

e-Japan Strategy

July 2, 2003

IT Strategic Headquarters

I. Philosophy

Japan, a thriving industrial society in the 20th century, now must face the task of re-creating society based on a new set of values for the IT age. Through the strategic utilization of IT, our aim is to realize an energetic, worry-free, exciting and more convenient society. In this society, people will be connected to each other—regardless of geographic or physical constraints—by a web of knowledge and information which will make life more stimulating, convenient, and worry-free.

In order to create this new society for the 21st century, the existing system needs to be boldly improved and enhanced in a number of ways so that we will be better able to promote those industries that will take on significant roles in the new era. Japan, in addition to having a sophisticated culture and highly technological society, has an educated and hardworking populace that is ready to take on these new challenges. The basic information and telecommunications infrastructure, which this new society will be based on, has already been laid. Therefore, the task ahead is the expansion and efficient utilization of various IT systems—in the process becoming a model to the world of a new 21st century style society and economic system.

e-Japan Strategy II is a blueprint of the second phase of Japan's national IT strategy which presents various new policies for the practical application and implementation of Japan's IT infrastructure and advanced technology. The strategy is offered as a national goal which both the government, as well as the entire population, should strive to achieve. And we believe that its successful implementation will create a set of new values and a new culture appropriate to the 21st century that will make Japan one of the most culturally and technologically advanced nations in the world.

1. Japan's Commitment to the IT Revolution and Future Challenges

Evolution from “First Phase: IT Infrastructure Development” to “Second Phase: Effective IT Utilization”

It has been two years since Japan's first IT strategy plan, e-Japan Strategy, was presented to the public. Since that time much work has been done in the way of infrastructure development, and Internet use among the general population has become increasingly widespread. The Establishment of the Environment for Internet Utilization target of providing high-speed Internet to 30 million households and ultra-high-speed Internet access to 10 million households was achieved. In addition, Japan has the lowest high-speed Internet connection rate in the world, with more

than 7 million households subscribing to Digital Subscriber Line (DSL) service. Great headway has also been made in the development of systems for the better facilitation of e-commerce and e-government. Much has been achieved in the past two years. Therefore, we can say that we have successfully carried out most of the goals of the first phase of Japan's IT strategy plan, and are now ready to move ahead to the second phase of Japan's IT Strategy.

In this second phase, we will begin to utilize the infrastructure which was established during phase one to actively transform many of our social and economic systems. As the early enthusiasm which carried us forth through phase one cools into the reality of living in the IT age, we consider this to be the ideal time to implement phase two of our IT systems strategy. While deflation in Japan continues, the truly effective utilization of IT has only just begun. There are some who are not optimistic about the IT revolution and insist that it will not be the panacea that the Japanese economy is waiting for. However, looking back at the history of mankind, we see that social systems have advanced at times when prices had fallen due to a significant improvement in production through some technical innovation. In the same way, we believe that we can transform our socioeconomic system to one more suitable to the new era by first strategically unlocking the full potential of the Japanese people for the task at hand and then implementing the necessary policies for the effective utilization of IT.

2. Strategic Plans

For realizing an energetic, worry-free, exciting and more convenient society through the effective IT utilization

Our definition of a society that is suitable to the 21st century is one which is vibrant and more convenient and where people can lead safe and stimulating lives. First and foremost, for the society to be convenient, the economy must be strong. Through the active use of IT, individuals¹ will reach the limits of their potentials through the worry-free access and exchange of a wealth of knowledge and information. In this way, as individuals expand their potential; the global competitiveness of our domestic industries will also be stimulated and strengthened by the flowering of this new culture.

¹ In this Strategy, the definition of "the individual" is based on the concept of the IT end user, and includes individual users, industries, NPOs, public institutions and local communities.

One example of the improvements that the new IT society will bring can vividly be seen in the medical industry; an industry which is becoming increasingly important due to Japan's ageing population. By increasingly working online, medical institutions can work together to promote more patient-centered service through the better sharing of patients' medical data. They will also be able to offer more services online. In this way, patients will receive better, more patient-specific service, and the medical institutions themselves will be able to operate more efficiently. This means that both parties will enjoy greater benefits in terms of convenience and peace of mind. In addition, by efficiently utilizing resources and energy through effective IT utilization, we will be able to create a more sustainable society which has less impact on the environment. This will also bring about increasingly peace of mind. Likewise, already known for their world-wide competitive edge, Japanese TV and computer games, comics and Japanese animation, will also see a boost with the more effective utilization of IT. Nurturing these industries, as well as improving the network frame which they are distributed on, we will be fostering the representative Japanese industries for the next century. These industries, which will be both new, and at the same time in line with the traditional culture² of our country which we are so proud of, will in turn bring forth a new set of values to move people. In this way, a social system suitable to the 21st century will develop, which will have a profound impact on the government, various industries and organizations, creating a more energetic and vibrant society.

Effective IT utilization strategy: structural reforms and the creation of new values

To create this new society, first and foremost, Japan needs to carry out structural reforms. This means cutting out wasteful or redundant aspects of the existing system to better manage resources. If we do this, the private business sector will then be capable of re-building a lucrative base, at the same time the government will be able to re-organize the system to better maximize cost efficiency. Japan has various management resources that we can boast to the world, such as high-tech technology, an elaborate social infrastructure, and a sophisticated population and culture. However, in most cases, these resources are not being effectively managed. What is needed is not just introducing computers into the workplace or into schools, but rather to remove any barriers that hinder the free-flow of information. By going beyond the existing organizational framework to re-define the business process, we can then revitalize the Japanese economy, regaining our competitive edge.

² Film, theatre, the arts, fashion, and cultural affairs are all included in our concept of Japanese culture.

At the same time, we need to direct our energies toward the creation of new values. These new values will be essential for the creation of new industries and markets, and the first thing Japan needs to do is to lead the world in creating a ubiquitous network. This network will serve to not only connect people together but will become so seamless as to connect people with goods, as well as to connect the goods themselves together. New industries and services will be created based on the bold inspiration of this unique IT environment. And, these in turn will change our concept of learning, entertainment, and social interaction, eventually giving birth to a new culture with its own set of new values. It is these new values, which will become the foundation of a revitalized Japan.

The point of view of the individual and new international relations

In order to implement the above reforms, we not only must take into account the logic of service and suppliers' side, but we also need to understand the point of view of the individual. Our task, then, is to consider just how much private industry and government can advance utilizing IT, at the same time considering what effects these technical advances will have on medical, labor and other such activities of "the individual." Our analysis in the end must take into consideration what impact these new technological developments will have on the end user. From there, we can go on to make the policies necessary to reform the social system.

At the same time, it is important for Japan, being geographically part of Asia, to develop 21st century-appropriate new international relations in order to better capitalize on the strengths of the region as a whole. In the various fields of IT, it will become essential that Japan forge collaborative relationships with her neighbors, developing these relationships in various dimensions. Doing this, we strive to make the Asian region the most prosperous region in the world, in which all countries are integrated politically and culturally at the very highest levels. At the same time, it should be a place where the various cultures and values of the region can co-exist peacefully.

Building blocks of the strategy and the government's role

Based on the Strategic Plans, described above, chapter two will focus on seven main areas which serve as leading examples in the promotion of effective IT utilization. It will also discuss specific policies concerning structural reforms and the creation of new values and their expected merits. Steadily creating new policies for the effective utilization of IT which produce real results in areas which the general public feels strongly about is the first step. Thereafter, we expect the reforms to filter outward

having an impact on the society at large. In chapter three, we make mention of the new international relations, as well as discuss policies we deem necessary to develop infrastructure for the new IT society.

The policies referred to in chapters two and three are based on the concept that the private sector has a leading role to play with government support in these reforms. The government, in turn, defines—and limits—its roles to: 1) furnish overall direction; 2) implement regulatory reforms and competition policies (focusing on market competition); 3) motivate activity of private sector; 4) implement minimum investments and gap remedies, as well as guarantee security; and 5) promote more efficient government and the efficient distribution of resources.

In order to better clarify the roles of the private sector and the government, policies and targets are listed by role in the last chapter, chapter four.

3. IT Strategic Headquarters' Systems Implementation

The promotion of the IT revolution is a high priority issue of the government. The IT Strategic Headquarters was set up to formulate strategies and policies, provide general leadership, as well as implement policies which tear down bureaucratic compartmentalization. In formulating policies for the e-Japan Priority Policy Program, at the same time we incorporate new measures from e-Japan Strategy II, we also need to step up the progress of those measures from phase one which are currently being implemented. In addition, the overall scope and focus of the program needs to be narrowed with policies prioritized. During the budgetary request process, the IT Strategic Headquarters will responsibly implement non-redundant investments practice and priority decision making based on past policy evaluations. Furthermore, in the process of implementing the new policies, the Headquarters will implement project progress management as well as post-project evaluations.

In addition to the above, the IT Strategic Headquarters needs to strengthen its main role, especially with regard to policies which are implemented laterally by ministries and the cabinet office. This needs to be done by generally overseeing the specific ministries and the cabinet office involved so that we can secure the consistent and efficient implementation of lateral policies. Moreover, when analyzing the implementation status of specific items of the Basic Law on the Formation of an Advanced Information and Telecommunications Network Society (IT Basic Law), we should keep in mind the necessity of reinforcing roles.

The ultimate success or failure of this e-Japan Strategy will be determined by evaluating the implementation status of the various policies, comparing their status to the performance goals. For this purpose, we will establish an evaluation agency under the umbrella of the IT Strategic Headquarters. This agency will consist of specialists from the private sector, including some members from the Expert Study Group Committee on Future IT Strategy. In addition to evaluating policy implementation from the perspective of the private sector, it will make policy proposals and perform comparisons with the systems and policies implemented in other countries.

The structural reforms and creation of new values, which are the philosophical underpinnings of the new reforms proposed in this strategy, are shared by the Council on Economic and Fiscal Policy where they are considered to be one of the keys to restoring the overall health of the Japanese economy. Of course, while regulatory reforms account for a central part of the new strategy, it goes without saying that the strategic development of technological and scientific advances will contribute tremendously to creating the infrastructure necessary for the new IT society. The IT Strategic Headquarters will closely cooperate with the Council on Economic and Fiscal Policy, the Council for Comprehensive Regulatory Reform, the General Council on Science and Technology, and other related councils and agencies for policy proposals and implementation. Information will be openly shared between agencies, and respective council and agency roles will be strengthened to increase overall administrative effectiveness.

In the process of implementing the policies described in the strategy, it is essential that we vigorously promote competition policies which are based on the strict and appropriate enforcement of competition laws centering on the Antimonopoly Laws of the Fair Trade Commission and backed up by the professional advice of experts. In addition, the various ministerial officials in charge of these areas must not only work to develop fair competition rules, but also work to promote new entries into the market by strengthening post-implementation regulation principles.

Finally, the IT Strategic Headquarters, in implementing the policies contained in this new strategy (e-Japan Strategy II), along with those contained in first one (e-Japan Strategy), will be constantly working not just toward our main aim of turning Japan into the most advanced IT nation in the world by 2005, but we will be working toward maintaining this edge indefinitely into the future.

II. Leading Areas in the Promotion of Effective IT Utilization

Seven leading areas to be improved by effective utilization of IT where the private sector takes the leading role with government support

The promotion of the effective utilization of IT will bring about the means for creating mechanisms that will bring great societal benefits, and make our aim to create an energetic, worry-free, exciting and more convenient society a reality. With these goals in mind, this chapter will outline seven important areas—all areas which have direct impact on the general public—where IT can be more strategically utilized. The seven areas are: 1) medical services, 2) food, 3) lifestyle, 4) small and medium enterprises financing, 5) knowledge, 6) employment and labor, and 7) public service.

Improvements brought about in these fields by both private sector and governmental efforts will reap great benefits for the general public; including the reducing of wasteful spending and of waiting times for services; realizing a more secure and convenient living environment; and realizing a better ability to make the most of human resources for finding the right person for the right job. At the same time, companies will also be better able to receive efficient fund procurement; as well as achieve productivity gains through improving the business process. Finally, we expect to see the creation of new markets and services by adding higher values, which will help bring about a recovery in our international competitiveness. Policies for the effective utilization of IT will be first implemented in the above seven areas, which will serve as leading models for the future. The expected positive results will then be demonstrated to the public before expanding the policies into other fields.

