will establish an exclusive site to provide information related to flotation, etc., for women hoping to start a new business. We will also develop/provide an e-Learning program, in which specific re-employment plans can be made while acquiring basic knowledge on the Web, and start operation of the PR sheet creation system, in which teleworkers can actively sell their work capabilities.

**(iii) Provide learning and capacity building assistance for women
(Ministry of Education, Culture, Sports, Science and Technology)**

For women challenging various fields and for career-making through independent choices, we will support learning and provide capacity building information as well as introduce a broad range of role models (cases) through the “Women’s career-making support site” hosted by the National Women’s Education Center.

(c) Support for business inauguration and flotation

(i) Comprehensive support services for business inauguration and flotation (Ministry of Economy, Trade and Industry)

In order to evoke business inauguration and entrepreneurial consciousness at all levels of Japanese society and expand the “horizons of challenge,” we will provide comprehensive support services for business inauguration and flotation through the “Initiation/venture citizens forum” and “Start up Japan DREAM GATE” that utilize Websites, etc. We will also operate a successor-matching site, which will provide a meeting place for employers looking for successors and vice versa.

(ii) Support for information and telecommunications venture flotation and business expansion (Ministry of Internal Affairs and Communications)

By the year 2010, we will support information and telecommunication venture companies that work on advanced/unique technology and service development in the field, by holding 100+ real-world seminars and events, as well as continuing to provide information on IT venture start ups and management, and offering free management consultation/guidance from experts on the “Information and Telecommunications Venture Support Center” website.

Double the number of participants in lifelong learning that utilize IT by FY2010

<Priority Policies>

(1) Capacity-building through the utilization of e-Learning, etc.

(a) Model businesses supporting human resource development through e-Learning (Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Economy, Trade and Industry)

In an effort to create a structure that supports learning by utilizing e-Learning--in which students and part-time jobbers can conveniently improve or relearn vocational abilities, at anytime from any location—we will develop study materials and provide a place for learning/counseling in five model areas, as well as develop a study-support system, thereby create an ideal environment for promoting e-Learning utilization.

(b) Improve the system that comprehensively/systematically collects and provides vocational ability development information (Ministry of Health, Labour and Welfare)

The “Career Information Navigator” is a portal site where workers can easily access, obtain, and appropriately utilize information related to vocational ability development, such as e-Learning courses. We will improve the content and quality of information provided on this site from a user’s point of view, and organize information simply for various types of workers, including laborers and job seekers, as well as those who interrupted their careers for bearing and raising children or for nursing care.

(c) Continuing capacity-development and relearning for engineers (Ministry of Education, Culture, Sports, Science and Technology)

We will develop/provide Internet self-learning materials for the continuing capacity-development of engineers, by FY2006.

(2) Lifelong learning for everyone, anywhere, and at any time

(a) Improve lifelong learning information content (Ministry of Education, Culture, Sports, Science and Technology)

(i) Upgrade contents provided by the National Information Center for Educational Resources

The National Information Center for Educational Resources will aim to double the number of persons using lifelong learning information by the year 2010, and work to upgrade the lifelong learning information content that should be provided by the country, while promoting its use/utilization. In FY2006, we will develop an access management function to track current usage and improve content according to users' needs.

(ii) Promote digital archiving of museum pieces

We will create and improve digital archives that use the Internet to reproduce exhibit commentaries, special exhibitions/events in the past, and study programs such as nature observation meetings hosted by the independent administrative institution, the National Science Museum, as well as exhaustively collect information on specimens, exhibitions, events, and guidance information from national science museums (natural history, technography, etc.), and create a system that is searchable on the internet, and thereby promote the utilization of digital archives.

(b) Develop basic technology for ubiquitous learning (Ministry of Internal Affairs and Communications)

In order to provide diverse learning opportunities through the utilization of the Internet, by FY2006 we will develop and demonstrate basic technology that allows simple and effective learning for everyone, anywhere, and at anytime by connecting to computers via portable terminals of cellular phones, etc..

(c) Promote the transmission of educational information beyond local boundaries (Ministry of Education, Culture, Sports, Science and Technology)

Through the support of transmitting content for the development of human resources who will promote e-Learning-driven lifelong learning activities, and contents produced in response to social requests in different areas, we will work to share study materials beyond local boundaries, thereby expand learning opportunities and promote lifelong learning. Within FY2006, we will consider developing an educational information providing system that will transmit these study materials by utilizing the Internet, and provide an environment where everyone can freely access national and local education/study information to learn.

(3) Computerize public facilities, such as libraries

(a) Promote informatization in libraries (Ministry of Education, Culture, Sports, Science and Technology)

We will use the report, the “Libraries in the future--aiming to be information hubs that support localities--(March, 2006)”, released by the “The future library review collaborators meeting,” to raise awareness in public libraries of improving services in libraries by utilizing IT. We will also disseminate and educate the need for computerization in libraries through the training of librarians and chief librarians, which will improve capabilities necessary for the promotion of computerization in libraries.

Furthermore, by FY2008, we will discuss aspects for training future librarians and personnel that can support IT-driven learning.

Develop infrastructure that will support social welfare/nursing care/childcare by local communities and develop new technologies that will support an aging society with a low birth rate

<Priority Policies>

(1) Develop an infrastructure for IT utilization in social welfare/nursing care/childcare support

- (a) Develop a safe information network base that social welfare/nursing care service personnel and users can jointly use (Ministry of Health, Labour and Welfare, Ministry of Internal Affairs and Communications, and Ministry of Economy, Trade and Industry)**

In order to realize an effective and efficient social welfare/nursing care service utilizing IT, by FY2008, we will develop a safe network base where involved parties can share information on social welfare/nursing care service provision, and users can personally understand their current service usage situation. For this reason, in FY2006 we will develop safe network technologies(See also 1.1 “Structural reform of healthcare by IT” (1)(b)), and deliberations on networks, data collection/usage/storage methods will be held to reach a conclusion.

- (b) Realize strict identity verification for social welfare/nursing care service personnel and users (Ministry of Health, Labour and Welfare, and other related ministries)**

By Summer 2007, we will deliberate on the utilization of IC cards in identity verification of personnel involved in the provision of social welfare/nursing care services and users, in conjunction with deliberations on the aspects of implementing IC cards in public fields (See also 1.5 “The world’s most convenient and efficient e-Government” (1)(h)) and reach a conclusion.

- (c) Computerize social welfare/nursing care service procedures and business records (Ministry of Health, Labour and Welfare, and Ministry of Economy, Trade and Industry)**

Within FY2006, we will reach a conclusion regarding IT utilization in all major procedures pertaining to social welfare/nursing care services, such as applications or requests for use and eligibility renewal of these services, and implementation will be promoted. Within FY2007, we will also reach conclusions regarding policies on the electronic preparation/management of records on services provided, and IT utilization policies pertaining to streamlining operations related to social welfare measures, enhancing service quality, and reducing differences among localities, and their implementation will

be promoted. In doing so, we will take into consideration the necessity to develop software that will enable efficient information exchange and sharing, along with the need to develop equipment suitable for onsite data input during home care and facility services.

Additionally, in the run up to computerizing procedures and business records, starting FY2006, we will begin standardizing terminology and codes related to social welfare/nursing care services. We will take care to consider securing consistency with standard terminology/codes in the medical field, where such measures have progressed further.

(d) Promote information utilization by social welfare/nursing care personnel (Ministry of Health, Labour and Welfare)

In order to enhance the ability of social welfare/nursing care personnel to utilize information and IT, we will begin the introduction of IT/information education within training programs related to social welfare/nursing care national certifications, and reach a conclusion on specific measures within FY2007.

(e) Enhance the provision and disclosure of information in order to provide citizens with satisfactory services (Ministry of Health, Labour and Welfare)

We will work on providing/utilizing reliable social welfare/nursing care information and increasing transparency in services, in hope of the entire nation sharing policy principles. We will also promote measures related to a disclosure system for nursing care service information, and enhance information pertaining to nursing prevention, self-reliance support, and community care, as well as expand information and statistical data disclosed by social welfare service providers. We will investigate measures to help private businesses highly utilize this information to provide citizens with reliable information, and reach a conclusion by FY2007.

(f) Active utilization of nursing care insurance information in order to prevent nursing and prevent the deterioration of nursing care

condition (Ministry of Health, Labour and Welfare)

We will analyze nursing care claims and records of services provided on a national scale, to formulate the aspects of appropriate and high quality nursing care services, such as eliminating improper insurance claims, promoting standard care and prevent nursing, and prevent deterioration of nursing care conditions. The obtained results will be provided to users, insurers, prefectural governments, and nursing care service providers. Specific measures and promotion programs will be considered and a conclusion will be reached within FY2006.

(2) Develop new technologies that will support an aging society with a low birth rate

(a) Develop practical robot technologies (Ministry of Economy, Trade and Industry, Ministry of Health, Labour and Welfare, and Ministry of Internal Affairs and Communications)

We will develop robot technologies that will ease the burden on users and providers at social welfare/nursing care sites, in such ways as supporting nursing care personnel in situations causing excessive physical load. By 2010, we will deliberate on specific utilization measures, such as making effective systems eligible to receive social welfare/nursing care service subsidies and benefits, etc.

(b) Promote lifestyle support systems utilizing information appliances, etc. (Ministry of Economy, Trade and Industry, Ministry of Internal Affairs and Communication, and Ministry of Health, Labour and Welfare)

In order to support independent lifestyles of senior citizens/the disabled and promote the development and growth of lifestyle support systems that utilize various sensors, we will work to establish common basic technology that will secure interconnectability and operability between equipment, and by FY2007, consider making effective systems eligible to receive social welfare/nursing care service subsidies and benefits, etc.

2. Development of IT infrastructure

2.1 An IT society that adopts universal design

--Promoting IT development that everyone can use safely and enjoy the benefits of—

<Basic Aspects>

In order to realize a society where “anybody can use IT anywhere, at anytime,” we must create a safe infrastructure at its base that “anybody” can use, in other words, it is necessary to promote universal design.

As Japan faces becoming the world’s most rapidly aging society amid low birthrates, an infrastructure that all people, including not only able-bodied persons but the elderly/people with disabilities/foreign nationals, can use regardless of physical, information, or language barriers.

Specifically, we must set up support centers that comprehensively support disabled persons in utilizing IT, dispatch computer volunteers, promote subtitled television broadcasting and the audio display of text information for the visually disabled, to allow equal access to information by all. It is also necessary to promote the development of IT products and services that are user-friendly to all, through the establishment of guidelines.

Furthermore, to enable autonomous and smooth movement by all persons, we will utilize the latest ubiquitous network technologies such as guidance tiles with electronic tags. It is important to thereby realize a support system that will help the elderly, disabled, and foreign nationals get around cities safely and comfortably, and expand this into localities.

In order to support smooth communication by everyone including foreign nationals, the elderly, and the disabled, we will establish sophisticated speech recognition technology, non-verbal communication technology such as through gestures and facial expressions, and multilingual interpreting support technology based on analysis techniques of the spoken and written language for foreign nationals, to develop technology that allows smooth

communication.

Through these measures, we will work to realize the world's first IT society that adopts universal design, which will serve as a model to the rest of the world.

Realization of universal information access and communication

In order for all persons (including the elderly, people with disabilities, and foreign nationals) to be able to live securely regardless of physical, information, or linguistic barriers by FY2010, equal access to information, and smooth communication will be realized.

<Priority Policies>

(1) Promote support centers, support technology, and service development, etc., so IT can be used and utilized by senior citizens and people with disabilities

(a) Develop a support system for the establishment and management of the IT Support Center for Persons with Disabilities (Ministry of Health, Labour and Welfare)

In FY2006, support will continue to be given to those prefectures that are working to reduce disparity in IT technology access opportunities and utilization capabilities of persons with disabilities and further their social participation, through the training and dispatching of computer volunteers, and establishing/managing the "IT Support Center for Persons with Disabilities," which comprehensively supports IT utilization by the disabled.

(2) Develop and provide IT products/services that are user-friendly to all, including senior citizens and the disabled

(a) Promote the provision and development of communication/broadcast services for senior citizens and the disabled (Ministry of Internal Affairs and Communications)

The provision and development of communication/broadcast services

that increase convenience for senior citizens and the disabled, or the research and development of communication/broadcast technology that leads to improvement of these services will continue to be promoted.