Creating a positive cycle through effective IT utilization: structural reforms, better resource allocation, and the creation of new values

In order to implement the above improvements, it needs to be demonstrated how the eventual benefits will outweigh the initial investments made, and specifically in what ways these benefits will enrich our lives. Because we believe the benefits brought about by the strategy policies should benefit the entire nation, we therefore discourage the use of IT systems for self-centered profit alone. The government, in line with the private sector, will implement various IT-related reforms which will tackle such issues as the elimination of redundant investments, the securing of interoperability among systems, the effective utilization of resources, and infrastructure improvement in an environment which is constantly changing. The government will help see that the benefits achieved by these reforms are directed into the creation of new value-generating industries and markets. The more such high-value added industries and services can be created, the more

employment and economic activity will be stimulated.

To create this positive cycle of structural reforms and the creation of new values through effective utilization of IT, a system which will allow us to flexibly allocate human and financial resources is crucial, and we believe that the effective utilization of IT has an important role to play in this. The government and private sector, by openly exchanging human resources and information, will be better able to raise the level of their management practices and retain their competitive edge internationally.

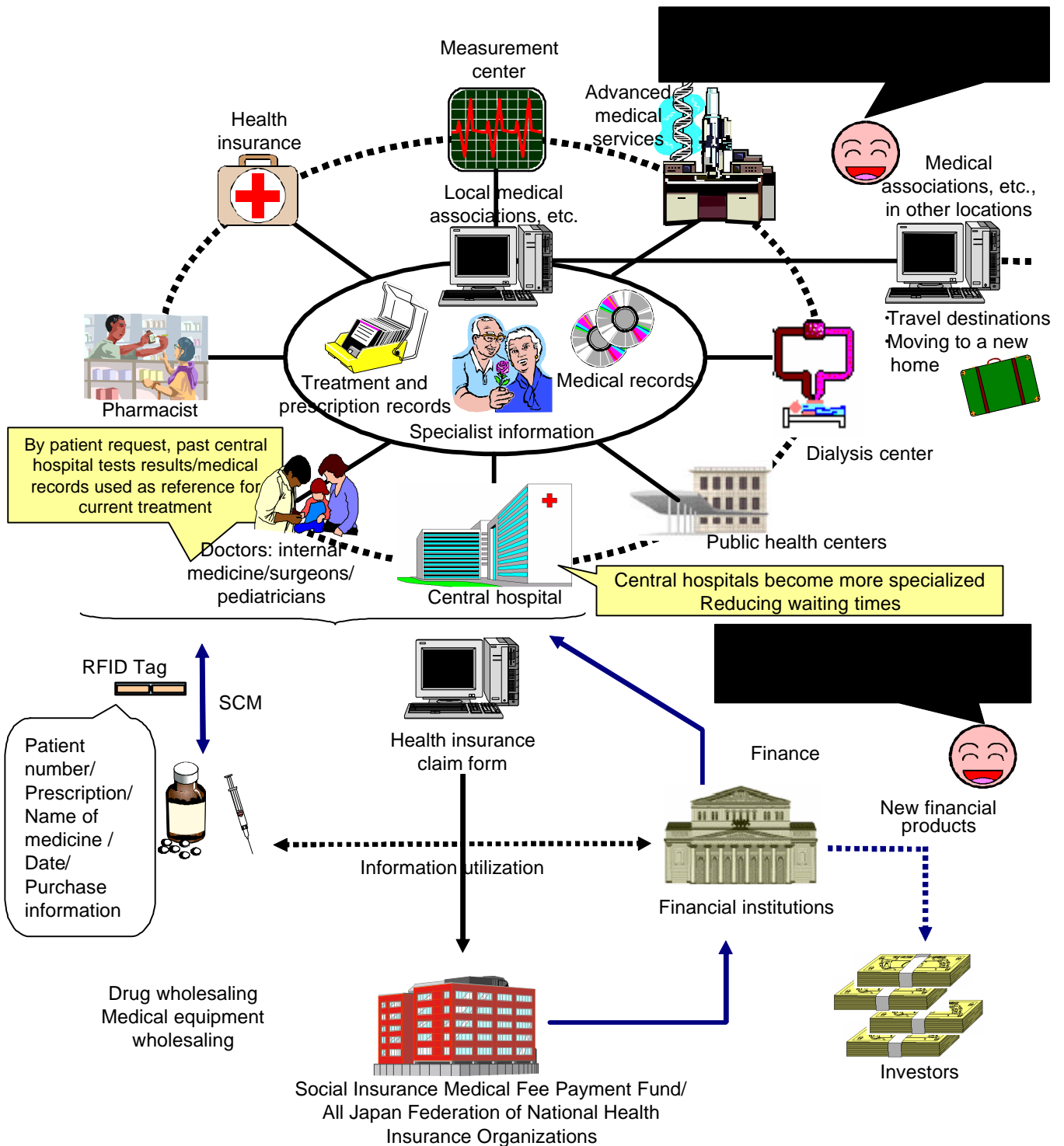
Establishing an appropriate post-implementation evaluation system

The public needs to be made aware in a clear and easy manner of any social issues pertaining to these new policies and their proposed solutions. Hence, for each area the following will be clearly presented: “Policy Objectives,” “Policies,” “Possible Problems and Their Solutions,” and “Key Evaluation Points.”

We believe it is essential that implemented policies be properly evaluated and reviewed as appropriate. In addition, we believe that effective policy implementation evaluation needs to be performed through measurable cost effectiveness and asset utilization efficiency indexes and benchmarks.

1. Medical Services

Medical institutions work together to offer patient-centered service.
Health care is improved by inexpensive, safe and worry-free medical services.



Policy Objectives

1. A system is to be set up and maintained that provides comprehensive health and medical services to the general public. It should be a user-friendly system that will allow individuals to access information regarding their health throughout their entire life.
2. The current medical system will be reformed to create and maintain a system that is patient-centered whereby patients can receive consistently excellent treatment at multiple hospitals and also be able choose an appropriate hospital based on the advice of medical experts. In order to do this, by 2005, a healthcare service—appropriate authentication system is to be established and the transfer and external saving of electronic medical records by medical institutions is to be quickly approved.
3. Costly duplications (medical tests, medications, clerical work, etc.) are to be reduced in order to improve the management efficiency and medical service quality in medical institutions.
4. The cash flow among medical institutions is to be improved by streamlining the medical service billing process, making it more efficient. From FY2004, the medical service billing process system will be moved online, and by 2010 a system will be in place that can handle 100% of the billing process for medical institutions which choose to make use of the online system.
5. Through maximum utilization of IT, the medical services will be made available to remote mountainous areas and isolated islands.

Policies

1. Taking patient privacy and network security into adequate account, a system will be established that allows medical and health institutions to utilize and share patient medical information, as appropriate. Medical records will be externally savable and transferable online. For instance, when the authentication system infrastructure is up and running, a locally based family doctor will be able to refer to his patient's medical records from a central hospital by accessing them online. In addition, a system will be created whereby the data can be used for preventive medicine and epidemiological studies, adequately protecting the personal data and patient's privacy.
2. A system will be created that provides information to the general public on medical institutions (number of patients treated yearly, types of medical services, etc.) which has first been verified for accuracy by a third party agency.
3. A system will be established that can accurately and quickly verify the treatment details and process billing for various health insurance organizations. (By moving the billing system online, 1) the medical service billing system will become more streamlined and efficient; 2) medical bill claims will be collectable in a timely manner via financial institutions; and 3) financing will be made available via financial institutions using medical

bills (electronic health insurance claim forms) as security.).

Possible Problems and Their Solutions

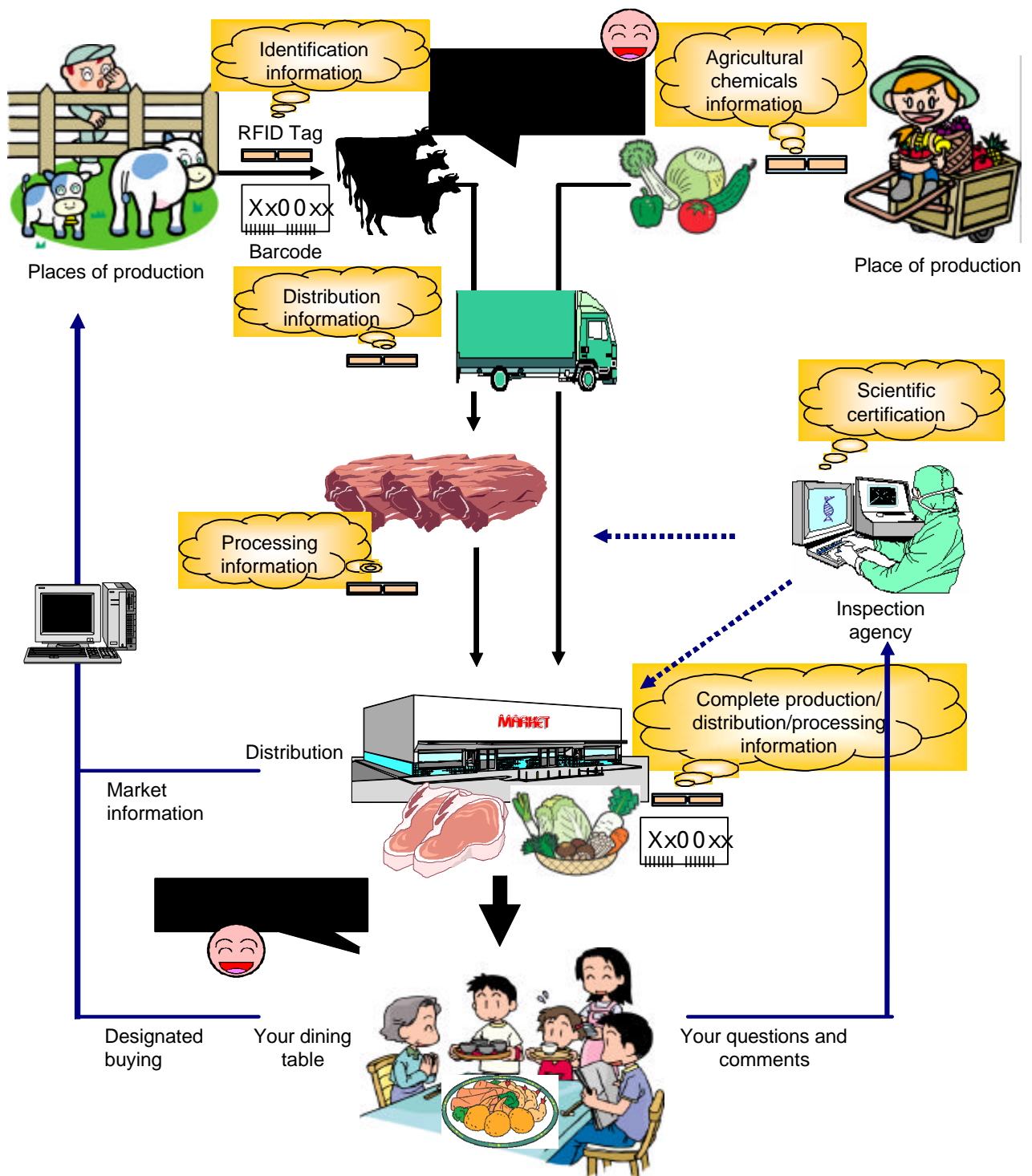
1. Codes will be standardized for items such as disease names and medications in order to help alleviate problems concerning interoperability in electronic patient information systems.
2. In order to establish a system which takes sufficient account of network security and patient privacy, the necessary measures will be taken for improving issues such as the security policies related to medical services and the guidelines related to personal information protection.

Key Evaluation Points

1. Has patient-centered medical service been achieved? Have medical services' improvements and the expansion of options been achieved?
2. Are medical institutions better able to provide higher quality medical services under more efficient business management practices?
3. Have the government administrative departments and corporate health insurance organizations been able to significantly improve the general health of the people of the nation? And, have they effectively been able to implement medical cost restraints; improve disease data-gathering; and implement fact-finding/measures in medical accident and malpractice cases?

2. Food

Connecting places of production with the dining table!
The future is not just about enjoying the way food tastes, but about being able to educate oneself on how food is produced, delivered, and sold. This is the future of worry-free food.



Policy Objectives

1. Our main objective is to make a rich and safe diet a reality whereby people can purchase food without any anxiety, choosing the foods they like with access to sufficient and reliable information, by accelerating the investigation process when unexpected problems occur concerning food, as well as speeding up the tracing and calling back of problem items.