Additionally, the aspects of required support will be considered through the collection and quantitative analyses of case examples where senior citizens and the disabled succeed by using IT. Through the dissemination of these results, public understanding will be gained and measures will be promoted under local public entities,

(b) Develop information appliance sensor/human interface device-utilization technology (Ministry of Economy, Trade and Industry)

By developing speech recognition technology that greatly upgrades operability of household information appliances and dramatically improves interface performance, by FY2008, user-friendly basic interface technology will be developed that will enable “everyone,” including beginners and senior citizens, to “easily” use the appliances from “any location.”

(c) Promote increased usability of IT products and services for senior citizens (Ministry of Internal Affairs and Communications)

By FY2010, guidelines necessary to increase usability of IT products and services for senior citizens will be established, and various new ways of their participation in society will be considered under an IT mediated environment, which embraces usability for the elderly.

(3) Promote subtitled television broadcasting, audio conversion of text information, and realize advanced conversion technology

(a) Promote the production of television programs with subtitles, sign-language, and video description (Ministry of Internal Affairs and Communications)

Broadcasting for people with visual and hearing disabilities will be

enhanced, by paying part of the production costs incurred by public-interest corporations creating television programs with subtitles, sign-language, and video description. By FY2007, with the help of broadcasters, efforts will be made to subtitle all programs with this option available.

(b) Promote the audio conversion of text information offered by institutions of information service for people with vision and hearing disabilities (Ministry of Health, Labour and Welfare)

By FY2010, 1000 or more talking books will be created per year in Braille libraries, so that the visually impaired can utilize IT to obtain information. To help the hearing impaired utilize IT and obtain information, we will work to expand institutions of information service throughout Japan that offer information through sign language interpretations, summary transcriptions, and subtitles.

(c) Limit the right of public transmission of talking books for the visually impaired (Ministry of Education, Culture, Sports, Science and Technology)

Regarding the issue of public transmission of talking books made for lending out to the visually impaired at institutions of information service for people with vision disabilities, such as Braille libraries, preparations will be made to promptly submit amendments to the copyright law accepting limitations on rights under the condition of limiting users to the visually impaired.

(d) Disseminate the Free Usage Mark (Ministry of Education, Culture, Sports, Science and Technology)

In order to spread the Free Usage Mark that easily displays the intent of the right holder regarding usage of the literary work, we will provide information and actively pursue PR activities, such as distributing pamphlets to national/local governments and educational institutions, and explaining at various workshops, etc.

(e) Research and development of universal content technology (Ministry of Internal Affairs and Communications)

In order to realize an environment where everyone, including senior citizens and the disabled, can freely create, use, and utilize content, efforts will be made to locate content suitable for user needs from image, music, book, and dictionary-content distributed around the world, and enable display conversions depending on the user environment, while ensuring information reliability. By FY2010, technology that supports the collection, accumulation, knowledge extraction, editing and presenting of this content will be established.

(4) Realize technology that allows realistic information exchange beyond language, knowledge and physical limitation barriers

(a) Research and develop natural communication technology (Ministry of Internal Affairs and Communications)

By FY2010, the fundamental technology of people-friendly communication will be established, one of which will be developing a multilingual information distribution support system through the R&D of “verbal communication,” such as natural language analysis technology. Research and development of multilingual speech recognition/speech synthesis technique at the everyday colloquial level will be promoted, as well as recognition technology for “nonverbal communication,” including gestures and facial expressions, etc.

(5) Promote enlightenment and dissemination of universal design

(a) Award and disseminate progressive case examples of IT use/utilization models (Ministry of Internal Affairs and Communications)

Progressive case examples of IT services/systems will be accumulated that solve problems in various daily life and business situations, and exceptional case examples will be awarded as utilization models in ubiquitous network societies (u-Japan best practice), and they will be disseminated to enlighten the public.

Realize universal movement

By FY2010, universal movement (self-directive and smooth movement) will be realized, so that everyone, including the elderly, people with disabilities, and foreign nationals, can live securely regardless of physical, information, or linguistic barriers.

<Priority Policies>**(1) Promote the support of self-directive and smooth movement by all persons, including the elderly, people with disabilities, and foreign nationals****(a) Develop and spread the Free Mobility Assistance System (Ministry of Land, Infrastructure and Transport)**

By FY2010, we will establish the Free Mobility Assistance System that utilizes ubiquitous network technology including RFID tags, to enable “anybody, anywhere, and at anytime” to obtain necessary information for seamless movement, such as transfer routes and modes of transportation, regardless of physical condition, age, or language spoken.

(b) Research and development of universal interface technology, etc. (Ministry of Internal Affairs and Communications)

In an effort to create robots, etc., to watch over senior citizens and support their outdoor activities, by FY2010, universal interface technology and the fundamental technology for situation-adaptive communication will be established that will enable the recognition and understanding of senior citizen’s (user’s) actions and their real-life environment, to make the provision of appropriate support possible, according to the user’s situation, tastes, and physical abilities.

Efforts will also be made to dramatically improve the robot’s perception of the world and ability to communicate with people through bilateral coordination between various robots. By FY2008, basic technology for various functions and services, possible through

interactive communication between robots that are connected to sensors and networks, will be established.

2.2 Development of infrastructure that can easily connect to networks that anyone can use at anytime from anywhere for any purpose and that has no digital divide

—Promoting the Ubiquitous Network Society—

<Basic Aspects>

In order to realize a “Ubiquitous and Universal Network Society where Everyone Can Enjoy the Benefits of IT” it is necessary to develop as its base, an infrastructure that can be used by “anyone, anywhere, at anytime,” and also for “any purpose.” In other words, we must promote a ubiquitous network society.

Specifically, it is necessary that we take measures to promote broadband infrastructure development by telecommunications carriers, to make broadband environments accessible to all citizens, “anytime, and anywhere,” and that we support local governments in developing local public networks to connect public facilities. In disadvantaged areas, such as underpopulated regions where private-sector-driven telecommunications infrastructure development is slow to progress, we must especially support local governments develop the infrastructure depending on regional characteristics.

Furthermore, to effectively eliminate areas with zero broadband connections, including underpopulated regions, and to realize broadband environment even when in motion, it is important to promote the realization of wireless broadband, such as mobile communication systems with transmission speeds comparable to optical fibers. Therefore, it is necessary to promote radio utilization fit for the digital age by implementing new radio utilization systems.

Moreover, terrestrial digital broadcasting that enables locally adapted information provision “anytime and anywhere,” is expected to play a very important role in providing more convenient lifestyles, such as securing safety and security in disaster prevention, medical, and social welfare fields, for everyone including residents of underpopulated regions and senior

citizens living alone. Consequently, we will promote the advanced use/utilization of terrestrial digital broadcasting in these fields.

Additionally, person-to-person, person-to-goods communication is getting more important to secure safety, security, and enable business management reforms, for example, managing a company's logistics and stock by using instruments such as electronic tags (a product in which our country's development leads the world), and securing children's safety during transit to and from school, by attaching the tags on personal belongings, etc. To realize infrastructure that connects "anything," including objects, we must develop technology that allows the advanced use/utilization of electronic tags, etc., and establish/review guidelines for privacy protection and security from a citizen's or user's point of view, thereby creating a suitable environment.

Eliminate areas with zero broadband connections

By FY2010, we will promote the installation of optical fibers, etc. and eliminate all areas where broadband service remains unavailable.

<Priority Policies>

(1) Grant investment incentives to businesses and support the improvement of local information and telecommunications infrastructure

(a) Promote installations of high-speed/ultra high-speed broadband services by private businesses (Ministry of Internal Affairs and Communications)

While principally private sector-initiated, in order to make high-speed/ultra high-speed broadband services available throughout Japan, and eliminate areas with zero broadband connections by FY2010, promotional measures will continue to be implemented, such as subsidized interest, etc., under the Provisional Measures Law for Telecommunications Infrastructure Improvement. This is to grant investment incentives to businesses that are implementing optical fibers, etc.

(b) Promote the development of local public networks and nationwide connectivity, as well as its release to the private sector (Ministry of Internal Affairs and Communications)

We will support local public entities and aim to realize the national dissemination of high-speed and ultra high-speed regional public networks that connect schools, libraries, community centers, and municipal offices by FY2010. Standard specifications for connectivity will also be established, in order to promote development of the nationwide public broadband network through the connection of local public networks and the Prefectural Information Highway.

Furthermore, we will promote the release of local public networks to private businesses, and support municipalities in their measures to secure resident access networks.

(c) Improve digital divides in disadvantaged areas (Ministry of Internal Affairs and Communications, and Ministry of Agriculture, Forestry and Fisheries)

The development of telecommunications infrastructure has been lagging in disadvantaged areas, such as underpopulated regions, and proposes a challenge in the promotion of disseminating high-speed/ultra high-speed broadband services. We will clearly provide information on this current state to residents, and for disadvantaged areas, in addition to the above measures outlined in (a) and (b), we will systematically improve digital divides by continuing to implement measures in FY2006, that support local public entities working to develop telecommunications infrastructure, such as with cable TV networks and optical fiber networks, which best-suit regional characteristics.

(d) Ubiquitous Community Advanced Model Design (tentative name) (Ministry of Internal Affairs and Communications, Ministry of Education, Culture, Sports, Science and Technology, Ministry of Agriculture, Forestry and Fisheries, and other related ministries)

While taking local proposals into consideration, we will promote and support the creation of advanced and practical models aiming to solve

cross-sectoral issues by using/utilizing IT. Moreover, we will work to spread this model to other areas with similar problems.

(2) Create a fair competitive environment for telecommunication businesses

(a) Perform competitive assessment in telecommunication business fields (Ministry of Internal Affairs and Communications)

We will steadily perform annual competitive assessments for each market in the telecommunication business fields, especially the broadband market, to contribute to measures aiming to eliminate areas with zero broadband connections by FY2010.

(b) Develop institutions for the smooth implementation of FMC services (Ministry of Internal Affairs and Communications)

In regard to the FMC (Fixed-Mobile Convergence) service that merges land lines with mobile phones, we will establish standards for phone number assignment and technological standards for this service during FY2006.

(c) Develop an environment, such as technological standards, that supports total IP compatible networks (Ministry of Internal Affairs and Communications)

By 2008, we will establish technological standards for networks and terminals compliant to total IP (Internet Protocol) compatible networks, with environmental load reduction in mind, and secure network safety and reliability, while working toward the realization of related technologies, such as efficient network operation and management technology, etc.

(3) Promote radio usage that reflects the digital age

(a) Realize new radio usage systems (Ministry of Internal Affairs and Communications)

In 2006, we will develop institutions, such as through the establishment of technological standards, to create UWB (Ultra-Wideband) wireless systems that enable short-range

(approximately 10m) high-speed transfers at the several hundred Mbps level.

By 2007, we will develop institutions, such as through the establishment of technological standards, to introduce broadband mobile wireless access systems that are capable of transmission speeds that exceed third-generation mobile phones (greater than 20~30Mbps).

Additionally, by FY2010, we will establish interference/fading control technologies and adaptive high-efficiency modulation techniques needed to realize ultra high-speed wireless LAN with transmission speeds in the gigabit-class.

Furthermore, in the air and marine fields, by FY2010, we will work to realize new radio usage systems, through the development of necessary technology that will enable the comfortable use of Internet and mobile phones at sea or in the air. By FY2007, we will also establish ubiquitous ITS technology in the road traffic field, that will make various information accessible without special operations and realize a safe and secure mobile environment.

(b) Utilize electric power lines in homes for high-speed telecommunications (Ministry of Internal Affairs and Communications)

In order to realize high-speed communication by using electric power lines in homes through outlets in each room, deliberations will be held in the Information Communication Council for the Capacity and Measurement Method of High-speed Power-line Carrier Communication Equipment, in FY2006, we will develop institutions for the formulation of technical standards to expand frequencies (an addition of 2MHz~30MHz) used for PLC (Power Line Communications).

(c) Accelerate the increase in mobile phone coverage areas (Ministry of Internal Affairs and Communications)

Other than promoting the increase in mobile phone coverage areas of telecommunications carriers, by the end of FY2008 we will make it possible to add 200,000+ new mobile phone users in disadvantaged areas, such as underpopulated regions, by utilizing the newly launched Wireless System Promotion Support Project, in addition to the regular mobile telecommunications steel tower facility development projects.

**(d) Research and development for the expansion of radio wave resources
(Ministry of Internal Affairs and Communications)**

By FY2010, we will conduct R&D for the exploration of unused frequency bands and the upgrading of efficient frequency use technology, in order to realize: technology where mobile terminals can accurately detect radio usage in the surrounding environment and autonomously adjust to it (cognitive wireless communication technology); and technology that enables the easy use of wireless systems for unused frequency bands (millimeter wavebands, etc.).

**(e) Research and development of the ultra high-speed Internet satellite
(Ministry of Internal Affairs and Communications, and Ministry of Education, Culture, Sports, Science and Technology)**

<See II 3.1 Dissemination to the World (1)>

Realize an ultra high-speed mobile telecommunications system

By FY2010, a mobile telecommunications system will be realized with 100 times faster data transmission speeds than the current model.

<Priority Policies>

(1) Promote R&D, verification tests, and international standardization of ultra high-speed mobile telecommunications systems

(a) Promote measures aiming to realize the fourth generation mobile telecommunications system (Ministry of Internal Affairs and Communications)

Regarding the fourth generation mobile telecommunications system, which will have 100 times faster data transmission speeds than current models, R&D and verification tests for elemental technology will be conducted, and engineering tests will be performed for frequency sharing with other wireless systems. We will also actively contribute to the international standardization activities of the International Telecommunication Union (ITU), by deciding upon frequency band allocation, and considering specific wireless communication systems, thereby working toward realization by FY2010.

Full transition to terrestrial digital television broadcasting

By July 2011, the harmonization of telecommunications and broadcasting, and full transition to terrestrial digital television broadcasting will be realized.

<Priority Policies>

(1) Promotion of the harmonization of telecommunications and broadcasting

(a) The roles of telecommunications and broadcasting (Ministry of Internal Affairs and Communications)

We will realize various services that utilize the world's cutting edge telecommunications and broadcasting infrastructure to be completed in 2011, "the inaugural year of full digitization," and promote reforms in the telecommunication and broadcast fields, based on the government-LDP agreement on telecommunications and broadcasting (June 20, 2006), in order to strengthen competitiveness in both these business fields.

(2) Develop environment to establish transmission sites, utilize cable television, and use/utilize optical fiber network and communications satellite infrastructure

(a) Deliberate on IP multicast broadcasting (Ministry of Education, Culture, Sports, Science and Technology)

In order to clarify the handling of IP multicast broadcasting used to retransmit terrestrial digital television programs under copyright laws, we will hold deliberations within the Copyright Council at the Agency for Cultural Affairs, and a conclusion will be reached by Summer 2006.

(b) Promote the use and utilization of terrestrial digital television broadcasting in public fields (Ministry of Internal Affairs and Communications)

We will utilize the advanced capabilities of terrestrial digital television broadcasting, seen in cellular phone receiver services (One-seg service), starting in FY2006, and server broadcasting expected to start in FY2008, in order to increase the level of convenience in public fields, such as disaster prevention, healthcare, social welfare, and education, thereby improving the quality of public services. We will also continue to promote the advanced use/utilization of terrestrial digital television broadcasting and to contribute to the smooth dissemination of this service.

(c) Full transition to terrestrial digital television broadcasting (Ministry of Internal Affairs and Communications)

In order to realize a full transition to terrestrial digital television broadcasting by FY2011, we will take measures in altering the analog frequency for this change.

To attain 100% coverage of analog broadcasting areas, we will aim to diversify transmission channels of satellites, IP multicasts, and materialize development plans of transmission sites (transmission site roadmap). In FY2006, we will continue the tax/financial support for the development of digital broadcasting facilities that are needed for terrestrial digital television broadcasting. And in order for cable TV to correspond to this full transition to terrestrial digital broadcasting and the digitization of broadcasting in general, we will continue the tax/financial support in FY2006, in hopes of total digitization of cable by 2010.

We will widely publicize the merits of digital broadcasting, the schedule, reception methods, and the ending date of analog broadcasting in preparation for full transition by 2011.

Realize the advanced use/utilization of safe ubiquitous terminals and electronic tags

By FY2010, we will realize fast, safe, and secure authentication technology for ubiquitous terminals, etc., and privacy protection technology that will allow the provision of only the appropriate information according to the user. We will also realize network technology that enables the simultaneous use of around 10 billion ubiquitous terminals (including RFID tags), and promote its use/utilization in various areas for diverse business fields and nations.

<Priority Policies>

(1) Realize network technology and security technology, etc. that support ubiquitous terminals

(a) Verification experiments to ensure security in constructing an IPv6 based ubiquitous environment (Ministry of Internal Affairs and Communications)

In an ubiquitous environment where various equipment in one's surroundings communicate through the IPv6 Internet network, we will aim to create a system where complicated security measures are not only implemented by the user, but also supported by the Internet network itself, thereby easily ensuring a safe and secure environment without much burden on the user. A model of this usage environment will be created and we will hold verification experiments by FY2009, and we will work to solve security issues in creating an IPv6 based ubiquitous environment.

(b) Research and development of next generation network architecture technology (Ministry of Internal Affairs and Communications)

By 2010, we will establish next generation network architecture technology that can provide a safe and optimum environment in which

user's requests are dynamically met, such as viewing ultra high-definition digital images or watching high quality video on mobile terminals with the option of choosing transmission quality and reception mode, while maintaining stability.

(2) Realize technology, handle verification tests and standardization, and enhance the guidelines for privacy protection, to enable the advanced use/utilization of electronic tags

(a) Research and development of ubiquitous network technology (Ministry of Internal Affairs and Communications)

By FY2010, we will conduct R&D to realize the secure collaborative control of around 10 billion ubiquitous terminals (electronic tags, sensors, and information appliances), collection and analysis of real-space marginal environments (context), and adaptive network control based on this information, thereby establish fundamental technology by the end of FY2007.

(b) Research and development regarding the advanced use/utilization technology of electronic tags (Ministry of Internal Affairs and Communications)

We will research and develop network enhancement technology to realize electronic tag and network integration, establish the elemental technology by FY2007, and aim for practical utilization by FY2010. Additionally, we will cooperate with related ministries to conduct verification tests, keeping user needs and social impact in mind.

(c) Develop manufacturing technology of low-cost electronic tags and mounting technology (Ministry of Economy, Trade and Industry)

In order to promote the use and utilization of electronic tags in various areas for diverse business fields and nations, we will create a low-cost electronic tag compatible with international standards (a component that couples an electronic tag with an antenna (inlet); target price of 5 yen for each, under the terms of 100 million in monthly production) in FY2006.

(d) Improve the environment for the dissemination of electronic tags (Ministry of Internal Affairs and Communications, and Ministry of Economy, trade and Industry)

In order to improve the environment for the dissemination of electronic tags, we will implement such measures as the appropriate review and modification of the “Guidelines for Privacy Protection with Regard to RFID Tags,” according to changes in technology and usage environments.

(e) Research and development for ubiquitous sensor network technology (Ministry of Internal Affairs and Communications)

We will research and develop ubiquitous sensor network technology, in which sensors recognize the situation of people and objects and their marginal environment, autonomously transmit information between them, and make real-time responses to situations possible. We will establish elemental technology by FY2007, and aim for its practical utilization by FY2010. Additionally, we will cooperate with related ministries to conduct verification tests in the actual environment of usage.

(f) Deliberations regarding environmental improvements for a ubiquitous network society (Ministry of Internal Affairs and Communications and other related ministries)

In order to create a social infrastructure adjusted to the ubiquitous network society, we will modify the current system to reflect changes in environment and trends, and review various institutional issues to efficiently implement network-related activities in a safe and secure manner.

Furthermore, we will promote leading-edge R&D that will support growth of the ubiquitous network society, and in FY2006, we will establish measures to foster young researchers with research management capabilities, in order to accelerate the practical utilization of research results.

(g) Award and disseminate progressive case examples of IT

use/utilization models (Ministry of Internal Affairs and Communications)

<See An IT society that adopts universal design (5) (a)>

(h) Internationally implement the Asian ubiquitous platform technology (Ministry of Internal Affairs and Communications)

<See International contribution by providing business solution models (3) (b)>

2.3 The world's most secure IT society

—Leap forward to become an “information security advanced nation” and eliminate the occurrence of cyber crimes—

<Basic Aspects>

Information technology has been developing as an essential foundation for industrial, government, and social activities, as well as for the way we live our lives. At the same time, various issues surrounding the use of IT, such as those concerning information security and inappropriate use of networks are starting to have a great impact on our lives and socioeconomic activities.

For this reason, it is necessary for the government and public to cooperate to strengthen measures as a nationwide effort to properly address issues such as cyber attacks on governmental bodies and critical information infrastructures and to minimize the leakage of important information and other damage caused by the inappropriate use of these networks. In addition, it is important to work on problem solving from multilateral, comprehensive point of views, including technology, social systems, and operational environment, as well as take into consideration that information security incidents and cases involving the misuse of the Internet have become more diversified and complicated.

Regarding information security measures, we will establish the “Information Security Policy Council” within the IT Strategic Headquarters, in light of the need for rapid and powerful responses for issues that are surfacing. In February of this year, the council will decide on “The First National Strategy on Information Security,” and in June, the council also plans to draw up, “Secure Japan 2006,” which outlines the FY2006 execution plan and the directionality of FY2007 priority policies. It will also include the focus of FY2006 as being the “creation of the framework for information security measures by both the private and public sectors,” which will be the first step in realizing a “secure Japan.” The major goals will be the following: “Nurture a sense of participation in all entities, regarding information security measures;” “Implement measures related to the pursuit of advanced technology, with a certain degree of directionality in the

government as a whole;” “Build a system to raise the level of information security measures in public sectors and the necessary communication framework between the public and private sectors;” “Create an information sharing framework among all entities, regarding information security measures.” In FY2007, in addition to taking over the measures from FY2006, we will focus on “raising the level of information security measures in the public and private sectors,” and promote the predetermined measures.

Regarding the misuse of networks, including that of illegal and harmful information on the Internet, following the measures decided upon last June at the “IT Security Conference (a liaison conference of related ministries regarding illegal and harmful information on the Internet),” related ministries have cooperated to promote filtering software, support voluntary regulations by providers, enrich moral education, and enhance consultation services. We will continue to implement the following measures as well as hold IT Security Conferences as necessary to manage these issues.

Thorough implementation of information security measures in government bodies and local public entities

By early FY2009, measures compatible with the requirements of the “Standards for Information Security Measures for the Central Government Computer Systems (Standards for Measures),” will be implemented for all governmental bodies. Information security measures will also be strengthened for local public entities.

<Priority Policies>

The following measures, as well as those established in “Secure Japan 2006,” will be promoted.

- (1) Creation and establishment of the PDCA cycle based on the “Standard for Measures” and the evaluations and recommendations that follow this**
Efforts will be made to raise the level of the “Standards for Measures” (“Standards for Information Security Measures for the Central Government Computer Systems” (Decision by the Information Security Policy Council, December 13, 2005)) to the world’s highest standard by

FY2008, and implement measures compatible with the requirements of the “Standards for Measures” for all governmental bodies by early FY2009. In preparation, during FY2006, the “Standards for Measures” will be revised according to technological and environmental changes, PDCA cycles will be established for each governmental body and the government as a whole, and complete information management will be promoted to prevent leakage resulting from computer viruses. The firm establishment of these PDCA cycles will be promoted in FY2007.

(2) Improve security measures for independent administrative institutions, etc.

Based on the “Standards for Measures” and in light of promoting the increase in information security levels within independent administrative institutions, during FY2006 the current state of information security policy implementation within independent administrative institutions will be investigated, and establishment or revisions will be promoted according to these results.

(3) Deliberate and strengthen medium- and long-term security measures

In FY2006, the following information security measures will be promoted as a cooperative effort by all governmental bodies: implement information security features for common or partly-related operations/systems of ministries that are subject to optimization through the collaboration of deputy CIOs; develop next generation OS environments that realize high security functions; prevent spoofing in governmental bodies; and promote safe code usage in governmental bodies.

(4) Strengthen the rapid reaction capacities of governmental bodies against cyber attacks, etc.

From the standpoint of strengthening the rapid reactions capabilities of government bodies against cyber attacks, etc., from FY2006 and forward, efforts will be made to strengthen: the inter-organ information collection capabilities of the National Information Security Center (NISC); the analysis capabilities of attacks, etc.; the advisory function toward each government body; and the capability to promote mutual cooperation in each of the government bodies (Government Security Operation

Coordination Team, or GSOC) (tentative name). The strengthening of rapid reaction capabilities will also be promoted in each government body.

(5) Human resource development in government bodies

To foster and secure human resources with the necessary knowledge and expertise, for the government to proceed with information security measures in a unified manner, in FY2006 the establishment of basic policies and specific measures for the entire government will be promoted to strategically foster personnel and strengthen rapid reaction capacities of human resources.