To achieve these aims, by 2004, a system will be established which will enable us to trace the origin and movement records of all domestic cattle via individual identification numbers should BSE or other such incidents occur. By 2005, a system will be established which will enable us to confirm the production data for all domestic beef (excluding minced and chopped meat) via the Internet, etc. For foods other than beef, individualized traceability systems will be developed and supported as soon as possible.

2. By 2005, a system will be established which can consistently provide quality food to consumers at reasonable prices by implementing the following: 1) By getting approximately half of all food distributors to conduct transactions electronically, distribution costs will be reduced, such as for logistics costs and stock, and food distributors' competitiveness will be strengthened. 2) Develop efficient and firm agriculture, forestry, and fisheries management using information on consumer preferences and market through largely increasing IT utilization in management of agriculture, forestry, and fisheries business.

Policies

1. The necessary laws and systems relating to the management and circulation of individual cattle identification data for domestic beef will be established. For foods other than beef, the development of traceability systems which are food-specific appropriate will be supported. This system will be enabled to save information on the production, processing, and distribution of food, and this information will be immediately made accessible to consumers by request. In addition, information regarding this safe foods distribution system will be made public in the effort to see the Japanese system applied to imported food.
2. Establishment of a standardized system, such as EDI, will be supported and promoted to computerize the business of the food industry. In addition, agriculture, forestry, and fisheries areas will be encouraged to better utilize IT in managing their work, by introducing and promoting a system that will enable the easy-access of information on

consumer preferences. As one example, a remote monitoring system that utilizes IT will also be introduced and supported.

Possible Problems and Their Solutions

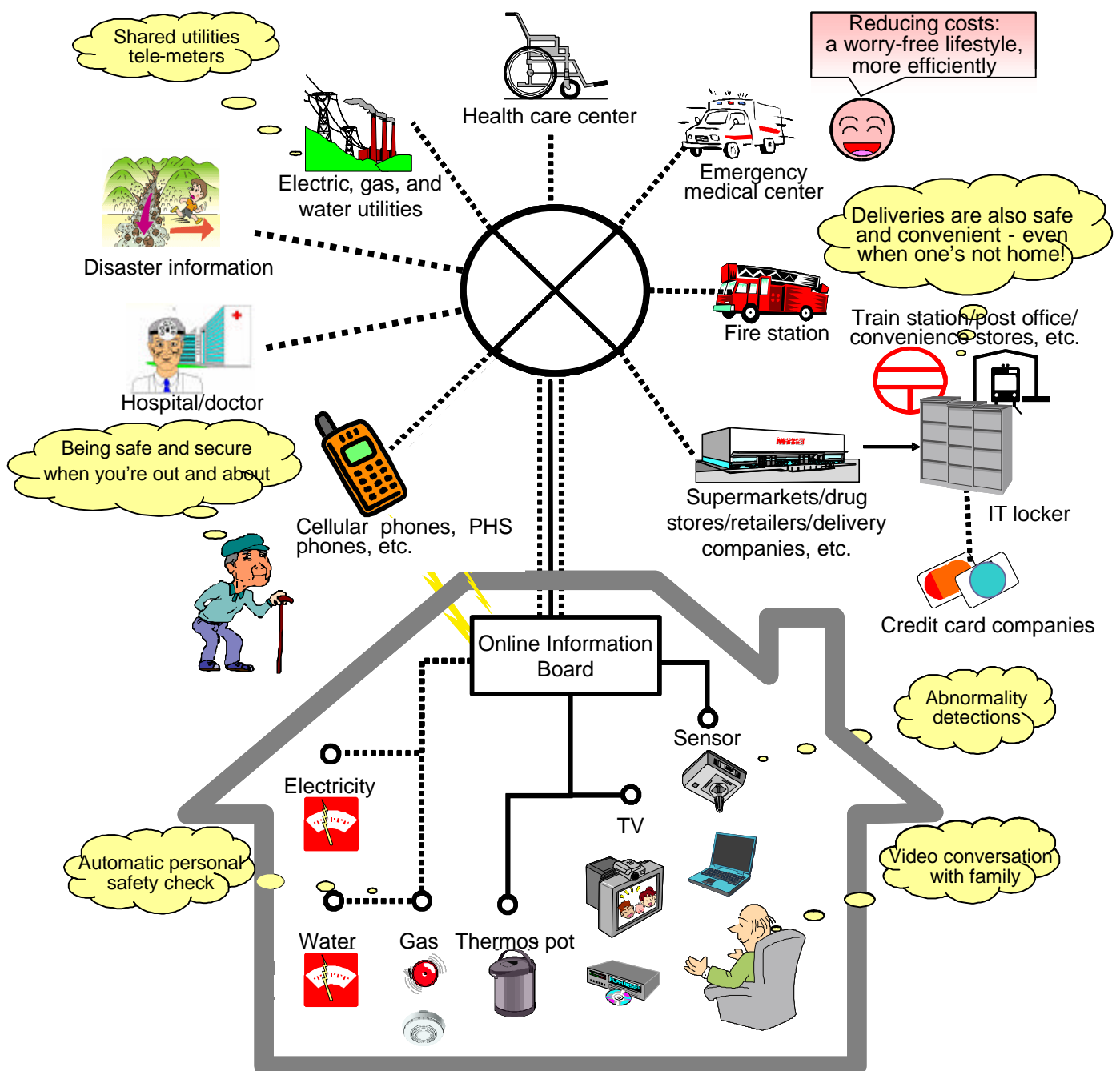
- 1-1. An operation system will be developed which will be interoperable between the localized production, processing, and distribution stages of the industry (including the standardization of information on products obtained via RFID tags, such as content, type and method of disclosure). Both the development and the management of the system will be supported, and in the course of developing such a system, particular attention needs to be paid to keeping costs down for data-entry and for tamper-proofing the system.
- 1-2. The establishment of a reliable third party agency will be supported through the provision of information etc., in order to evaluate traceability system management; help secure the reliability of information; formulate methods for troubleshooting and guidelines; and be in charge of outsourcing data-entry and inspections work.
2. It is necessary for the groundwork to be done in order to develop and diffuse a standard system which producers and distributors can then smoothly implement. At the same time, the promotion of better IT skills among food industry people is also necessary.

Key Evaluation Points

- 1-1. Are consumers better able to access sufficient and reliable information on food?
- 1-2. Have government administrative departments improved their methods for deterring the spread of problems in the food industry, as well as to improve their flexibility in following-up and investigating when such problems occur?
- 2-1. Have distributors achieved reductions in logistics and inventory-management costs to achieve better overall operational efficiency? Has this strengthened international competitiveness?
- 2-2. Have domestic producers strengthened their marketing strategy and have they been able to increase the brand value of their products? Has this strengthened international competitiveness?

3. Lifestyle

Even people who live alone are no longer alone!
This is the safe, warm, and convenient lifestyle
of the IT future.



Policy Objectives

1. A more secure and worry-free lifestyle for citizens will be attained, and the technology introduced should be so seamless with people's lives as to be unnoticeable. With particular attention to the elderly, home health care management and quality of living will be improved. (For instance, by FY2008 a remote video communication and personal safety check systems for elderly people who live alone will be made available to all households who request such service.) In addition, the service options available will be expanded for people in their homes to make life more convenient. (For example, tele-meters for gas, water, and electricity will start being made available by 2005, to be available nationwide to all households who request the service by 2008.)
2. Security will be maintained, reducing the costs to society by means of establishing an emergency communications system which can help reduce crimes (such as burglaries), accidents (such as fires), and large-scale disasters (such as earthquakes).

Policies

- 1-1 The development of systems whereby fire stations will be able to respond promptly in case an emergency is detected by the monitoring of living patterns, such as the monitoring of home appliances use. The development of systems will also be promoted which will provide continuous homecare management for the elderly employing a sensor system in the home.
- 1-2 The development of services which will increase our overall safety and convenience will be promoted by better cooperation among various services, centralizing service management, and optimizing the combination of services within and outside the home in ways such as the following: a) kitchen fire monitoring system and standby power shutdown which automatically activates when front door is locked; b) IT lockers that can be used to receive and pay for articles ordered online; c) various types of IDs, such as resident cards can be applied for and received at home.
2. The development of a social infrastructure will be promoted which will be better equipped to respond to disasters in ways such as the following: a) establishing an urgent message system utilizing IT; b) establishing a system which will better protect the safety of its citizens by improved sharing of information between disaster prevention agencies and ordinary citizens; c) creating a social infrastructure which will be better equipped to respond to large-scale disasters utilizing push-type IT systems for the automatic and instantaneous transmission of emergency information in cases of large-scale disasters.

Possible Problems and Their Solutions

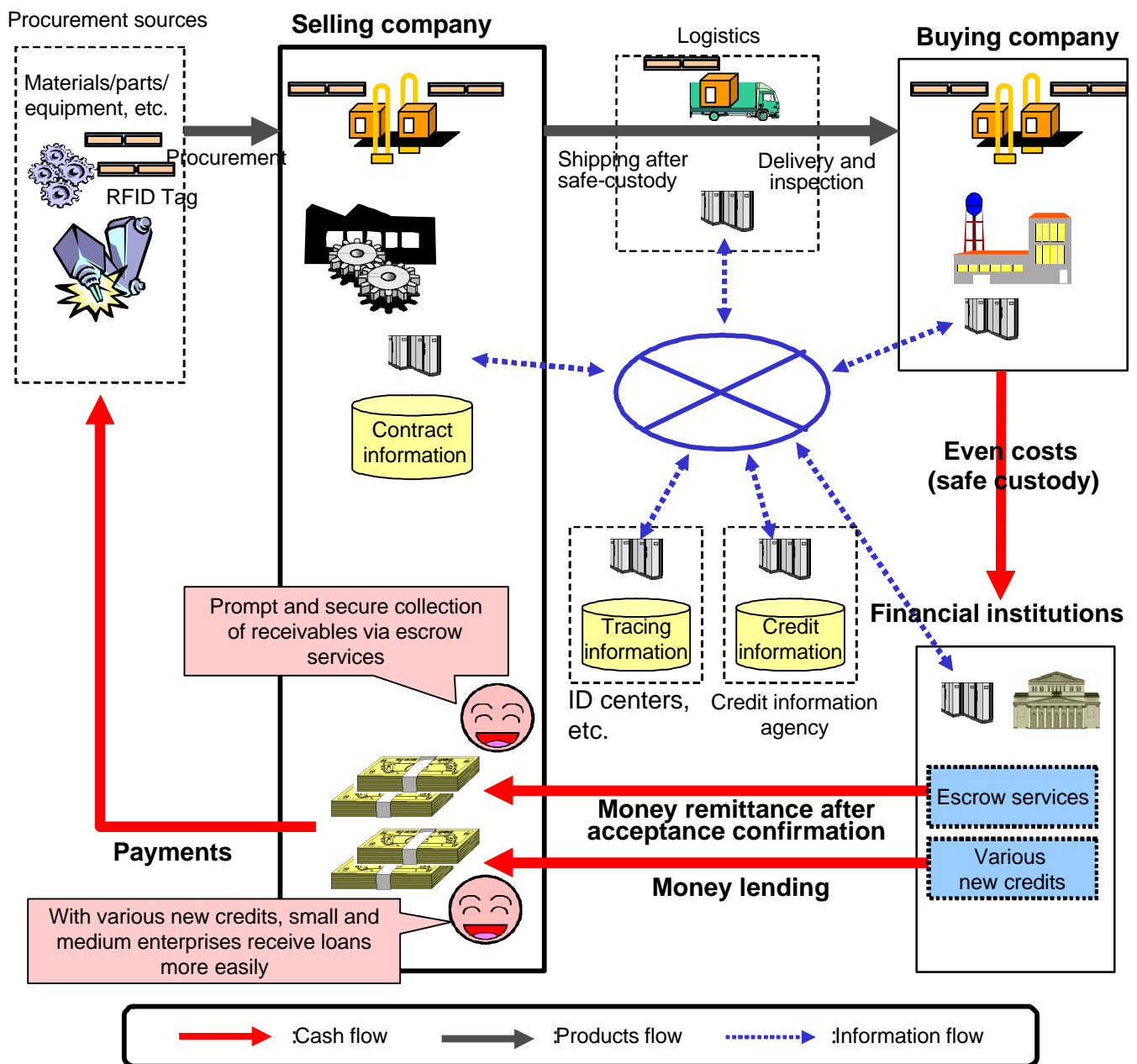
- 1-1. In order to reduce the cost of developing infrastructure for services such as the monitoring and control of home appliances, a system will be developed and promoted which can integrate the various home appliance data (with an information distribution board). This system will also be able to activate shared electricity, gas, and water utilities tele-meter, and the government, with consumer protection and the fair utilization of utilities information taken into account, will ease regulations concerning cost reduction of meters with appropriate cost sharing in mind.
- 1-2. In spite of concerns that the utilization of high speed communication over power lines in homes could affect wireless communication and existing broadcast networks, it will have a great impact on infrastructure development cost reductions, creating a user-friendly system, and will do much to promote effective home IT use. For these reasons, the use of such lines will be promoted which have been proven safe by feasibility tests, supporting research and development by the private sectors as well as making public the test results.
- 1-3. Since interoperability would be problematic in the case where companies established their own independent systems, technological standardization will be promoted to ensure the interoperability and interconnection among systems.
- 1-4. Due to the various new services being developed, concerns relating to privacy, reliability, and security are likely to become more of an issue than ever. Therefore, measures for consumer protection will be improved.
2. The developing of an infrastructure environment will be promoted that can handle urgent messages via cellular phones, IP phones, etc.