(6) Strengthen information security measures in local public entities

From the standpoint of strengthening information security measures in local public entities, guidelines concerning the securing of information security will be revised by September 2006. Also in FY2006, an information security audit will be implemented in local public entities, verification tests will be promoted and the establishment of the “Local government information sharing/analysis center (tentative name)” will be accelerated, which will have the capability to collect, analyze, and share information regarding information security, and also to share information provided by the government. In FY2007, the development of operational procedures will be promoted to ensure information security for effective measures.

Thorough implementation of information security measures in critical infrastructures

By early FY2009, the occurrence of IT malfunctions in critical infrastructures will be reduced to nearly zero.

<Priority Policies>

The following measures, as well as those established in “Secure Japan 2006,” will be promoted.

(1) Develop “Safety Standards, Guidelines, etc.” for the ensuring of information security in critical infrastructures

By September 2006, the “Safety Standards, Guidelines, etc.” will be

developed, which will clarify necessary or desirable information security measure standards for each critical infrastructure business field. With these in mind, the current implementation status of the “Safety Standards, Guidelines, etc.” will be clarified and evaluated and revisions will be promoted for the “Principles for Formulating of “Safety Standards, Guidelines, etc.” concerning Assurance of Information Security of Critical Infrastructures” (Decision by the Information Security Policy Council, February 2, 2006)

(2) Strengthen information sharing systems

There is a need for the timely and appropriate provision of information regarding IT malfunctions from government agencies to critical infrastructure businesses, as well as to strengthen the sharing system of this information between critical infrastructure businesses and also between interdependent critical infrastructure fields. From this standpoint, in FY2006 the following will be promoted: the creation of an environment for information provision and communication between the public and private sector; development of a communication system between each critical infrastructure field (“Capability for Engineering of Protection, Technical Operation, Analysis and Response (CEPTOAR)”); and deliberations to establish the “CEPTOAR-Council,” where cross-sectoral information sharing will be possible between each CEPTOAR. In order to achieve effective and efficient public-private collaborative resolution activities, in FY2007, the development of environmental infrastructure for information sharing, including human resources, will be promoted, and confidentiality and integrity that is capable of responding to IT malfunctions promptly and appropriately will be secured.

(3) Implement interdependency analysis

In order to improve critical infrastructure measures on a national scale, starting FY2006, interdependency analyses will be implemented to ascertain the influence of an IT malfunction in one critical infrastructure, on other critical infrastructures.

(4) Implement cross-sectoral exercises

Exercises will be held across critical infrastructures, depending on the specific type of assumed threat scenario. Strengthening measures in each critical infrastructure field will be promoted, such as the implementation of “investigative exercises” and “desk exercises” in FY2006, and “functional exercises” in FY2007.

Implement information security measures in companies

By early FY2009, the information security measures in place in Japanese companies will be at a world-class level.

<Priority Policies>

The following measures, as well as those established in “Secure Japan 2006,” will be promoted.

(1) Develop an environment in which the information security measures of companies are reflected in market value

Efforts will be made to build corporate governance with a consideration of social responsibility, and operate the company’s internal control structure that supports it, from an information security standpoint, and in FY2006, the establishment of information security governance by the dissemination of policy tools will be promoted, such as the information security benchmark, and revisions will be made as necessary. Furthermore, with regard to government procurement of information systems, the revision of bidding conditions will be promoted, such as making the evaluation of a bidder’s level of information security measures a contingency to bid.

(2) Promote the provision of high quality information security-related products and services

In order to develop an environment where companies implementing information security measures can choose the necessary measures in an easy-to-understand manner, in FY2006 research of quantitative evaluation methods of information security-related risk will be promoted, third-party evaluation by international standards will be utilized, and preferential tax treatment will be applied to promote information security measures, etc.

(3) Securing and fostering of information security personnel in companies

In order to promote understanding of information security among top executives, and foster information security personnel in companies, in FY2006: human resources development centers where practical countermeasures for unauthorized entry and attacks on information and telecommunication network systems can be learned will be opened; training operations that foster human resources with specialized knowledge and skills, including security personnel will be supported; and information security seminars for small and medium enterprises will be held, etc.

(4) Strengthen the system for prompt measures against computer viruses and vulnerabilities

In order to ensure prompt information sharing and smooth handling of the constantly progressing information security issues between information related businesses and all parties concerned, in FY2006, strengthening of the “Information Security Early Warning Partnership” would be promoted.

Resolve IT usage anxiety in individuals

By early FY2009, the number of individuals who feel “anxious about the use of IT” shall be reduced to nearly zero.

<Priority Policies>

The following measures, as well as those established in “Secure Japan 2006,” will be promoted.

(1) Strengthen and promote information security education

In order to promote information security education from elementary and secondary education and information security literacy across generations, in FY2006: case examples of effective teaching methods will be collected as well as dissemination forums held to improve the skills of teachers; Internet safety classes will be given to general users; the conducting of e-Net Caravan, mainly targeting guardians and faculty members will be promoted. The creation and distribution of easy-to-understand, practical educational content will be promoted in FY2007.

(2) Strengthen and promote public relations, awareness-raising, and information transmission activities

From the standpoint of promoting widespread understanding of the necessity for information security measures to all levels of the public, in FY2006, successive public relations, awareness-raising, and information transmission activities will be introduced on a national scale, landmark-like events will be held, and the creation of an information security portal site for the government as a whole will be promoted. The formulation and issuance of the “White Paper on Information Security Measures (tentative name)” will be promoted in FY2007

(3) Provide an environment where individuals can use information-related products and services without strain

In order to promote an environment where information-related businesses develop and provide products and services that individuals can use without strain while enjoying the benefits of advanced information security functions, deliberations will begin in FY2006 regarding the technical and policy aspects of countermeasures against computer viruses that cause cyber attacks (bot program), etc., and a comprehensive framework will be built by FY2010. A ubiquitous environment using IPv6 will set out to be built by FY2009, and measures will be promoted, such as beginning verification experiments using usage environment models, in FY2006.

Create a cross-sectoral information security platform to eradicate cyber crimes

Through the strengthening of crackdowns on cyber crimes, with eradication as its goal, along with the creation of a cross-sectoral information security platform to reach the targets outlined under to above; the promotional system of policies, collaboration with other related institutions, and ongoing reform structures will be developed.

<Priority Policies>

The following measures, as well as those established in “Secure Japan 2006,”

will be promoted.

(1) Promote information security technological strategies

To promote technological strategies concerning information security, with a clear division of roles from private sector measures, in FY2006, deliberations on creating an efficient implementation structure for research and technological developments through collaboration with the Council for Science and Technology Policy will begin, prioritization of information security technology development and its environment improved, and discussions will be held on themes and promotional structure of the “grand challenge-style” research and technological development, which aim to realize fundamental technological innovations from a long-term perspective.

(2) Foster and secure information security personnel

As well as involvement in human resource development for policies in government, critical infrastructures, and companies, in FY2006, the fostering of personnel with multifaceted and comprehensive capabilities, in information security-related higher education facilities, will be promoted.

(3) Promote international cooperation and coordination

To promote international cooperation and coordination in the information security field, in FY2006, commitments will be made towards a safe and secure international foundation and environmental development, and international contributions in the information security domain originating from our country, will be promoted.

(4) Crackdown on crime and protect/secure people's rights

In view of the fact that safe, secure, and comfortable use of the Internet is a necessity, in FY2006, the foundations for cyber crime arrests and the protection and securing of people's rights will be established, and the development/dissemination of technology that increases safety and reliability of cyber space will be promoted.

(5) Improve the promotional structure of information security policies

In order for the government to comprehensively and organically implement information security policies, in FY2006, the National Information Security Center and all related ministries will be strengthened, and collaboration between other principal bodies and councils, such as the Information Security Policy Council, the Council on Economic and Fiscal Policy, and the Council for Science and Technology Policy will be enhanced.

(6) Build a lasting remedial structure

The situations surrounding information security issues change rapidly and in order to consistently evaluate policy effects and improve them, in FY2006, the implementation of annual strategies and their evaluations, as well as measures that handle emergency situations within the year, and the establishing of evaluation indicators will be promoted.

Realize an internet usage environment that will serve as a model for the rest of the world

Through the reduction of illegal information on the Internet and the creation of a society where harmful information is blocked from adolescents, an Internet usage environment that will serve as a model to the rest of the world will be realized.

<Priority Policies>

(1) Deliberations on measures against illegal and harmful information on the Internet (Ministry of Internal Affairs and Communications)

The “Study Group on Countermeasures against Illegal/Harmful Information on the Internet,” made up of experts and telecommunications carrier organizations, will hold extensive deliberations on voluntary countermeasures by service providers against illegal and harmful information on the Internet and measures to effectively support these initiatives. This will be summarized by July 2006, and specific measures to support electronic bulletin board administrators to judge illegality of information and to support countermeasures for harmful information will be considered.

(2) Promote measures for early detection and prompt reactions to illegal/harmful information on the Internet (National Police Agency, and Ministry of Internal Affairs and Communications)

In FY2006, effective cyber patrolling and Internet “hotline” operations will begin, where reports from Internet users regarding illegal and harmful information on the Internet are accepted, and subsequent police notification and deletion requests to providers are handled. And by promoting its appropriate operation in cooperation with the Ministry of Internal Affairs and Communications, the countermeasures against illegal/harmful information on the Internet can be implemented by the joint effort of public and private sectors.

(3) Promote the “Action plan for the realization of a safe and secure information economic society” (Ministry of Economy, Trade and Industry)

The government will work on specific measures under the “Action plan for the realization of a safe and secure information economic society,” established by the Subcommittee on Basic Problems of Commerce and Information in Industrial Structure Council this March, and encourage appropriate measures by businesses. Follow-ups on the progress and deliberations on new issues arising from technological development and changes in the economic society, will be held.

(4) Dissemination of filtering software (Ministry of Internal Affairs and Communications, and Ministry of Economy, Trade and Industry)

In addition to the dissemination of mobile/video filtering technology and the new filtering rating standard, “Safety Online3,” publicity regarding filtering will be promoted, based on the “Action plan for the spread and dissemination of filtering” (announced March 2006 by industry groups involved in filtering), through the collaborative efforts of related ministries and businesses utilizing e-mail newsletters and seminars.

(5) Promote measures on spam (Ministry of Internal Affairs and Communications, and Ministry of Economy, Trade and Industry)

Through collaboration with industry groups, such as JEAG (Japan Email Anti-Abuse Group, a private entity formed mainly by major domestic Internet service providers and mobile phone companies), technological

anti-spam strategies will be promoted, such as port 25 blocking and outbound domain authentication technology. The deliberation and implementation of specific international collaborative policies for anti-spam strategies will be realized through international organizations, such as the OECD, and bilateral discussions.

(6) Response to individual cases involving illegal and harmful information on the Internet (Cabinet Secretariat and related ministries)

The IT Security Conference has addressed phishing countermeasures, e-Commerce, spam, and human rights violation cases on the Internet by promoting measures in collaboration with the ministries concerned, and going forward, the group will continue to bring attention to the most recent cases and raise awareness for related policies. In the event a new case of illegal and harmful information on the Internet occurs, an IT Security Conference will be held in a timely manner to implement appropriate measures.

Promote IT moral education

Enable citizens to take appropriate measures against the improper use of networks, such as illegal and harmful information on the Internet.

<Priority Policies>

(1) Implement the “e-Net Caravan” (Ministry of Internal Affairs and Communications, and Ministry of Education, Culture, Sports, Science and Technology)

In cooperation with telecommunications-related organizations, an effort will be made to hold 1000 seminars per year until FY2008, by a caravan of seminars, aimed at raising awareness of safe and secure use of the Internet.

(2) Promote measures that protect adolescents from harmful environments (Ministry of Education, Culture, Sports, Science and Technology)

In FY2006, model operations aimed at protecting adolescents from harmful information, will continue to be implemented in 14 nationwide

localities, and the “Home Education Booklet,” a collection of tips on raising children that includes advice on mobile phone and computer usage, will be prepared. Additionally from FY2006, a new educational leaflet for children will be created and distributed.

(3) Research and develop new IT media literacy training techniques for the ubiquitous network era (Ministry of Internal Affairs and Communications)

In order to promote appropriate use of the Internet, mobile phones, and IT media by children, in FY2006, training manuals and educational materials related to the necessary comprehensive IT media literacy will be developed, and new IT media literacy training techniques will be researched and developed. The dissemination of these will be implemented from FY2007 and forward.