Key Evaluation Points

1. Have citizens' lives as well as their sense of happiness been improved? Specifically, through the effective utilization of IT, are improved security and health care services now available? Are citizens able to communicate easily with their families and friends who live in a remote area? Are citizens able to access and use convenient services at home?
2. Are businesses able to provide new services with ease?
3. Have the government's administrative departments been able to reduce costs for establishing a safe and secure society without lowering the quality of services? Specifically, have they been able to reduce costs for medical expenses and elderly support costs? Have they been able to reduce the social costs of crime and fire and other accident prevention within the home, and reduce the social costs of measures to prepare against large scaled disasters?

4. Small and Medium Enterprise Financing

**Funds efficiency operations are improved
so small and medium enterprises
can aggressively expand their operations.**



Policy Objectives

1. By implementing the following policies, a society in which small and medium enterprises can aggressively expand their business will be realized: a) improve fund procurement conditions by adopting various new credit options and simplifying procedures for receiving loans; b) improve corporate financial standings by reducing the risk of collecting receivables. (As part of the effort, credit guarantee paperwork will be processed online by 2005.)

Policies

1-1 The popularization of various new credit options utilizing contract information, etc., will be promoted

1-2 The online processing of credit guarantee paperwork between the agency handling it and the financial institutions, as well as the popularization of settlement services that electrically process the endorsement of drafts and discount functions (via the electronic bill service) will be promoted.

1-3 Escrow services which enable prompt and secure collection of accounts receivables will be promoted.

Possible Problems and Their Solutions

1-1. The standardization and computerization of contract information, credit records, tracing information, and other related information will be promoted so as to accurately evaluate the risks of making loans to the small and medium enterprises concerned.

1-2. Since the number of the financial institutions capable of processing electronic bills and credit guarantees online are limited, the environment will be improved for other financial institutions to introduce these services.

1-3 As the number of institutions that offer escrow services are limited, the expansion of this service will be supported by such means as re-examining, where necessary, the related systems, such as the Article Two of the Law Concerning the Regulation of Receiving of Capital Subscription, Deposits and Interest on Deposits (Investment Law), which, some people believe, form a hindrance to expanding escrow services. In addition, the necessity of supporting the service enhancement of delivery status tracing (tracing and checking packages via IT technology) will be examined.

Key Evaluation Points

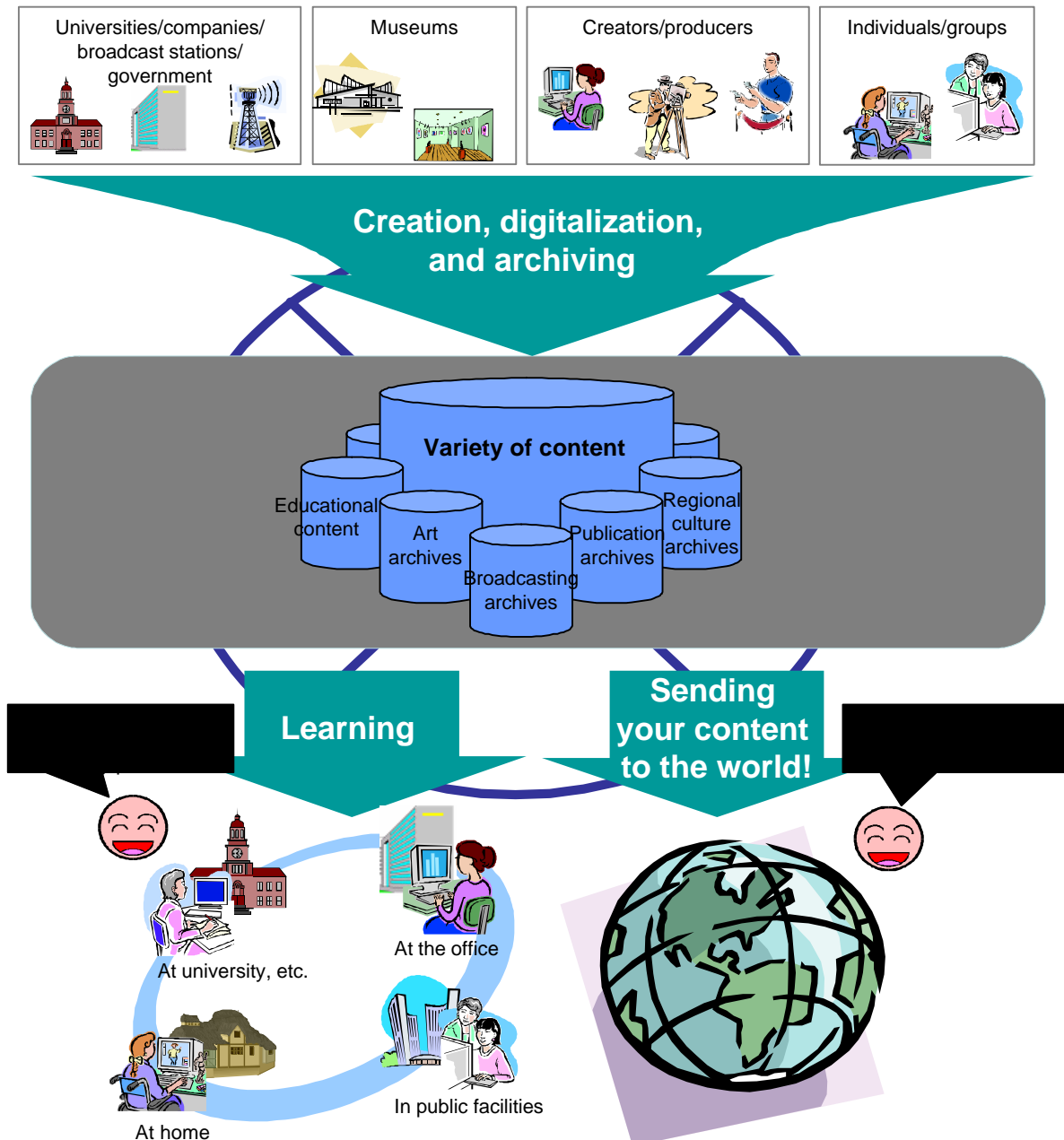
1-1 Have medium and small enterprises increased their sales opportunities (sales) by

aggressively expanding their businesses?

1-2 Have financial institutions increased their methods of granting credits and have they simplified their loan procedures?

5. Knowledge

Utilizing IT to cultivate more internationally-competitive human resources and to strengthen the international competitiveness of the content industry.



Policy Objectives

1. The international competitiveness of Japan's human resources will be improved within the international labor market by expanding the various available learning options to increase the abilities of individuals. (For example, an increase in the number of university and graduate courses available through distance learning via IT technology by FY 2005 to approximately three times that of what it was in FY 2001 is one objective.)
2. The digital content industry's international competitiveness and the understanding of Japanese culture by people in other countries will be improved by promoting a comprehensive effort to create high-quality content and the cultivation of new values through the better utilization of our intellectual resources. (For example, infrastructure development will be implemented which will enable broadcasting companies and content creators who desire to, to be able to deliver their content over the Internet. We aim to see commercial broadcasting programs on the Internet by the end of 2003, and by 2008, all other forms of non-commercial content).

Policies

- 1-1. The infrastructure will be improved which allows working people, etc., to efficiently and inexpensively access educational resources regardless of time or location utilizing IT.
- 1-2. Concerning specialists, such as lawyers, certified public accountants, patent attorneys, doctors, judicial scriveners, tax accountants, and other such specialists, an environment will be developed, in consideration of various technical and specialist distance learning opportunities including technical graduate programs for professionals whereby people can continuously enrich their knowledge through distance learning that utilizes IT.
- 2-1. The environment will be enhanced for compiling and producing content that will be admired throughout the world by maintaining the resources and the people with such talent and ability.
- 2-2. The infrastructure in which content is available will be enhanced while protecting intellectual property rights and facilitating its smooth and open dissemination.
- 2-3. The digitalization and archiving of content will be promoted from broadcasting, publication, museum collections, libraries, information from the World Wide Web, and sources of special cultural interest for use domestically and overseas.

Possible Problems and Their Solutions

- 1-1. To realize interactive distance learning, the facilities (soft and hard infrastructure) will

be improved that will enable distance-learning options to be set up throughout the country which are inexpensive and make use of interactive high-definition video.

1-2. In order to develop and maintain a system whereby professionals can continuously enrich their knowledge in their field through distance learning via IT technology, various education options will be expanded and enhanced in accordance with the characteristics of each field, by for example, developing an environment whereby students can obtain all the university credits they need via distance learning.

2-1. In order to strengthen the competitiveness of content production, an educational environment will be developed which will continuously produce people capable of producing and creating in this field. Strong support will be provided to talented people in this area.

2-2. In order to develop a copyright contract system which will be appropriate in the digital content age, its systematic and technological framework will be improved and international cooperation and technological advances promoted.

2-3. In order to disseminate high quality archival content smoothly, technological developments in color and content quality and the standardization of archival terms will be promoted.

Key Evaluation Points

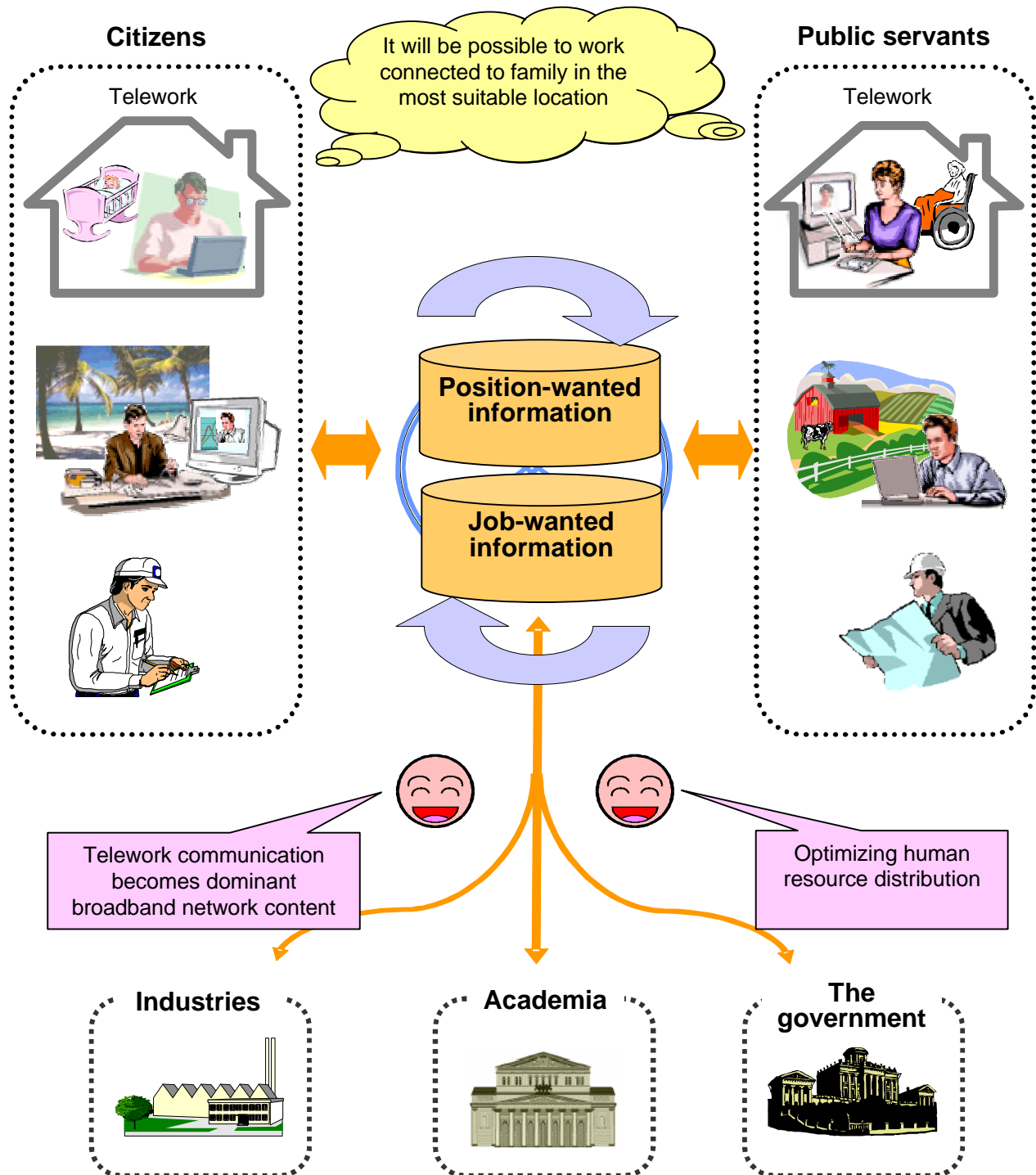
1. Are people now able to efficiently receive the learning they require?

2-1. Are content creators now receiving the appropriate rewards for their work?

2-2. Have content companies succeeded in increasing the quantity of attractive content by effectively utilizing intellectual property? And have they been able to expand the export of this content abroad?

6. Employment and Labor

Both life at home and life on the job will be happy
when your work style—or your job hunting—
goes the way you want it to.



Policy Objectives

1. By promoting electronic information exchange for job seekers and employees wanted, in addition to facilitating the better distribution of human resources, a society will be realized that allows each individual to exert his or her abilities in the appropriate job—securing the right person for the right job every time. By 2005, an increase in the number of persons who secure work via online job information to one million people per year will be achieved.
2. A society will be realized using IT that allows each individual to maximize their creative abilities as efficiently as possible through their work. This will come about using IT to assist people in finding the appropriate work arrangement according to their life plans. This will consequently contribute to the realization of a society where work is compatible along with household chores, child raising, and care for elderly people, and where men and women can work hand-in-hand together. By the year 2010, the government aims to have teleworkers¹ working under an appropriate working environment account for 20% of the working population.
3. Job opportunities will be created and expanded by supporting business start-up and business expansion utilizing IT. As a result, it will contribute to the facilitation of human resource distribution and broaden working arrangement options.

Policies

1. An electronically-based system will be established and expanded that will promote interactive and open human resource exchanges between the private sector and the government, as well as support the balancing of the supply and demand of human resources by efficiently collecting and providing job/position wanted information.
2. Industry will work to actively introduce in-house systems for telework and to develop a high security telework environment. In addition, ways will be examined in which an appropriate working system for telework can be implemented for public servants, at the same time developing the systematic infrastructure to bring it about.
3. An electronically-based system will be established that will simplify the necessary procedures, as well as to allow people to efficiently access information on business start-up and expansion. In addition, the necessary support will be provided to these activities such as providing information and consulting, and creating an environment which will better facilitate these activities (including SOHO).

¹ Teleworker is defined here as a person who works more than eight hours per week (regardless of time or place) using IT-related tools.

Possible Problems and Their Solutions

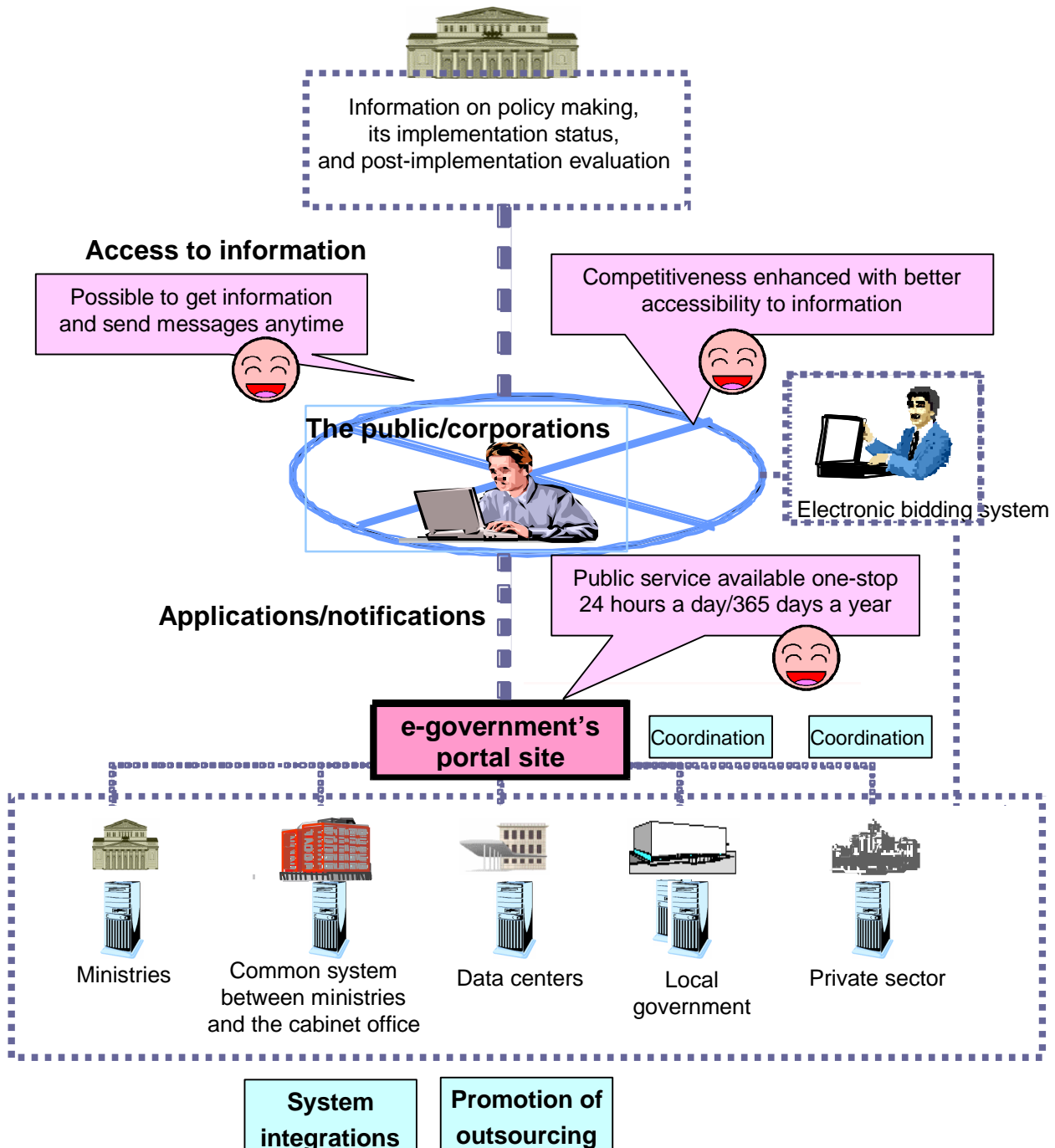
- 1-1. It should be ensured that the conventional lifetime employment work model does not form a hindrance to the more fluid distribution of human resources. In particular, the those systems which support lifetime employment, such as the conventional pension system, the tax system related to retirement pay, etc., need to be reviewed. The portability of fixed income types with regard to corporate pension funds will be improved. Neutrality also needs to be ensured within the system regarding the issue of retirement pay.
- 1-2. In order to promote more open interactive human resource exchanges between the private sectors and the government, policies will be examined to smoothly promote human resource exchanges as well as to revise regulations on the service of public servants, including regulations on dual employment. The above will be carried out maintaining the neutrality and fairness of the public services.
- 2-1. In order for companies to introduce telework, operational problems—such as an insufficient understanding and acceptance of telework, as well as labor-management issues—need to be worked out. Therefore, the expansion of telework will be supported by preparing a set of guidelines for companies to use (including security measurement and measures for health management).
- 2-2. In order for workers to maximize their creative abilities and to quickly adapt themselves to this changing environment of increasingly multifaceted types of occupations, the conventional labor regulations will be reviewed applying them to the telework model. We will also make reforms and add new measures where necessary.
3. Since the more fluid distribution of human resources in the IT age will necessitate the creation of a societal safety net, greater job opportunities will be expanded by supporting new business which will, in turn, create new labor opportunities.

Key Evaluation Points

1. Have job opportunities for the national public—on the right person for the right job basis? been improved? Has a varied, more flexible work system been made possible?
2. Has the environment for industries and government's more fluid and flexible utilization of human resources been improved? Have employees' productivity and creativity improved?
3. From an entrepreneur's perspective, have business start-ups and venture operations become easier? To be specific, have hindrances against business ventures been alleviated? Have the necessary information and advice become more readily available?

7. Public Service

**Eliminating overlapping investments,
enhancing government transparency, and promoting
people's participation in the political process.**



Policy Objectives

1. One-stop/nonstop 24 hour-a-day, 365 day a year efficient, high quality public services will be provided which will serve as the infrastructure for the strengthening of Japan's international competitiveness. By job outsourcing and reforming the procurement system, the operating effectiveness of the Administration and its services will be improved, at the same time controlling government spending. To achieve these goals, by the end of FY2005, a one-stop system enabling comprehensive service will be developed, as well as a government portal site, created to be user-friendly. In addition, through the implementation of operations analysis and the review of the operational process, plans will be formulated for the better optimization of existing systems and operations. This will be completed, at the very latest, by the end of FY 2005.
2. By making political, administrative, and judicial information available when necessary to the public, and having a system whereby citizens can voice their opinions, the government will be forming a society in which citizens can better participate.

Policies

1. Information on policy making, its implementation status and post-implementation evaluation will be made clearly available to the public. In addition, administrative portal sites will be improved in order to make it possible for the national public to participate with public administration, in cooperation with the related organizations. Local government will be requested to implement the same policies.
2. By linking e-government's portal site to the systems of the cabinet office, ministries, and local government, a one-stop service will be implemented where various procedures can be processed online at one convenient Internet location.
3. Learning from the management control practices of companies from the private sector, the effective usage of IT will be fostered by fundamentally revising its organization, existing services, and governmental institutions. This will be done maintaining interoperability with other systems, and local government will be requested to implement the same policies.
4. IT Investments will be standardized and streamlined, by integrating the investment process throughout the entire administrative agency. In this way, overlapping investments will be eliminated which are generated by the introduction of similar IT systems by other administrative agencies. Local government will be requested to implement the same policies.
5. A rule will be made to outsource work wherever possible to the private sector in order to achieve higher quality service at lower costs. In addition, various organizations of local government will be supported to implement joint development and outsourcing.
6. The examination will proceed concerning documents and reports which the private

sector has an obligation to preserve but is presently not authorized to save electronically. In cooperation with the private sector, the necessary policies will be reviewed regarding authorizing more documents to be saved in this way in view of social institutions as well as the technical aspects, and determine the policies in the course of FY2003.

7. Reforms of the procurement system will be promoted with the aim of streamlining procedures related to procurement, improving transparency, reducing procurement costs, and promoting procurement from venture companies. In addition, local government will be implemented to implement the same policies.

Possible Problems and Their Solutions

1. Because more advanced IT capabilities (such as operations analysis, information systems technology etc.) is crucial, professionals will be developed with specialist skills and non-governmental specialists will also be utilized. In addition, local government agencies will be requested to implement the same policies.
2. The management of job outsourcing will be optimized in order to protect personnel information and maintain security.
3. Because Japan hasn't developed an adequate system for the permanent storing of electronic data while preventing unauthorized tampering of the system and the accidental or purposeful deletion of documents, technological developments for implementing such a system will be pursued.