(4) Strengthen measures against illegal/harmful information on the Internet (National Police Agency)

Through the hosting of delinquency prevention classes in cooperation with schools and related institutions, with the aim of protecting children from illegal/harmful information on the Internet, efforts will be made to enhance understanding of IT morals and filtering functions by juveniles and their guardians, as well as promote the spread of information to raise awareness.

Extensive debates on the relationship between mobile phones and children, and Internet/game addiction in children will be held in the “Study group for the protection of children from the harmful effects of virtual society “and the issues will be clarified by this Summer.

2.4 Development of human resource bases with an eye towards the next generation—Improving IT facilities for all teachers and raising the level of academic skills for all students through IT—

<Basic Aspects>

Although improvements of various IT related facilities in schools have been promoted through the e-Japan Strategy and other methods, computerization in schools cannot be said to have made sufficient progress, as seen in the case of delays in constructing intra-school LANs.

In the coming years, we will continue to implement supportive measures in the furnishing of hardware, and by heightening the incentives resulting from computerizing schools, such as by clarifying the educational effects of utilizing IT, we will powerfully promote implementation. Concurrently, we will develop content in which students will show interest and effectively further their understanding, and raise the IT utilization ability of teachers by the realization of standards to evaluate their IT proficiency. In these ways, we will realize computerization in schools through the mutual interaction of hardware and software development, and improve students' academic skills by IT-driven education, as well as increase information utilization capabilities of children who will lead the next generation.

Furthermore, security functions will be strengthened in schools to be able to properly handle issues regarding personal information leakage of students and illegal/harmful information on the Internet, and IT moral education for children will be enhanced.

Improve IT infrastructure in schools

Realize computerization in schools by providing one PC per teacher, improving network environments, and enhancing support systems for IT infrastructures.

<Priority Policies>

(1) Develop IT infrastructure

(a) Improve IT utilization environments for teachers (Ministry of Education, Culture, Sports, Science and Technology)

In order to provide PCs to all teachers in public elementary, junior high, and high schools and promote the computerization of school affairs by FY2010, within FY2006, the aspects of computerizing school affairs will be researched, such as the effective utilization of IT in school business processing, and promotional policies will be considered.

(b) Realize ultra high-speed Internet connections, etc., in schools (Ministry of Internal Affairs and Communications, and Ministry of Education, Culture, Sports, Science and Technology)

In order to enable almost all elementary, junior high, and high schools, etc., constant access to the Internet through ultra high-speed connections, such as optical fibers, and provide Internet connectability in all their classrooms by FY2010, continued support will be provided to local public entities for the development of local public networks that provide high-speed/ultra high-speed connections between schools, libraries, community centers, and municipal offices, as well as promote the opening of local public networks to private businesses.

Additionally, the importance of computerizing education will be emphasized to local public entities in such ways as clarifying the improvement in academic skills of students in schools utilizing IT in education, and thereby promote implementation.

(c) Provide one educational PC per 3.6 children/students (Ministry of Education, Culture, Sports, Science and Technology)

Through support of computer provision in regular classrooms, etc., and dissemination of the importance of computerizing education, by FY2010, a ratio of one educational PC to 3.6 children/students will be realized and the supplying of peripheral equipment, such as LCD

projectors, will be promoted. However, in this case, efforts will be made for the efficient and effective provision of educational PCs by considering the results from (d).

(d) Promote multiplatforming in elementary and secondary education (Ministry of Economy, Trade and Industry)

An IT environment with exceptional economic efficiency, safety, and open standard capabilities will be implemented in elementary and secondary education during FY2006. Verification experiments to test the adaptability and validity in various school situations, such as educational affairs, school affairs, and studying, and the results will be disseminated nationwide.

(e) Promote information security measures in schools (Ministry of Economy, Trade and Industry)

In order to ensure information security in the field of education within FY2006, guidelines will be created toward the establishment of information security policies based on actual situations, after conducting verification experiments in each of the schools, etc. These guidelines will be distributed to elementary, junior high, and high schools nationwide with the help of the board of education, to help its national permeation and dissemination.

(f) Promote the educational utilization of terrestrial digital television broadcasting (Ministry of Education, Culture, Sports, Science and Technology)

Implement model operations regarding the effective utilization of terrestrial digital television broadcasting and the installation method of its receiving equipment in FY2006, and promote the educational utilization of this broadcasting by accumulating educationally effective case examples and disseminating them nationwide.

(2) Deliberations on aspects of support systems, such as external experts in charge of information systems (School Chief Information Officer), etc. (Ministry of Education, Culture, Sports, Science and Technology)

In order to strengthen support for computerization in the educational field, during FY2006, the current status of those in charge of information systems in schools and the nature of school CIOs will be investigated and deliberated.

Improve IT utilization abilities of teachers

Improve IT utilization abilities of teachers through the evaluation of these abilities.

<Priority Policies>

(1) Formulation and clarification of evaluation standards for IT utilization ability of teachers (Ministry of Education, Culture, Sports, Science and Technology)

In order to enable almost all public school teachers to use computers and utilize IT to teach, the following measures will be promoted in FY2006.

- a) Formulate IT utilization ability standards for teachers and clarify attainment targets.
- b) By increasing the understanding of teachers on IT utilization, through investigation and research on the benefits of utilizing IT in education, disclosure of the results, and wide dissemination, the increase of IT utilization capabilities will be promoted.
- c) Enhance the e-Learning program, where teachers can acquire necessary IT skills, etc., in their free time.
- d) Provide support through detailed training, etc., tailored to each teacher's current IT utilization capabilities.

(2) Improve IT utilization environments for teachers (Ministry of Education, Culture, Sports, Science and Technology)

<See II. 2.4 Development of human resource bases with an eye towards the next generation (1) (a)>

Enrich educational content to improve academic skills of students

Provide learning opportunities that utilize IT and motivate students to want to learn.

<Priority Policies>

(1) Enhance the function of the National Information Center for Educational Resources (Ministry of Education, Culture, Sports, Science and Technology)

Regarding the educational content and educational support information provided by the National Information Center for Educational Resources, in FY2006, the types of content that users desire or are necessary will be researched, to establish policies for future collection and development of content.

(2) Develop and spread digital educational materials to teach advanced technology and science (Ministry of Education, Culture, Sports, Science and Technology)

During FY2006, through close cooperation with universities and research institutes, digital educational material that utilizes the achievements of leading-edge R&D will be developed for use by teachers and students, as effective material for advanced technology and science education. This material will also be provided on "Science Network," in order to allow use by many educators, and its utilization in the training of teachers will also be promoted.

Improve information utilization capabilities of students

Students' information utilization capabilities, including information moral, will be increased through the utilization of IT in course instruction and through information moral education in elementary schools.

<Priority Policies>

(1) Improve information utilization capabilities from an elementary school stage (Ministry of Education, Culture, Sports, Science and Technology)

To help children respond proactively to the information society, during FY2006, a collection of learning activities to foster information utilization capabilities according to developmental stage will be compiled and disseminated. Materials outlining effective teaching methods for information moral at an elementary school stage will be put together and spread, as well as hold dissemination forums on a national scale to raise awareness, to thereby improve information utilization capabilities, including information moral.

(2) Promote information moral education

<See II. 2.3 The world's most secure IT society >

2.5 Education and human resource development that will produce human resources that will be competent anywhere in the world

—The establishment of a government- industry-academia partnership system—

<Basic Aspects>

The development of IT technology relies heavily on human resources and in order for Japan's industries to increase global competitiveness, it is essential to cultivate high-level IT human resources who will be capable of creating high added values by using IT. However, in Japan, there is a lack of such human resources in the industrial field, and it is said that the reason for this state is that there exists a mismatch between the requirements of universities, which cultivate IT human resources, and those of industries, which makes use of these people.

The goal under the "New IT Reform Strategy," is to eliminate this mismatch, by creating a high-level IT human resource development institution, currently considered for establishment under the government-industry-academia partnership council for high-level IT human resource cultivation through and function in cooperation between government, industry, and academia. Effective cooperation will also need to be promoted into the future.

Distance learning using the Internet, or e-learning, not only enables students to overcome limitations of time and place, but is an effective tool to encourage cooperation with other universities, and it will be further promoted by supporting universities and other institutions.

Comprehensive measures toward the cultivation of high-level IT human resources

The cultivation of advanced IT human resources, such as project managers, IT architects, IT coordinators, and experts in the field of embedded software will be promoted, to eliminate the mismatch in

supply and demand of high-level IT human resources in industry.

<Priority Policies>

- (1) Cooperation between related ministries to create high-level IT human resources development institutions, etc. (Cabinet Secretariat, Ministry of Internal Affairs and Communications, Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Economy, Trade and Industry)**

In order to implement effective measures for advanced IT personnel cultivation with cooperation between government, industry, and academia, cooperation will be further enhanced for the following measures. Deliberations will also be held under the liaison conference of related ministries on promotional policies for the government as a whole, to enable even more effective measures to be taken, and a policy package will be put together by August.

- (a) Cultivation of human resources with practical high-level IT expertise in universities, etc.**

- i) The creation of a base for training world-class high-level IT human resources (Ministry of Education, Culture, Sports, Science and Technology)**

Measures will be promoted in graduate schools, etc., that strengthen educational content/systems which cultivate the world's top-class software technicians. This is in an effort to create a base for hosting human resource development programs through industry-academia collaboration.

- ii) Research and development for advanced information and telecommunications human resource development programs (Ministry of Internal Affairs and Communications)**

Project-based program materials will be developed by FY2006, through industry-academia collaboration, and investigations of the required

capabilities and training methods of high-level IT personnel in charge of strategic computerization in companies. The results will be widely disseminated starting from training bases, thereby promote the cultivation of high-level IT human resources.

iii) Establish practical IT education through industry-academia collaboration (Ministry of Economy, Trade and Industry)

Through verification operations of practical IT education by the cooperative effort of industry and academia within FY2006, specific concerted approaches by the industrial field and measures to be taken by universities will be summarized to firmly establish practical IT education, and the benefits will be returned to the bases.

(b) Cultivating high-level IT human resources in society

i) Upgrade Skill Standards for IT Professionals and Embedded Technology Skill Standards (Ministry of Economy, Trade and Industry)

In order to clarify career paths and improve capabilities of IT human resources, within FY2006, the revised version of Skill Standards for IT Professionals (Ver.2), guidebooks for dissemination, and the general information manual for the Embedded Technology Skill Standards will be published, along with the establishment of cultivation/evaluation guidelines following the Skill Standards for IT Professionals, training guidelines, career standards that define the role of Embedded Technology Skill Standards-qualified personnel, and educational curriculums that outline cultivation strategies. Furthermore, dissemination seminars and events will be held, and verification experiments conducted for the implementation of Embedded Technology Skill Standards in companies.

ii) Deliberate on the effective utilization of the Information Technology Engineers Examination (Ministry of Economy, Trade and Industry)

In order to clarify the evaluation standards of IT human resources, within FY2006, examination systems will be revised to contribute to a systematic IT human resource development policy complying to both the current Skill Standards for IT Professionals and Embedded

Technology Skill Standards.

iii) Information and Telecommunications Human Resource Training Operations Support System (Ministry of Internal Affairs and Communications)

In order to resolve human resource shortages in the IT field and to increase specialized knowledge and skills necessary in the ubiquitous era, support will be given to train 13000 people by FY2007, and to assist those who cultivate high-level and specialized human resources in the IT field.

(c) Early cultivation of high-level IT human resources starting at the elementary and secondary education stage (Ministry of Economy, Trade and Industry)

Practical seminars that take advantage of local characteristics will be offered mainly to young resources under 20, and held in 10 or more locations nationwide, with an aim to cultivate high-level human resources knowledgeable in computer sciences, information security, and programming technology, etc. Advanced information security education will be given by providing knowledge acquisition training that is centered around practical work, to young resources with especially high IT consciousness.

Promote e-learning education using the Internet, etc.

With an aim to increase more than double the ratio of departments and graduate courses, which implement e-learning education using the Internet, improve cooperation between domestic/international universities and companies as well as promote the further education of members of society through the promotion of e-learning education programs using the Internet at universities, etc.

<Priority Policies>

- (1) Promote e-learning education using the Internet at universities, etc. (Ministry of Education, Culture, Sports, Science and Technology)**
e-learning education using the Internet will be promoted in

universities, with an aim to increase more than double the ratio of departments and graduate courses that implement them by FY2010. In FY2006, e-learning through the Internet will be selected as one of the publicly subscribed themes of the “Support program for contemporary educational needs,” to promote exceptional measures by the university. Dissemination and promotional measures will be furthered in such ways as continuing “Research and Development for Education that Utilizes Advanced Information Technology” and developing e-learning programs that use the Internet for adults and members of society.