Key Evaluation Points

1. Is the public efficiently receiving high quality public services? (Including easy access to information on the government as well as a greater ability to make their opinions known.)
2. Has the government's development of further computerization contributed to the promotion of private sectors business activities? Through job outsourcing and the reforms of the procurement system, have business opportunities been expanded?
3. Were government administrative departments able to implement introducing IT without deteriorating their services to citizens and companies? Have they successfully improved both operating effectiveness as well as their services?

III. Infrastructure Development for the New IT Society

The IT Strategy infrastructure development outlined in the first phase, which the government has been implementing as a national priority, needs to be further stepped up, establishing the crucial social infrastructure for the effective IT utilization of the second phase. In addition to supporting the creation of new industries and new values suitable to the 21st century, the government aims to develop an environment that will allow more people to take advantage of these new values and industry-created services by means of connecting to secure and user-friendly ultra high-speed and high-speed networks via their computers, cell phones, TVs, etc. In order to achieve these goals, it will implement the following policies: “Information and Telecommunications Infrastructure Development for Next Generation;” “Development of a Secure and Reliable IT Environment;” “Promotion of Technology R&D to Create Next-Generation Knowledge;” and “Promotion of IT Human Resource Development and Education for the Era of Effective IT Utilization.”

In addition, we aim for Japan to develop new international relations via IT technology, in particular with our Asian neighbors, to stimulate industrial development and more long term stability in the region as a whole. We view this as being not only important, but as being essential as well.

1. Information and Telecommunications Infrastructure Development for the Next Generation

Policy Objectives

Broadband services will be aggressively developed in Japan by promoting the spread of ultra high-speed/high speed Internet access throughout the country. At the same time, through the development of the environment needed to popularize wireless Internet, efforts will be made to continue working toward forming an ubiquitous network which will allow digitalized information to be freely exchanged and shared by individuals enabling “anytime, anywhere anything access.”

- By 2005, the high-speed Internet access penetration rate will be raised to 30 million households, and the penetration rate of ultra high-speed access using fiber-optic cables to 10 million. This will be brought about by improving the quality of Internet content and services and by implementing the policies discussed in chapter two.
- By 2005, a general rule will be made that all public institutions—such as

administrative agencies, regional public organizations, medical institutions, schools, libraries, and community centers—be connected to the Internet via high-speed two-way networks (for the most part employing fiber optics technology). In this way, public institutions will be able to effectively utilize IT for their functioning, activities, and services.

- By 2008, an environment will be developed which will enable high-speed wireless LAN systems to be utilized throughout the country.
- By 2005, an environment will be established that will enable public as well as private automobiles, trains, and aircraft to be connected to a broadband network if desired.
- By 2011, the digitalization of terrestrial broadcasting will be completed and an environment developed that will enable digital broadcasting programs to be received throughout the country.
- By 2011, an environment will be developed that will enable digital broadcast-quality programs to be broadcast and received throughout the country.

Policies

- 1) The necessary regulatory reforms and competition policies will be implemented in order to provide an environment in which people can utilize ultra high-speed/high-speed Internet throughout the country. Special measures will be taken regarding those areas where it is not profitable to establish these services. In addition, the promotion will proceed of connecting public institutions with ultra high-speed two-way networks.
- 2) R&D will be implemented to work toward making high-speed power line communication network utilization possible. In addition, deregulations will be instituted for such technology which has been verified not to have an adverse on existing broadcast and wireless telecommunications networks. In addition, the active utilization of Internet teleconferencing and TV-phones, making use of image and sound technology will be promoted. In this way, a new interactive communication culture will be established by reforming regulations and practices which have, until now, prevented distance-conferencing, etc.
- 3) With the view of utilizing digitalized radio networks to help bring about the world's most advanced wireless network, the effective utilization of radio waves will be promoted across the private and public sectors, by implementing the following: a) effective utilization of radio waves based on strategic frequency re-allocations according to future demand forecasts; b) expanding license-free, interoperable radio wave utilization; c) expanding multiplex utilization of radio waves through new regulations, and d) implementing flexible policies in order to take into consideration regional differences. By reviewing the effectiveness of radio wave

utilization by public facilities and public utilities corporations, as well as by establishing a system which will allow them to utilize radio waves more effectively and equitably, the government and local governments will promote more efficient frequency utilization. In addition, it will promote the technical development for software-defined radio, as well as for the next-generation mobile communications system and the Ultra Wide Band (UWB).

- 4) The introduction and dissemination of wireless systems will be considered for Last One Mile access lines in under-populated areas and for existing apartment and housing complexes. In order to establish a ubiquitous network infrastructure for vehicles, the spread of IP wireless communications with a flat rate will be promoted throughout the country. Taking into account the future necessity of electronic tags, frequency allocation will be examined for RFID tags in ranges including the 800/900 bandwidth.
- 5) While continuing to expand the existing Intelligent Transport Systems (ITS) particularly focusing on road system infrastructure, a transportation system will be established with the world's most advanced network environment by implementing Internet ITS. This will provide a highly effective information environment for drivers and passengers.
- 6) The Internet utilization environment for automobiles, trains, aircrafts, etc., will be improved
- 7) An environment which will enable accurate positional information throughout the country will be established by more advanced Global Positioning System (GPS) utilization, as well as by the stepping up of R&D on the Geographic Information System (GIS) and other positioning systems, such as the Quasi-Zenith Satellite System in order to establish a highly precise positioning infrastructure.”
- 8) The dissemination of networks and terminals which accommodate both ultra high-speed Internet access and digital broadcasting will be promoted. In addition, Intelligent Data Processing technology, the technology which contributes to the development of secure and user-friendly high-definition television—quality digital content, will be developed.
- 9) In order for the administration, the government and private sectors to freely exchange and share information, tentative operation will be started on a public information database of user-defined Japanese characters during the course of FY2003, to be up and running fully by FY2005. This database, which will take international compatibility into account, will become the standard for character encoding.
- 10) In order for all people—including the elderly and physically disabled—to be able to utilize IT effectively, barrier-free information policies, such as the promotion of improved information utilization among citizens, as well as the development and

popularization of more user-friendly systems and equipment will be promoted.

2. Development of a Secure and Reliable IT Environment

Policy Objectives

In order for the general public to sufficiently enjoy the many conveniences of an advanced information and communications network society, it is important to ensure information security and to establish an environment whereby people can effectively utilize the Internet without anxiety. In order to accomplish this, work needs to be done to guarantee security, reliability, and diversity in the telecommunications network and information system, at the same time implementing appropriate operations management. In addition, a culture of “information security” will be promoted which will firmly establish itself in people, making them aware of both how important information security is, as well as to how important their role is in maintaining this security. In particular, information security measures will be enhanced for those important basic public services, which have no alternative online service available (such as e-government and e-local government) since the social impact caused by such security breaches would be significant.

- By 2005, a system will be developed in order to formulate the technical guidelines for minimizing damages from DoS attacks, computer viruses, unauthorized access etc. Technical audits will also be implemented.
- At the very latest by the end of early 2005, policies will be implemented in order to establish a “responsibility system” for the secure operation of e-local government by clarifying exactly the person in charge of information security in all regional public agencies throughout the country.

In addition, to support these programs, the development of both the technical and human resource infrastructure related to information security will be promoted and a system developed to protect the rights and interests of individuals, taking into account beneficial and valuable uses of personal data as well.

Policies

- 1) With the rapid increase in IT utilization, such as the Internet, measures will be taken to promote various hardware/software services that have taken the proper security measures into account. In addition, the government itself will facilitate taking timely corrective measures against software security problems, etc.

- 2) A culture of “information security awareness” will be promoted informing and reminding citizens to take the appropriate security measures.
- 3) Measures will be taken in order to maintain information security and to deal with unauthorized access, the illegal and harmful distribution of information, and other unlawful acts. In addition, the relevant legal system will be examined.
- 4) With regard to public information systems, a “responsibility system” will be implemented whereby certain authorities are placed in charge of information security for the cabinet office and each ministry and local public agency throughout the country. In addition, a) specific guidelines for improving security and reliability will be formulated; b) technical audits implemented; and c) the system relating to information security standards examined in order to appropriately implement examinations, evaluations, and improvements, as well as operations management for the public information system. In addition, an alternative operations system, operation procedures to be used in emergencies, as well as provide 24-hour monitoring of the information system will be established. Cooperation among related personnel will also be reinforced, such as encouraging the collecting and sharing of information concerning information security.
- 5) Specialists who have sufficient knowledge and technical skills in the field of information security will be developed. In order to further develop specialist skills and knowledge, the government educational research institutions will be expanded; educational training for government personnel promoted; and work will be done toward more effectively utilizing the qualifications system.
- 6) Infrastructure R&D will be promoted and technological development by the private sector supported concerning information security, such as reducing the vulnerability of information systems and creating anti-virus measures. In addition, open source software will be examined and evaluated in terms of information security.
- 7) Taking into account the beneficial and valuable utilization of personal data, necessary policies will be implemented to keep the handling of personal data appropriate and to protect the rights and interests of the individual. These policies will be implemented after the Act for Protection of Computer Processed Personal Data has been passed

3. Promotion of Technology R&D to Create Next Generation Knowledge

Policy Objectives

While reinforcing our world-class cutting-edge technologies, the following will be

implemented and promoted:

- 1) Reinforce and substantiate the technological R&D in the following crucial fields: software technology, information security technology, and human interface (interface between humans and equipment).
- 2) Continue the R&D for more advanced basic technology to enhance the high-speed networks for the next generation, in addition to working on the further development of the Test Bed (feasibility testing) Network.
- 3) Promote the R&D on applied technology that utilizes the above.

Policies

- 1) R&D on our world-class, cutting-edge technologies, such as for mobile terminals, wireless Internet, optical technology, electronic devices, information appliances, and robot technology that contributes to effective IT utilization will be stepped up.
- 2) R&D on substrate software and software with higher reliability will be promoted.
- 3) The basic development of Internet technologies will be promoted from the scope of transmission speeds of 100 Gbps to Tbps. With the aim of moving toward the ubiquitous network era, the R&D on Test Bed Networks will be promoted on a nationwide scale. The R&D for applied technology that utilizes ultra high-speed networks, will also be promoted with the findings incorporated into basic development. In addition, the improvement of the international Test Bed Network, which is currently being developed by a collaborative research team, consisting of researchers from Europe, the United States, and Asia Oceania will be promoted.
- 4) In addition to the development of Internet technology employing Ipv6, the development of application technology based on the assumption that all electrical appliances and information devices inside and outside the home can be entirely connected will be promoted. As a prerequisite for the development of this network, R&D on security and authentication technology, as well as for the protection of individual information will be promoted. In addition, human interface technology will be developed, taking the possible effects this technology might have on health and human stress levels into account. Taking user privacy into account, R&D on the development of an online payment method (electronic money) which can be utilized via various kinds of electronic terminals will be promoted. Finally, in order to realize an environment whereby wireless communications and power line communications can be utilized interoperable within the home, cutting-edge, evidence-based R&D on an effective low output radio wave environment will be promoted.
- 5) R&D (including feasibility testing) will be promoted on the hardware technology used for electronic identification technology, such as in RFID tags, as well as work

toward reducing electronic ID hardware unit prices. In addition, integrated technology R&D for electronic identification technology and IPv6-based Internet will be promoted.

- 6) In order to promote interactive next-generation communication media, the R&D on facilities for interactive Internet teleconferencing and Internet videophone using images and sounds available for a flat rate will be supported and promoted. R&D will also be promoted for enhancing digital broadcasting and wireless Internet technology and on mobile terminals which are compatible with the enhanced digital broadcasting and wireless Internet, etc.
- 7) The research and study of issues of security and reliability, concerning overall information systems, as well as on the formation of necessary social rules revolving around new technologies, such as RFID tags will be promoted
- 8) In order to maximize the results of the R&D mentioned above, the international standardization and the effective utilization of research results in society, as well as the development of better collaboration among industry, academia, and the government will be promoted. In addition, it will promote advance ubiquitous network feasibility tests with user participation in order to dramatically improve terminals, inter-connectability, interoperability, and usability.

4. Promotion of IT Human Resource Development and Education for the Era of Effective IT Utilization

Policy Objectives

In order to raise Japan's level of international competitiveness, high-level IT human resources will be extensively developed, at the same time overseas IT human resources will be developed and maintained through distance learning, etc. Furthermore, by promoting new learning opportunities through the effective utilization of IT, a society will be created which enables all people, including the physically challenged and the elderly, to satisfy their intellectual curiosity and to participate in the creation of new values (Refer to Chapter Two "Knowledge").