2.6 Promotion of R&D that will form the foundations for the next generation IT society

—Strategic R&D—

<Basic Aspects>

Research and development in the IT area has been prioritized in the e-Japan Strategy and is one of the fields to be strengthened under the Science and Technology Basic Plan, which has led to our country's advancement in technology.

However, in recent years, global competition involving technical development continues to intensify, and this has resulted in a situation whereby not only are advanced nations joining in the competition, but Asian nations, such as China and Korea, have begun working on the strengthening of their own technical competitiveness, and Japan is being closed in from behind by those nations, as in the manufacturing of electronics.

In order for Japan to overcome constraints, such as an aging population with low birthrates, and environmental/energy-related problems, and maintain competitiveness in our country's IT industry and all IT-utilizing industries amid intensified international competition, it is necessary to continue developing innovative and high-value adding IT, and strategic R&D measures are desired. For this reason, R&D in our country's leading fields, such as wireless/optical networks, robots, information appliances, core devices, etc., will be promoted, as will the R&D for IT that will serve as the base for R&D in a wide range of fields, such as ultra high-speed calculators, etc. Additionally, under the cooperation of the Council for Science and Technology Policy, strategic and prioritized R&D of the IT field from the mid and long term point of view will be promoted. Through the promotion of research implementation systems and research evaluation systems as well as utilization policies for results, etc., an R&D environment that is competitive and is able to continuously produce new technical innovations is to be developed.

Furthermore, in light of the fact that the importance of IT as social

infrastructure has rapidly increased, and that the dependence of economic/social activities and daily life on IT has been increasing, efforts will be made in the R&D of safety in IT itself, and of ensuring safety and security through IT utilization. Research and development will also be intensively promoted for technology necessary to create an environment where the infrastructure for the next generation IT society, in which anyone, anywhere, at anytime can experience the benefits of IT, can be developed, as well as create a people-friendly human interface.

Maintain and increase industrial competitiveness through groundbreaking IT technology

Promote R&D of IT technology as an investment toward generating a source of national strength

<Priority Policies>

(1) Further promotion of R&D in our country's leading fields

(a) Research and development of optical and wireless network technology.

i) Research and development of photonic network technology (Ministry of Internal Affairs and Communications)

By the year 2010, switching technology allowing 100Tbps-class optical routers, optical node technology enabling signal format-free photonic nodes, network control technology realizing user-initiated two-way communication made possible by instant on-demand high capacity optical paths, optical memory (RAM) element technology to create optical packet routers, and elemental technology enabling a super energy-saving network that utilizes resources to the absolute maximum will be developed.

ii) Research and development for the expansion of radio wave resources (Ministry of Internal Affairs and Communications)

<See II. 2.2 Development of infrastructure that can easily connect to networks that anyone can use at anytime from anywhere for any purpose and that has no digital divide (3)

(d)>

iii) Research and development of network device technology (Ministry of Economy, Trade and Industry)

Create an energy-saving device using superconductivity by 2007, an optical switching device with transmission capacity at the 10Tb/s level by 2008, and a high frequency device at the 350GHz level by 2010.

(b) Research and development of robots

i) Research and development of network robot technology (Ministry of Internal Affairs and Communications)

Efforts will be made to dramatically improve the robot's perception of the world and ability to communicate with people through bilateral coordination between various robots. By FY2008, the basic technology for various functions and services will be established, possible through interactive communication between robots that are connected to sensors and networks.

ii) Practical application of the next generation robot (Ministry of Economy, Trade and Industry)

With the aim to implement multifunctional home robots by 2025, that support daily life in the house and outdoors, verifications of the technology to implement robots in their actual use environment and of the practical application technology of robots supporting human tasks will be conducted by FY2007. By FY2010, common infrastructure critical for the practical use of robots (middlewares, devices, etc.), elemental technologies (sensors, motors, etc.) and systems will be developed, along with a method to secure the safety necessary for robot implementation.

(c) Research and development for improving information appliances

i) Research and develop advanced use/utilization of information

appliances (Ministry of Internal Affairs and Communications)

In order to provide a wide variety of safe, secure, and advanced services through information appliances by 2008, the R&D of fundamental technology enabling information appliances to safely communicate and coordinate, regardless of being indoors or outdoors, will be promoted.

ii) Research and develop next generation display technology including organic displays (Ministry of Economy, Trade and Industry)

By utilizing the energy efficient displays integrated up until 2007, a next generation display utilizing highly efficient display/emission structure from innovative materials will be created by 2011, and big screen technology will be established.

iii) Research and develop storage technology (Ministry of Economy, Trade and Industry)

To match increasing quantities of information, high-capacity, high-density storage at the 1.2Tb/in² level, high-capacity, energy-saving Flash memory at the 32-64Gigabit level, and high-speed, energy-saving M-RAM at the Gigabit+ level will be developed by 2012.

iv) Research and develop semiconductor application chips (Ministry of Economy, Trade and Industry)

Create semiconductor application chips that save energy and upgrade (multi-functionalize, etc.) information appliances, by 2010.

v) Research and develop information appliance interconnection and interoperability technology (Ministry of Economy, Trade and Industry)

By 2012, in order to realize effective interoperability of information appliances, fundamental technology that enables remote management and system integration, while ensuring security, will be developed. And by 2015, computers will be

made to recognize speech and different languages.

(d) Research and development of devices

i) Research and development of semiconductor technology (Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Economy, Trade and Industry)

By FY2010, a high-speed, energy-efficient device will be created through a 45 nano m level miniaturization of semiconductors, and the corresponding design/development support technology, fundamental manufacturing technology and mounting technology will be established. The development of semiconductor devices based on new ideas will be supported and energy-saving, sophisticated devices, such as high-efficiency inverters by 10W/cm³ level power devices that will take the place of silicon transistors, will be realized.

Realize a research and development platform to materialize ongoing innovation

For R&D in IT and other fields, an environment in which IT is actively utilized will be created to serve as a basis for materialization of ongoing innovation.

<Priority Policies>

(1) IT as a basis for research and development

(a) Research and develop fundamental technology for the future in super computing (Ministry of Education, Culture, Sports, Science and Technology)

In order to advance computational science technology, by FY2007, efforts will be made to establish fundamental technology for hardware that breaks boundaries of existing technology and causes extensive ripple effects.

- (b) Research and development of innovative simulation software (Ministry of Education, Culture, Sports, Science and Technology)**
By FY2007, research and development will be conducted for a world's top-class simulation software that will run on ultra high-speed computers, and be used for phenomenon analysis of numerous mutually influencing incidents in a wide range of fields, such as life phenomena, manufacturing, and safety and environment in cities.
- (c) Development and usage of state of the art, high-performance, general-purpose super computer (Ministry of Education, Culture, Sports, Science and Technology)**
With the aim of starting operation at the end of FY2010, the creation of the world's highest-level super computing research and education centers (COE) will be integrally promoted, with the development and dissemination of super computer software, and the development and improvement of the world's top performance, state of the art "next generation super computers," at the core of its operations. Hardware architecture will be considered and a conceptual design will be completed by FY2006.
- (d) Research and development on the quasi-zenith satellite system (Ministry of Internal Affairs and Communications, Ministry of Education, Culture, Sports, Science and Technology, Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transport)**
In order to further utilize geospatial information obtained from satellite positioning, R&D and verifications on technology and availability regarding the quasi-zenith satellite system, that enables high-accuracy positioning, etc., will be promoted. Based on these results, necessary measures will be implemented to promote usage, and for this purpose, R&D for actual verification experiments will be conducted by FY2010.
- (e) Improve network environments for research and development (Ministry of Internal Affairs and Communications, and Ministry of Education, Culture, Sports, Science and Technology)**

Through implementation of optical technology and next generation IP technology, a terabit-level testbed network will be created by 2010, and verification tests will be conducted in an environment similar to real-life situations.

Furthermore, ultra high-speed networks and other foundations for academic information will be improved to create the “Cyber Science Infrastructure,” in which university computers, software, and contents, etc., can be shared on networks.

(2) Promote utilization of IT

(a) Utilization of IT for R&D in life science fields (Ministry of Education, Culture, Sports, Science and Technology)

In regard to the core themes, namely, circulatory/metabolic disorder control and drug effect/side effect prediction, R&D will be promoted by FY2007, for cell/vital function simulation, through the organic cooperation of research centers.

Bioinformatics databases will be upgraded, standardized, expanded and promotional activities for its utilization will be held. Joint development between researchers producing experimental data and those who process this information will be fostered, and creative R&D will be promoted.

Strategic planning/implementation systems will be created toward the development of a comprehensive database in the life science fields. A portal site is also to be created and the utilization of variegated and excessive data will be researched and developed.

(b) Promote the practical application of research and development results (Ministry of Education, Culture, Sports, Science and Technology)

With practical application in mind, by FY2006, the development of the following will be tackled: ultra-compact wireless communication terminals capable of high-speed large-capacity transmissions; and key devices of next generation photonic networks, such as the

fundamental technology of next generation light sources which utilize quantum dots, the fundamental process and circuit technology for nonvolatile spin memory realization.

(c) Promote improvement and effective utilization of air and maritime radio communication (Ministry of Internal Affairs and Communications, and Ministry of Land, Infrastructure and Transport)

In order for the comfortable use of Internet and mobile phones at sea or in the air, efforts will be made to realize new radio usage systems by FY2010, through necessary technological developments. Promising business models of maritime broadband communication will be considered and the necessary measures/roadmaps for realization will be presented.

Realize a society where all people can experience the benefits of IT

In light of the fact that IT is widely permeating society, active investments will be made in the development of advanced information and telecommunications technology that will become necessary in the next five years.

<Priority Policies>

(1) Research and development of IT that ensures safety and security in society and IT

(a) Research and development of terahertz sensing technology (Ministry of Internal Affairs and Communications)

<See II. 1.3 The world's leading safe and secure society (2) (f)>

(b) Research and development on optical/quantum communication technology (Ministry of Internal Affairs and Communications)

By FY2010, the fundamental technology will be established for quantum relay technology realization that is crucial in the practical use of quantum cryptography networks and enable its use in longer distances. Also, fundamental technology needed to create networks

that possess transmission speeds of the utmost limits will be developed, by utilizing the characteristics of optical waves and quanta.

(c) Research and development for the detection, recovery, and prevention of route hijacks (Ministry of Internal Affairs and Communications)

By FY2009, the technology to enable detection and recovery of route hijacks within a few minutes, and also prevent its occurrence will be established.

(d) Research and development for the next generation backbone (Ministry of Internal Affairs and Communications)

By FY2009, the technology to decentralize traffic exchanges, ensure transmission quality of services provided by different businesses, stably operate the entire IP backbone by detecting and controlling abnormal traffic will be established.

(e) Research and development on fundamental technology for a solid electronic authentication technology (Ministry of Economy, Trade and Industry)

The fundamental technology for the realization of a safe computing environment will be established through the implementation of verification experiments by FY2006, on next generation electronic authentication foundations that enable more advanced identity authentication, and also through R&D on the verification of configuration information by utilizing a TPM-installed (Trusted Platform Module) computer with security features, by FY2007.

(f) Promote the dissemination of highly safe and reliable IT products, etc. (Ministry of Economy, Trade and Industry)

<See II. 2.3 The world's most secure IT society (2)>

(g) Develop a next generation OS environment that realizes high security features (Cabinet Secretariat, Cabinet Office, Ministry of Internal Affairs and Communications, and Ministry of Economy, Trade and Industry)

As a pressing undertaking to secure IT reliability, in FY2006, the government, academia, and industry will cooperate to promote the development of virtual machine capabilities that can provide information security features independent of the current environment, such as OS, applications, etc, while maintaining it. From FY2007, verification tests will be conducted on these partial results and the development of ID management and encrypted communication for fundamental function extension will be promoted.

(2) Research and development to realize a ubiquitous environment

(a) Research and development for ubiquitous sensor network technology (Ministry of Internal Affairs and Communications and other related ministries)

<See II. 2.2 Development of infrastructure that can easily connect to networks that anyone can use at anytime from anywhere for any purpose and that has no digital divide (2) (e)>

(b) Research and development regarding the advanced use/utilization technology of electronic tags (Ministry of Internal Affairs and Communications, Ministry of Education, Culture, Sports, Science and Technology and other related ministries)

<See II. 2.2 Development of infrastructure that can easily connect to networks that anyone can use at anytime from anywhere for any purpose and that has no digital divide (2) (b)>

(c) Research and development on the fundamental technology for next generation networks (Ministry of Internal Affairs and Communications)

By 2010, fundamental technology needed for the creation of next generation networks (NGN), which are completely packet-based, highly functional networks that realize high-quality/highly reliable and advanced mobility and are also compatible with ubiquitous technology, such as electronic tags, etc., will be realized.