- By 2005, a system will be established so that distance learning provided in Japan can be received in Asian countries.

Policies

- 1) In order to improve our international competitiveness in the IT field, flexibility will be maintained with regard to learning opportunities, and various methods promoted,

including IT distance learning. At the same time, the development of high-level human resources will be developed through the expansion of IT-relevant graduate school departments, etc., as well as more practical-based IT education, etc., which will take industrial needs into account. In addition, the promotion of software R&D, etc. will be continued at the same time creating a firm base for the development of high-level human resources.

- 2) E-learning systems will be introduced in other Asian countries.
- 3) In addition to improving the Japanese-language learning environment for non-Japanese people via the Internet, a promotion program will be developed for Japanese language content. The accepting of more outstanding IT-related researchers from overseas at national research agencies such as universities, etc., will be promoted
- 4) In order for the physically challenged and the elderly to be able to actively participate socially and economically, as well as to be able to make better use of their abilities, a barrier-free information policy will be promoted. In addition, the development of a system will be promoted which supports lifelong education facilities throughout the country so that all people can utilize IT sufficiently.
- 5) In order to nurture children's creativity as well as make education more accessible to all children, the following will be implemented: a) improvement of the IT-environment in schools, b) establishment of an environment that can distribute quality network-oriented learning content to institutions such as elementary and secondary schools, and c) development of national information portal sites on learning.

5. Development of new international relations via IT technology

Policy Objectives

In cooperation with other nations, the government will promote the following international efforts bilaterally and/or multilaterally: network infrastructure building; e-commerce and content distribution infrastructure development; promotion of human resource exchange and technology exchange; and social systems advancement as well as development.

In particular, the government, through establishing cooperative relations with more than 10 countries by 2008, will reinforce ties among Asian nations and help develop Asia into the information hub of the world. In addition to implementing the Asian Broadband Strategy, the government will promote the Asia IT Initiative, an umbrella

initiative incorporating various other strategies created with an aim at more comprehensive and consistent policy implementation.

Through these efforts, Japan will contribute to both regional and global IT development; aiming by 2008, to equalize the quantity of information distributed between Asia and North America/Europe, making it the same as that between Europe and the United States.

Policies

- 1) Initiatives will be developed for promoting the ubiquitous network, including disseminating IPv6 throughout Asia.
- 2) In the aim of realizing a globally balanced network infrastructure, broadband network infrastructure development will be promoted in Asia
- 3) The following issues will be dealt with concerning the Asia region: a) the control and protection of intellectual property rights regarding the distribution of content; b) the prevention of infringements of intellectual property rights regarding the inappropriate distribution of content; and c) the standardization of character codes. In addition, content digitalizing and archiving activities will be promoted for broadcasting and publishing content; as well as museum collection images. The active utilization of content will also be promoted throughout Asia by creating content in various languages.
- 4) A system will be established that allows people in the major cities of the world to access the latest Japanese content-- including TV programs via broadcast, cable, and the Internet, etc. In addition, an effort will be made to see that particularly urgent or timely content is made available in real time as much as possible. In order to accomplish this, we will need to solve issues concerning the control and protection of intellectual property rights regarding the distribution of content, as well as promote the increase of Japanese content overseas.
- 5) E-commerce infrastructure will be developed by establishing better cooperation throughout Asia in trade and finance, information security infrastructure development, and products/parts traceability etc.
- 6) In addition to developing high-level IT human resources by improving training and education (including distance learning), the establishment of better international evaluation criteria for IT-related education, training, and qualifications recognition at home and abroad will be promoted. International cooperation concerning Japanese IT-related qualifications will also be promoted. In addition, the development of a system to help facilitate the acceptance of foreign IT specialists to work in Japan will be promoted by relaxing and improving immigration policies.

- 7) IT-related technology and standardization activities will be promoted by implementing R&D projects for optical technology-compatible next-generation information and communications networks, as well as developing an international joint study team for developing the ubiquitous network.
- 8) Through the implementation of various pilot projects, new social systems will be introduced utilizing IT throughout the Asian region, such as international cooperation concerning the patents system.
- 9) Okinawa, in concert with the national and prefectural government, is developing industries related to information and communications as the new key industries following tourism in Okinawa. Comprehensive policies will be promoted in order to facilitate IT- related companies entering that market.

These policies will also be applied in other geographic areas.

IV. Policy Chart

Specific e-Japan Strategy II policy recommendations are described in chapter two, “Leading Areas in the Promotion of Effective IT Utilization,” and chapter three, “Infrastructure Development for the New IT Society.” These recommendations can be divided into 1) those which call on the government to implement direct actions, and 2) those which call for the private sector to share in the government’s view and to implement certain actions based on market principles. In this chapter, policy objectives, described in the previous chapters, will be summarized; and specific measures will be described, divided into roles taken by the government and roles taken by the private sector. In addition, in the section, “Specific Numerical Targets,” the overall social objectives to be achieved through the efforts of the government and private sector respectively are described.

“Leading Areas in the Promotion of Effective IT Utilization”: Objectives and Policies

Areas	Specific Numerical Targets	Policies the Government Should Implement	Actions for the Private Sector to Take
Medical Services	<ul style="list-style-type: none"> - By 2005, a healthcare service—appropriate authentication system will be established and medical institutions will be promptly permitted to transfer and save externally electronic medical records. - From 2004, the medical service billing process system will begin being processed online, and by 2010 a system will be in place that can handle the billing process for all medical institutions which choose to make use of the online system. 	<ul style="list-style-type: none"> - Taking patients’ privacy and wishes into adequate account, the government will establish a system that allows medical and health institutions to utilize and share patient medical information as appropriate. (Medical records will be created, saved and transferred online. For instance, when the authentication system infrastructure is up and running, a locally based family doctor will be able to refer to his patient’s medical records from a central hospital by accessing them online. In addition, the government will create a system whereby the data can be used for preventive medicine and epidemiological studies, adequately protecting personal data and patients’ privacy.) - The government is to promote standardized codes for disease names and medications to help alleviate problems concerning interoperability in electronic patient information systems. In addition, it will promote popularization and technological development to achieve compatibility among different codes. - The government is to support improving both the security policies related to medical services and the guidelines related to personal information protection. - The government will develop a system to move the medical service billing process online and thoroughly implement this system throughout public medical institutions and public insurance organizations. 	<ul style="list-style-type: none"> - The medical industry will introduce and utilize electronic medical records and electronic health insurance claim forms. - The government will call for medical institutions and pharmaceutical-related organizations to work toward standardizing codes for disease names and medications, as well as to step up technological developments and strengthen their cooperative ties in order to improve the interoperability in electronic patient information systems. - R&D agencies and IT-related companies will work toward the effective technological development as well as the standardization of the management of patient information in a way which takes patient privacy and wishes into adequate account, - Specialists, such as medical institutions, medical and pharmaceutical-related organizations, legal scholars, and IT engineers, will work toward developing the guidelines and security policies related to personal information protection. - A fair and neutral third party will collect information on medical institutions, such as their treatment record and services, and will provide the information to the public after examining its reliability. - Medical institutions and medical fee payment funds will promote moving the medical service billing process system online.
Food	<ul style="list-style-type: none"> - By 2004, a system will be established which will enable us to trace the origin and movement records of all domestic cattle via individual identification numbers should BSE or other such incidents 	<ul style="list-style-type: none"> - The government will establish the necessary laws and systems relating to the management and circulation of individual cattle identification data for domestic beef. - For foods other than beef, the government will support the development of traceability systems which are food-specific appropriate. - The government will make public information on its safe foods distribution 	<ul style="list-style-type: none"> - Food producers and distributors will record and save all data concerning the production, processing and distribution of food products to make them immediately available to consumers on demand. - Food producers, distributors, and IT companies will work to develop and manage an operation system which will be interoperable between the localized production, processing, and distribution stages of the industry (including the standardization of information on products obtained via RFID

	<p>occur. By 2005, a system will be established which will enable us to confirm the production data of all domestic beef (excluding minced and chopped meat) via the Internet, etc.</p> <ul style="list-style-type: none"> - For foods other than beef, individualized traceability systems will be developed and supported as soon as possible. - By 2005, we will see approximately half of all transactions done by food distributors performed electronically. A large expansion of IT utilization in agriculture, forestry, and fisheries business management will also be promoted 	<p>system in the effort to see the Japanese system applied to imported food.</p> <ul style="list-style-type: none"> - The government is to support the development and management of a system which will be interoperable between the localized production, processing, and distribution stages of the industry. This will include standardization of the information (content, type, and method of disclosure) accessible via electric tags, etc. - The government will support the establishment of a reliable third party agency through the provision of information etc., in order to evaluate traceability system management; help secure the reliability of information; formulate methods for troubleshooting and guidelines; and be in charge of outsourcing data-entry and inspections work. - The government will support the establishment and promotion of a standardized system, such as EDI, to computerize food industry business transactions. - The government will introduce and promote a system which will enable the easy-access of information on consumer preferences; and promote agriculture, forestry and fisheries areas to better utilize IT in managing their work. As one example, a remote monitoring system that utilizes IT will also be introduced. - The government needs to promote better IT skills among food industry people 	<p>tags, such as content, type and method of disclosure).</p> <ul style="list-style-type: none"> - Auditing organizations will establish a reliable third party agency through the provision of information, etc., in order to evaluate traceability system management; help secure the reliability of information; formulate methods for troubleshooting and guidelines; and be in charge of outsourcing data-entry and inspections work. - Distributors will work toward reducing distribution costs (such as distribution and stock costs) by actively introducing a standardized system, such as the EDI, to computerize the transactions of the food industry. - Producers (agriculture, forestry and fisheries) will work toward the better utilization of IT by introducing a system which will enable the easy-access of information on consumer preferences. As one example, a remote monitoring system that utilizes IT will also be introduced. - Producers and distributors will work toward improving their IT skills.
Lifestyle	<ul style="list-style-type: none"> - By FY2008, remote video communication and personal safety check systems for elderly people who live alone will be made available to all households who request such service. - By 2005, tele-meters for gas, water and electricity will start being made available; to be available nationwide to all households who request the service by 2008. 	<ul style="list-style-type: none"> - The government will develop systems whereby fire stations will be able to respond promptly in case an emergency is detected by the monitoring of living patterns, such as the monitoring of home appliances use. - The government will develop an environment whereby citizens can from their homes apply for and receive various types of IDs, such as resident cards, both securely and conveniently. - The government, with consumer protection and the fair utilization of utilities information taken into account, will ease regulations concerning cost reduction of electricity, gas, and water meters with appropriate cost sharing in mind. - In order to promote the utilization of high speed communication over power lines in homes which have been proven safe by feasibility tests, the government plans to support such tests by the private sector, as well as support making public the test results. - In order to ensure interoperability and interconnectivity among systems, the government will standardize related technologies. - The government will improve measures for consumer protection concerning privacy, reliability and security, and other issues which have come about as a result of the development of new services. - The government will promote the development of a social infrastructure which will be better equipped to respond to disasters in ways such as the following: a) establishing an urgent message system utilizing IT; b) 	<ul style="list-style-type: none"> - Service providers, IT-related companies, consumer electronics makers, telecommunications and electrical power companies, and security companies, etc., will work toward being able to provide a remote video communication and personal safety check systems for elderly people who live alone. - Telecommunications and electrical power companies, IT-related companies, consumer electronics makers, etc., will implement utilities tele-meters for gas, water, and electricity, etc. - Service providers, IT-related companies, consumer electronics makers, telecommunications and electrical power companies, etc., will provide a service that can alert the fire station in case of emergency with information on living patterns based on the monitoring of the use of home appliances. - Service providers, IT-related companies, consumer electronics makers, telecommunications and electrical power companies, etc., will provide a service which enables continuous homecare management for the elderly employing a sensor system in the home. - Service providers, IT-related companies, consumer electronics makers, telecommunications and electrical power companies, etc., will provide services which will increase our overall safety and convenience by providing services such as: a) kitchen fire monitoring system and standby power shutdown which automatically activates when front door is locked