**(d) Research and development of ubiquitous network technology
(Ministry of Internal Affairs and Communications)**

<See II. 2.2 Development of infrastructure that can easily connect to networks that anyone can use at anytime from anywhere for any purpose and that has no digital divide (2) (a)>

**(e) Internationally implement the Asian ubiquitous platform technology
(Ministry of Internal Affairs and Communications)**

<See III. 3.2 International contribution by providing problem-solving models (3) (b)>

(3) Research and development for user-friendly, passible interface technology

(a) Research and development of universal content technology (Ministry of Internal Affairs and Communications)

<See II. 2.1 An IT society that adopts universal design (3) (e)>

(b) Research and development of common reality technology

Basic research will be carried out by FY2007, and by 2010, the obtainment, distribution, and emulation technology of cognitive information, including three-dimensional imagery systems, signal processing technologies of ultra high-definition images, multispectral image acquisition/transmission technology, and multisensory information will be realized.

Furthermore, by 2015, realistic communication technology will be realized through the establishment of ultra-high realistic sensation audio-visual reproduction systems and the obtainment, emulation, and distribution technology of high-definition three-dimensional imagery.

3. Provision of Valued Information to the world

3.1 Enhancement of the presence of Japan in the international competitive society

—Provision of Valued Information to the world—

<Basic Aspects>

As the most advanced IT nation, Japan has created a world-leading environment by establishing information and telecommunication networks at the highest global standards, as seen in the domestic broadband environment, and by possessing advanced markets to utilize these. On the other hand, information exchanged between Europe and the United States still dominates more than half of the overall volume of international information flow, and the realization of information distribution that corresponds to the market scale and growth rate of the Asian economy is a pressing issue. It is important that we work to strengthen information dissemination from our country, through the creation and distribution of appealing contents, and the active provision of this country's tourist information, as well as enhance Japan's presence within the international society, by vigorously promoting cross-border network development in Asia, and fulfill Japan's role as one of the information hubs of the world.

Furthermore, when it comes to our IT industry's competitiveness and current situation, the United States holds an overwhelming share of the world's software business while China and Korea are rapidly catching up to us in the development of information appliances and devices, etc. While furthering R&D of devices and other hardware, it is crucial to enhance Japan's strengths in software, such as international implementation of contents that utilize advanced markets, improvements in information retrieval technology, and development of embedded software for information appliances and mobile communications terminals. Additionally, strategies regarding international standardization and intellectual property are very important in the IT field, and we will keep this in mind when implementing measures for new technologies and services.

Strengthen our country's information provision ability.

The digitization of information about Japan's cultural heritage, such as national treasures and important cultural assets, and the creation of attractive content with consideration to global markets, shall be strategically promoted in order to provide the world with information on Japan's attractions via the Internet, etc.

<Priority Policies>

(1) Promotion of digitization and dissemination of cultural heritage (Cabinet Office, Ministry of Education, Culture, Sports, Science and Technology)

In order to globally disseminate information via the Internet about our national heritage, etc., the digitization of the following contents will be promoted.

- a) Public information on "Cultural Heritage Online," a comprehensive portal site about our country's treasured material and immaterial cultural assets, will be enhanced. In FY2006, the aggregation of digital images of cultural heritage, such as cultural property and art pieces from museums, art galleries, etc., will be promoted with the aim of having approximately 1000 nationwide museums participate by the end of the year.
- b) Digitization by use of high-resolution color images, etc. will be promoted for important cultural assets and important historic archives belonging to the National Archives of Japan, and their successive release.
- c) Aim to digitize 30 million images of important historic archives between our country and neighboring Asian nations, by FY2012.
- d) Important cultural assets belonging to national museums and representative of our country, will be semipermanently saved as high-resolution digital information, translated into four different languages (English, French, Chinese, and Korean), and successively displayed on homepages, etc.

(2) Promote the utilization of broadcast program contents

- (a) Promote a new content distribution model (Ministry of Internal

Affairs and Communications)

In order to promote the distribution of television programs, etc. over our country's cutting-edge, high-speed telecommunications infrastructure, technical components and other issues necessary for its realization will be discussed and validated by FY2008, and the establishment of a world-class service model will be promoted.

(b) Strengthen overseas transmission of broadcast program contents (Ministry of Internal Affairs and Communications)

Handbooks will be created outlining necessary information for cultivating overseas broadcast program markets, and an international program library will be created that will collect, re-edit, archive, and provide Japanese broadcast programs, in order to promote overseas operations of businesses in the broadcast program content field, the most accessible content area worldwide.

(c) Promote measures that deal with rights handling of the secondary use of past broadcast programs (Ministry of Internal Affairs and Communications)

In order for continued utilization of broadcast programs owned by NHK Archives and commercial broadcast businesses, in FY2006, measures related to agreements between the parties concerned and the secondary use of past broadcast programs will be promoted.

(3) Strengthen measures for the protection of intellectual property (Cabinet Secretariat, National Police Agency, Ministry of Internal Affairs and Communications, Ministry of Justice, Ministry of Foreign Affairs, Ministry of Finance, Ministry of Education, Culture, Sports, Science and Technology, Ministry of Agriculture, Forestry and Fisheries, and Ministry of Economy, Trade and Industry)

Regarding the "Treaty for Preventing the Proliferation of Forgeries and Pirating (tentative name)," proposed by the Japanese during last year's G8 Summit, in 2006, efforts will be made for its early realization through cooperation with other countries and international institutions concerned, and by strengthening various measures.

In FY2006, experts on countermeasures against counterfeit and pirated products will be sent to the Asian region to collect and transmit information, provide industrial counseling, and enforce measures with the cooperation of local governments. Through these efforts, proper distribution channels for legitimate products will be cultivated, impediments will be researched, and necessary information can be provided.

Measures will be implemented to demand stricter regulations by the country where content right infringement occurred, hold training operations for developing countries, create guidebooks for right holders and strengthen cooperation between the public and private sectors. "Rights enforcement seminars," that explain ways to handle rights infringement occurring overseas, will be held within Japan and abroad.

Furthermore, active contributions will be made to deliberations on the early adoption of a treaty to protect broadcasting organizations and audiovisual demonstrations by the World Intellectual Property Organization (WIPO), as well as press for early participation in the "WIPO Copyright Treaty (WCT)" and the "WIPO Performances and Phonograms Treaty (WPPT)" at bilateral and multilateral forums.

(4) Research and development for next generation video content production and distribution support technology (Ministry of Internal Affairs and Communications)

The R&D of technology to edit and transmit realistic ultra high-definition images (next generation video contents) securely, efficiently, and effectively over a network will be promoted, and its elemental technologies (network dispersed collaborative image editing and production technology, ultra high-speed/multipoint stream distribution technology) will be established by 2008.

(5) Research and development of high-definition three-dimensional imaging software technology, etc. (Ministry of Education, Culture, Sports, Science and Technology)

In order to realize an environment where anybody, anywhere, at anytime

can have access to education, culture, and art, the technology for three-dimensional imaging software and for its utilization in the educational field will be researched and developed, and a clear idea of its practical realization will be set by FY2008.

(6) Comprehensive transmission of Japanese culture (Ministry of Education, Culture, Sports, Science and Technology)

In order to effectively introduce to the world a wide range of Japanese cultural activities, from traditional culture to contemporary culture and art, by FY2008, the international needs regarding acceptance of Japanese culture will be explored, Japanese culture and art group activities will be researched, and this information will be provided to the world in English via the Internet, etc.

(7) Internationalization of the transmission and distribution of academic information (Ministry of Education, Culture, Sports, Science and Technology)

In order to support electronic journal publications by our country's academic groups, a comprehensive system that handles paper submission, review, editing, and publication (J-STAGE) will be developed and operated.

Additionally, by FY2009, all major academic journals will be electronically saved and released going back to the first issue.

(8) Foster creative contents personnel (Ministry of Economy, Trade and Industry)

Corporate internship will be supported through cooperation with nonprofit organizations, to support the fostering of human resources that fit the needs of the digital content industry.

Also, technical aid will be extended through training, etc., to support the fostering of human resources capable of playing a role in international partnership, and support will be given to discover and nurture core human resources for the "animation" or cartoon field.

(9) Unified provision of information necessary to utilize contents (Ministry of Economy, Trade and Industry)

In order to build a portal site that provides integrated information on video and music contents and rights handling, during FY2006, the linking of databases in each business and the creation of a crossover search engine will be promoted, and support will be provided for industrial world initiatives to create a portal site.

(10) Promote internationalization of contents (Ministry of Economy, Trade and Industry)

The following measures will be implemented to promote internationalization of our country's content industry.

- a) Establish specific action plans for fields that should be prioritized at the Asian Content Industry Seminar to be held in the Philippines during FY2006.
- b) Provide a place where international collaboration of content design and development is possible as well as collect and supply information on domestic producers and overseas markets.
- c) Hold a trade show (International Content Market) for international business negotiations on content, during the Tokyo International Film Festival, and promote the matching of Japanese contents with international businesses.
- d) Starting FY2006, content producers will provide information on project proposals, their work, etc., and domestic as well as overseas businesses, distribution companies, and funds will obtain this information to create a business market on the Internet for a content distribution business.

Secure a IT communication channel via Japan

Taking on a major role in helping to improve the global network environment, the development of a network to maintain stable communication channels in Asia shall be promoted with Japan serving as one of the world's information hubs.

<Priority Policies>

**(1) Research and development for an ultra high-speed Internet satellite
(Ministry of Internal Affairs and Communications, and Ministry of
Education, Culture, Sports, Science and Technology)**

With the aim of realizing ultra high-speed telecommunication nationwide and with other countries in the Asia Pacific region, an ultra high-speed Internet satellite developed by the Japan Aerospace Exploration Agency (JAXA) and the National Institute of Information and Communications Technology (NICT) will be launched by FY2007. Through its utilization, the technology needed for 1.2Gbps transmission speeds will be established by FY2010.

**(2) Promote joint experiments toward advanced IT use in Asia (Ministry of
Internal Affairs and Communications)**

By FY2010, in order to promote broadbandization in Asia, following the Asia Broadband Program, and vitalize the circulation of information, international joint researches on applications utilizing information communication technology that our country holds an edge in, will be implemented between major Asian countries.

**Strengthen competitiveness of our country's products and services in
the international market.**

Utilizing what is one of the world's most advanced IT environments, including our broadband and mobile Internet environments, etc., as well as one of the world's most advanced markets, Japan will promote international joint research projects for the creation of new technology and services in consideration of global markets.

In order to improve the reliability and productivity of software, the promotion of R&D and quality assessment systems' functions enhancement are to be implemented under the cooperation of government, industry, and academia. In addition, technology concerning the accessing of next generation intellectual information, such as image searching, information analysis, etc. shall be strengthened.

<Priority Policies>

(1) Technological development concerning the accessing of next generation intellectual information, such as image searching, information analysis, etc. (Ministry of Economy, Trade and Industry)

With the aim of strengthening our country's international competitiveness in the field of next generation intellectual information accessing, such as information searching/analysis, by the end of FY2006, an R&D system will be developed by the government, industry and academia, such as seen in the establishment of the "Consortium for New Project on *Intellectual Access to Information*", and R&D will be promoted for image searching, information analysis, etc.

(2) Measures to strengthen international competitiveness of software

(a) Strengthen embedded software development capability (Ministry of Economy, Trade and Industry)

Engineering techniques and skill standards for embedded software, such as developmental process evaluation/improvement methods, quality improvement techniques, and project management skills, will be established, and verification tests to check effectiveness as well as education will be provided. A short-term target would be to optimize the development process of embedded systems and expand the application of skill standards by the end of FY2006.

(b) Improve quality and productivity of business software (Ministry of Economy, Trade and Industry)

In regard to business software: quantitative data on quality and productivity will be collected; the relationship between cause and effect and normal standards will be analyzed; and feedback on results will be provided. In addition, representative examples of software size and development schedule will be systematically organized and classified to promote sharing between users and vendors. As a short-term goal, research and integration of the "visualization" management project will be implemented by the end of FY2006.

(c) Discover and foster ingenious creators (Ministry of Economy, Trade

and Industry)

In order to foster human resources that can play active roles internationally, approximately 20 individuals with creative skills in the software field will be chosen each year, and an environment that will enable them to realize their full potential will be developed and provided.

(d) Rationalization of patent enforcement in regard to software development, use, and utilization. (Ministry of Economy, Trade and Industry)

In order to promote innovation in the software industry, by FY2006 “The code for economic transactions in the market” will be created/released and the abuse of patent enforcement to a point of hindering software development, use, and utilization will be deterred .

(e) Joint development of software (Ministry of Education, Culture, Sports, Science and Technology)

By FY2007, based on the needs of the industrial world, software R&D and researcher training will be promoted in an integrated manner through full utilization of research potential and human resource development capabilities of universities, etc

(3) Develop the information communications industry in Okinawa (Cabinet Office, Ministry of Internal Affairs and Communications, and Ministry of Economy, Trade and Industry)

An opportunity for deliberations between government, industry, and academia on the development of the information communications industry in Okinawa will be provided. Hearings of proposals and opinions on software development and content production will be held here, with the aim of fostering IT businesses and making Okinawa their selected site of operation.

The following measures will be promoted with consideration of the Okinawa Development Plan and the plan to make Okinawa a special district for international communications, etc.

- a) Attract and foster IT businesses by developing shared use facilities.
- b) In order to improve the level of the information and telecommunications industry in Okinawa, businesses fostering human resources that can utilize advanced IT will be promoted.
- c) Through the further progress and improvement of measures aiming for balanced development in Okinawa and cooperation with the prefecture and municipalities, the development of information and telecommunications infrastructure including islands will be promoted for both hardware and software.

Attain a technical standard originating in Japan.

In order to lead in the effort toward international standardization with respect to technical areas in which Japan has developed ahead of other nations, activities in international standardization organizations, such as IEC, ISO, ITU, etc., will be implemented and cooperation and interaction in the global industrial field are to be promoted under the collaborative efforts of government, industry and academia.

<Priority Policies>

- (1) **Strengthen international standardization activities (Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry)**
Under the “Action Plan to Strengthen Infrastructure for International Standardization Activities” (established by the Japanese Industrial Standards Committee, June 2004), “Strategy on R&D/standardization to strengthen technical competitiveness in the information communication field” (Information Communication Council report, March 2003), and “R&D Programs for the Ubiquitous Network Society --UNS Strategic Programs” (Information Communication Council report, July 2005), the Japanese proposals for standardization made to IEC, ISO, ITU, IETF, etc., will be reinforced and the further cooperation and interaction in the Asia region will be promoted, to bring about strategic activities for international standardization.
- (2) **Promote international standardization of ITS technology (National Police**

Agency, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transport)

By 2010, under the ISO and ITU, international standardization of various ITS technologies will be promoted in such ways as the standardization of information communication technology used for the driving safety support system enabled by infrastructure coordination, and standardization of common bases for Internet ITS and dedicated short-range communication (DSRC) systems, etc.

(3) Global dissemination of digital broadcast systems (Ministry of Internal Affairs and Communications)

An internationally disseminating broadcast system that is an extension of our country's digital broadcast system will be considered for developing countries, in order to contribute to the early implementation of digital broadcasting in foreign countries. With the aim of holding verification tests between FY2007 and FY2009, the standardization of the international disseminating broadcast system will be promoted.

(4) Global dissemination of sea equipment and marine radio equipment (Ministry of Internal Affairs and Communications, and Ministry of Land, Infrastructure and Transport)

Deliberations will be held between FY2007 and FY2009 in regard to the establishment of technical standards of IT utilizing sea equipment and corresponding installation requirements for vessels, and the adoption of universal design in sea equipment. With these results, suggestions will be made to the International Electrotechnical Commission (IEC) and the International Maritime Organization (IMO) to work toward international standardization/canonicalization. By FY2010, deliberations will also be held for technical standards of newer marine radio equipment that utilize IT, etc., and suggestions will be made to the ITU, IMO, etc., to promote international standardization.

Increase transmission of IT-utilizing tourist information in the field of tourism.

The revitalization of local tourism and the tourist economy, the global dissemination of Japan's various attractions, including Japan's rich cultural heritage, and the enhancement of mutual international understanding will be actively promoted.

<Priority Policies>

(1) A tourist information system utilizing IT (Ministry of Land, Infrastructure and Transport)

Starting FY2006, efforts to build a comprehensive tourist information system that links various information delivery channels, from IT equipment, such as mobile phones, to guidance signboards and pamphlets will be promoted, and verification tests that will provide local event information and disaster prevention information to domestic and international tourists will be conducted.

(2) The Visit Japan Concierge Website (tentative name) (Ministry of Land, Infrastructure and Transport)

With the aim of developing the "Visit Japan Concierge Website," an information system that overcomes language barriers and is easily accessible by foreign visitors, includes information search/reservation functions, and is suitable for planning independent tours, during FY2006, efforts will be made to improve user-friendliness on the website, enhance quality and quantity of information contents, and strengthen search capabilities.

3.2 International contribution by providing problem-solving models **—Contributions to other Asian countries using IT—**

<Basic Aspects>

As the world's most advanced IT nation, and in order to take an appropriate role in international society, Japan will lead the world by launching and providing benefits from problem-solving models that utilize IT, in order to solve social issues that all nations, including Asian countries, share. At present, efforts towards economic partnership agreements among Asian countries have been vigorously implemented, and active circulation of people, goods, money, services, and information within the area can be further expected. To realize effective and secure circulation of the above, with its leading-edge IT applications such as wireless technology, electronic tags, and IC cards, Japan is required to proactively contribute to the development of Asian economies through IT. Furthermore, active contribution will be made to solve issues, such as improving waste traceability systems and disaster prediction/disaster information provision, by utilizing IT. Japan will also actively pursue the development of multi-linguistic processing in the Asian region to eliminate the digital divide, and effectively handle the diversity of languages and culture in the area.

In bringing about IT cooperation, it is imperative to consider each country's conditions, such as infrastructure development state, IT proficiency, and individual pressing issues, to implement measures in fields and cooperation styles that are suitable to each country. For this purpose, a strategic and comprehensive program for cooperation with Asian nations will be drawn up and promoted, through bilateral and multilateral policy dialogues, etc., to exchange information and opinions.

Promote strategic and comprehensive cooperation in the IT field.

For mutual growth of our country and other Asian nations, a comprehensive IT cooperative program will be designed and promoted, in which related ministries and cooperating institutions collaborate in such ways as the promotion of the Asia IT Initiative,

etc. And through close coordination with local ODA task forces, a prompt and smooth process will be realized, from planning to implementation of the cooperation project.

<Priority Policies>

(1) Planning strategic IT cooperation in Asia (Cabinet Secretariat, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, and other related ministries)

By utilizing collaborative measures between related ministries and cooperating institutions, such as the Asia IT Initiative, and through research on computerization measures taken by each Asian country, bilateral/multilateral policy dialogues, exchange of information/opinions with local ODA task forces under close cooperation with related ministries, a strategic and comprehensive program in the IT field that combines various different methods, such as financial assistance or technical aid, will be created.

In addition, the establishment of APIS2010! (The Future Vision of the Asia Pacific Information Society), and exchange of information and opinions through Do Site (Digital Opportunity for Global Community) will be proactively implemented.

(2) Fostering IT human resources in Asia (Cabinet Secretariat and related ministries)

In order to support the fostering of IT human resources and the expansion of business dealings with Japan in Asian developing countries, such as the Philippines and Vietnam, human resource development operations in the localities or through the use of Japanese higher education facilities will be promoted, with consideration of utilizing the OSS (Open Source Software) curriculum. Furthermore, in regard to skill standards of the Information Technology Engineers Examination, support will continue to be provided to Asian nations and a foundation for mutual exchange of IT personnel will be created through recognition of each other's IT engineers examination skill standards, and support of

cooperation between Asian countries for the Information Technology Engineers Examination and in efforts to foster IT personnel, etc.

(3) Promote the Asia Broadband Program (Ministry of Internal Affairs and Communications and other related ministries)

By 2010, in order to promote broadbandization in Asia, following the Asia Broadband Program (established March 28, 2003), measures related to the spread of broadband and developing its network infrastructure will be implemented.

Establish IT utilization models (such as for the smooth circulation of people, goods, money, services, and information utilizing IT) in Asia
The efficient and safe circulation of people, goods, money, services, and information in Asia will be realized through the use of IT.

<Priority Policies>

(1) Disaster prevention

(a) The provision of earthquake and tsunami information (Ministry of Land, Infrastructure and Transport)

The coverage area for the provision of Northwest Pacific Tsunami Watch Information will gradually be expanded from FY2006. Additionally, earthquake observation data collected from overseas will be enhanced for the provision of more accurate Indian Ocean tsunami watch information and Northwest Pacific tsunami information.

(b) Observation of the earth's crust in the Asia Pacific region (Ministry of Land, Infrastructure and Transport)

By FY2015, an observation system of crustal movement will be built through the utilization of space geodesy technology, etc. (SAR interferometry, VLBI observation, GPS observation, gravity observation) to minimize loss of life as well as assets from natural and man-caused disasters. The crustal movement accompanying Pacific plate movements, earthquakes, and volcanic eruptions will be

monitored and the obtained information will be provided to disaster prevention agencies in each country.

(c) Support the development of disaster prevention transmission systems (Ministry of Internal Affairs and Communications)

Our country's multiple-addressing municipal disaster prevention government radio transmissions systems and broadcast systems are effective information propagation methods during disasters, and the validity and necessity of these systems will be communicated to other countries at various opportunities during FY2006, such as at international conferences and policy dialogues.

(2) Environment

(a) Promote model businesses to improve international waste traceability through IT (Ministry of Economy, Trade and Industry, and Ministry of the Environment)

<See II. 1.2 An environmentally-friendly society that utilizes IT

(1) (a)>

(3) Management of the movement and circulation of people

(a) Tighten international passenger procedures by utilizing biometrics while securing convenience (Ministry of Justice, Ministry of Land, Infrastructure and Transport, Ministry of Economy, Trade and Industry and other related ministries)

<See II. 1.3 The world's leading safe and secure society (5) (c)>

(b) International implementation of the Asia Ubiquitous Platform technology (Ministry of Internal Affairs and Communications)

In order to create a communication platform that enables fast and safe global traceability through electronic tags, the technology to speed up data distribution in an environment where databases are dispersed in a wide area internationally, and multilateral verification technology that allows access by persons of any country even after moving to different countries will be realized by 2007.

- (c) **Deliberations on the realization of safe and efficient international physical distribution through the utilization of electronic tags, etc. (Ministry of Internal Affairs and Communications, Ministry of Land, Infrastructure and Transport, and other related ministries)**

In order to attain both safety and efficiency in international physical distribution, verification tests will continue to be implemented under the collaboration of related ministries regarding import and export between the United States and Asian nations, and specific promotional measures to utilize electronic tags in physical distribution operations will be considered.

Eliminate the digital divide, which is created by the diversity of languages and cultures in the Asian region

Eliminate the digital divide in the Asian region, which is created by the diversity of languages and cultures.

<Priority Policies>

- (1) **Development of multi-linguistic processing and OSS foundations in Asia (Ministry of Economy, Trade and Industry)**

Research and cooperation as regards multi-linguistic processing will be implemented through the utilization of OSS (Open Source Software), to correspond to the multi-language environment in Asia and allow the smooth circulation of information in mother languages. Starting FY2006, deliberations will be held on the research for the current state of multilingual capabilities in Asia and the promotion of research and cooperation. The focus country for joint research and cooperation in regard to multi-linguistic processing will be set, and an OSS verification test in the local language will be conducted. Furthermore, cooperation with respect to OSS-related technology, human resource development, and standardization will be promoted, and symposiums will be held with the aim of exchanging information on the OSS usage situation in various countries and technological developments.

- (2) **International cooperation by way of Global Mapping development**

(Ministry of Land, Infrastructure and Transport)

By FY2007, in co-production with other countries, our country will lead the development of Global Mapping, fundamental geographic information of the world, to help in solving global environmental issues.

(3) Support the development of information communication environments to eliminate digital divide (Ministry of Internal Affairs and Communications)

In order to eliminate the serious digital divide in the Asia Pacific region, support will be provided to develop telecenters in rural areas and promote pilot projects, to contribute in such ways as creating opportunities to utilize IT.

Additionally, for the diffusion of broadband in the Asia Pacific region, the fostering of human resources necessary in the development of a competitive environment toward broadbandization, will be supported.