		<p>establishing a system which will better protect the safety of its citizens by improved sharing of information between disaster prevention agencies and ordinary citizens; c) creating a social infrastructure which will be better equipped to respond to large-scale disasters utilizing push-type IT systems for the automatic and instantaneous transmission of emergency information in cases of large-scale disasters.</p> <ul style="list-style-type: none"> - The government will promote the development of an infrastructure environment that can handle urgent messages via cellular phones, IP phones, etc. 	<p>and b) IT lockers that can be used to receive and pay for articles ordered online.</p> <ul style="list-style-type: none"> - Telecommunications and electrical power companies, IT-related companies, consumer electronics makers, etc., will promote the development and dissemination of a system which incorporates an information distribution board. - In order to promote the utilization of high speed communication over power lines in homes which have been proven safe by research and practical experimentation, electrical power companies, electric cable makers, and telecommunications companies, etc., will promote such experimental tests and make public the test results. - In order to ensure interoperability and interconnectivity among systems, telecommunications and electrical power companies, IT-related companies, consumer electronics makers, etc., will work toward standardizing related technologies. - Service providers, IT-related companies, consumer electronics makers, telecommunications and electrical power companies, and security companies, etc., will improve measures for consumer protection concerning privacy, reliability, and security, and other issues which have come about by the development of new services. - Telecommunications companies, IT-related companies, consumer electronics makers, etc., will develop systems that can handle urgent messages via cellular phones, IP phones, etc.
Small and Medium Enterprise Financing	<ul style="list-style-type: none"> - By 2005, the government will process credit guarantee paperwork online. 	<ul style="list-style-type: none"> - The government will support the standardization and computerization of contract information, credit records, tracing information, and other related information. - The government will improve the environment for financial institutions to easily introduce systems which can process electronic bills and credit guarantees online. - In order to expand the number of institutions which offer escrow services, the government plans, for example, to re-examine regulations related to these services. - The government will support the enhancement of escrow services by utilizing delivery status tracing. 	<ul style="list-style-type: none"> -Financial institutions, etc., will promote the popularization of various new credit options. -Financial institutions, etc., and corporations will promote the standardization and computerization of contract information, credit records, and other related information. -Financial institutions, etc., will promote the introduction of a system which can process credit guarantees online. -Financial institutions, etc., will promote the popularization of electronic bill services. -Financial institutions and corporations, etc., will offer escrow services and enhance them by utilizing the delivery status tracing.
Knowledge	<ul style="list-style-type: none"> - By FY 2005, the government aims at increasing the number of university and graduate courses available through distance learning via IT technology to approximately three times that of what it was in FY 2001. - The government will implement 	<ul style="list-style-type: none"> - The government will promote the infrastructure which allows working people to efficiently and inexpensively access educational resources regardless of time or location utilizing IT. - The government will promote the improving of facilities (soft and hard infrastructure) that will enable distance learning options to be set up throughout the country that are inexpensive and make use of interactive high-definition video. - Concerning specialists, the government, in consideration of various technical and specialist distance learning opportunities, including technical graduate programs, will promote the developing of an environment whereby specialists can continuously enrich their knowledge through 	<ul style="list-style-type: none"> - Corporations will improve the infrastructure which will allow working people to efficiently and inexpensively access educational resources utilizing IT regardless of time or location. - Telecommunications companies and educational institutions will improve facilities (soft and hard infrastructure) that will enable distance learning options to be set up throughout the country which are inexpensive and make use of interactive high-definition video. - Concerning specialists, educational institutions, in consideration of various technical and specialist distance learning opportunities, including technical

	<p>infrastructure development which will enable broadcasting companies and content creators who desire to, to be able to deliver their content over the Internet. We aim to see commercial broadcasting programs on the Internet by the end of 2003, and by 2008, all other forms of non-commercial content.</p>	<p>distance learning that utilizes IT.</p> <ul style="list-style-type: none"> - The government will promote the enhancing and expansion of the various education options in accordance with the characteristics of each field, by for example, developing an environment whereby students can obtain all the university credits they need via distance learning. - The government will maintain the resources and the people with the talent and the ability to compile and produce top-quality content that will be admired throughout the world. -The government will support the development of an educational environment which will continuously produce people capable of producing and creating in this field. Strong support will be provided to talented people in this area. -The government will improve the infrastructure in which content is available; protecting its intellectual property rights and facilitating its smooth and open dissemination. -In order to develop a copyright contract system that will be appropriate in the digital contents age, the government will improve its systematic and technological framework and develop international cooperation and technological advances. -The government will promote the digitalization and archiving of content from broadcasting, publication, museum collections, libraries, information from the World Wide Web and sources of special cultural interest for use domestically and overseas. -The government will promote technological developments in color and content quality, as well as promote and standardize archival terms. 	<p>graduate programs, will develop an environment whereby specialists can continuously enrich their knowledge through distance learning that utilizes IT.</p> <ul style="list-style-type: none"> - Educational institutions will enhance and expand the various education options in accordance with the characteristics of each field, by for example, developing an environment whereby students can obtain all the university credits they need via distance learning. - Content companies and educational institutions will maintain resources and people who have the talent and ability to compile and produce attractive content that will be admired throughout the world. - Content companies and educational institutions will work toward cultivating and developing people with the ability of producing content that will be admired throughout the world by establishing an educational environment which continuously produces people capable of creating and producing in this field. - Content and IT companies will distribute digital content whose intellectual property rights are appropriately protected. - IT companies will implement the technological developments concerning the copyright contract system. - Corporations will promote the digitalization and archiving of content from broadcasting, publication, museum collections, libraries, information from the World Wide Web, and sources of special cultural interest for use domestically and overseas. <p>Content and IT companies will promote technological developments in color and content quality, as well as promote and standardize archival terms.</p>
Employment and Labor	<ul style="list-style-type: none"> - By 2005, we will achieve an increase in the number of persons who secure work via online job information to one million people per year. - By the year 2010, teleworkers¹ working in an appropriate working environment will account for 20% of the working population. <p>1. Teleworker is defined here as a person who works more than eight hours per week (regardless of time or place) using IT-related tools.</p>	<ul style="list-style-type: none"> - The government will support the development and operation of a system which can electronically provide information on job seekers and employees wanted. - The government should ensure that the systems which support lifetime employment do not form a hindrance to the more fluid distribution of human resources. With regard to corporate pension funds, the government will improve the portability of fixed income types. The government also plans to take measures to ensure neutrality within this system regarding the issue of retirement pay. - In order to promote more open interactive human resource exchanges between the private sectors and the government, the government will examine policies to smoothly promote human resource exchanges as well as revise regulations on the service of public servants, including regulations on dual employment. The above will be carried out maintaining the neutrality and fairness of the public services. - In addition to establishing guidelines in order to promote the spread of telework within corporations, the government will continue to review the conventional labor regulations applying them to the telework model, and also make reforms or add new measures where necessary. - The government will examine ways in which an appropriate working system for telework can be implemented for public servants, at the same 	<ul style="list-style-type: none"> - NPOs, etc., will promote the development and operation of a system which can electronically provide information on job seekers and employees wanted as well as can support the balancing of supply and demand for human resources. - The private sector, based on labor-management consultations and corporate decisions, will review those in-house systems which treat lifetime employment preferentially, such as benefit programs that are advantageous to longtime employees. - NPOs, etc., will promote the operation and development of an electronic system which supports open interactive human resource exchanges between the private sectors and the government, as well as actively promote such exchanges themselves. - The private sector will improve in-house systems for telework, as well as work toward developing a high security telework environment. - NPOs, etc., will establish and administrate an electronically-based system that will simplify the necessary procedures, as well as to allow people to efficiently access information on business start-up and expansion.

		<p>time developing the systematic infrastructure to bring it about.</p> <ul style="list-style-type: none"> - The government will provide the necessary support for establishing an electronically-based system that will simplify the necessary procedures, as well as to allow people to efficiently access information on business start-up and expansion. - The government will implement the necessary support, such as providing information and consulting on business start-up and business expansion, creating an environment which will better facilitate these activities (including that for SOHO). In addition, the government plans to expand greater job opportunities by supporting new business which will, in turn, create new labor opportunities. 	
Public Service	<ul style="list-style-type: none"> - By the end of FY 2005, the government will develop a one-stop system enabling comprehensive service, as well as develop a government portal site, created to be user-friendly with the end user in mind. - At the very latest, by the end of FY 2005, the government will formulate strategies for the better optimization of existing systems and operations. 	<ul style="list-style-type: none"> - The government will clearly make information on policy making, its implementation and post-implementation evaluation available to the public. In addition, the government will improve things like administrative portal sites in order to make it possible for the national public to participate with public administration, in cooperation with the related organizations. Local government will be requested to implement the same policies. - By linking e-government's portal site to the system of the cabinet office, ministries, and local government, the government will implement a one-stop service where all kinds of paperwork can be processed online at one convenient Internet location. - Learning from the management control practices of companies from the private sector, the government will foster effective IT utilization by fundamentally revising its organization, existing services, and governmental institutions. This will be done maintaining interoperability with other systems, and local government will be requested to implement the same policies. - IT investments will be standardized and streamlined, by integrating the investment process throughout the entire administrative agency. In this way, the government will eliminate overlapping investments which are generated by the introduction of similar IT systems by other administrative agencies. The government also plans to request the local government to implement the same policies. - The government will make it a rule to outsource as much work as possible to the private sector in order to achieve higher quality service at lower costs. In addition, the government will optimize the management of the job outsourcing in order to protect personnel information and maintain security. The government will also support various organizations of local government to implement joint development and outsourcing. - The government will proceed in its consideration concerning documents and reports which the private sector has obligation to preserve but is presently not authorized to save electronically. The government, in cooperation with the private sector, will examine the necessary policies regarding authorizing more documents to be saved in this way, in view of social institutions as well as the technical aspects to determine policies. - The government will pursue technological developments for implementing 	<ul style="list-style-type: none"> - NPOs will work toward leading the way to reinforce a system which enables the more meticulous response and implementation of regional requests. - IT companies will actively start engaging in administrative services in order for the government, as well as local governments, to utilize the private sector's more effective and efficient methods. - R&D agencies and IT companies will promote the technological development of authentication system technology which will allow efficient data sharing with existing systems, as well as enable interoperability among various systems. - The private sector will proceed in its consideration concerning documents and reports which it is obliged to preserve but presently not authorized to save electronically. It will also examine the necessary policies regarding authorizing more documents to be saved in this way in view of social institutions, as well as the technical aspects. - Because Japan hasn't developed an adequate system for the permanent storing of electronic data, R&D agencies and IT companies will work toward the technological development of such a system. While doing so, care will be taken regarding the prevention of unauthorized tampering of the system and the accidental or purposeful deletion of documents.

		<p>an adequate system for the permanent storing of electronic data. While doing so, care will be taken regarding the prevention of unauthorized tampering of the system and the accidental or purposeful deletion of documents.</p> <ul style="list-style-type: none"> - The government will promote reforms of the procurement system with the aim of streamlining procedures related to procurement, improving transparency, and reducing procurement costs. In addition, the government plans to request local government to implement the same policies. - The government will cultivate specialists with advanced IT capabilities and specialist skills, such as operations analysis, information systems technology etc. At the same time, the government will utilize non-governmental specialists who have specialist skills and experience. In addition, the government plans to request the local government to implement the same policies. 	
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Objectives and Policies for Infrastructure Development for the New IT Society

Areas	Specific Numerical Targets	Policies the Government Should Implement	Actions for the Private Sector to Take
Information and Telecommunications Infrastructure Development for the Next Generation	<ul style="list-style-type: none"> - By 2005, the high-speed Internet access penetration rate will be raised to 30 million households, and the penetration rate of ultra high-speed access using fiber-optic cables to 10 million. This will be brought about by improving the quality of Internet content and services and by implementing the policies discussed in chapter two. - By 2005, a general rule will be made that all public institutions? such as administrative agencies, regional public 	<ul style="list-style-type: none"> - The government will implement the necessary regulatory reforms and competition policies in order to provide an environment in which people can utilize ultra high-speed/high-speed Internet throughout the country. The government will take special measures regarding those areas where it is not profitable to establish these services. In addition, the government will proceed in its promotion of connecting public institutions with ultra high-speed two-way networks. - The government will implement R&D to work toward making high-speed power line communication network utilization possible. The government will also institute deregulations for such technology which has been verified not to have an adverse on existing broadcast and wireless telecommunications networks. In addition, the government will promote the active utilization of Internet teleconferencing and TV-phones, making use of image and sound technology. In this way, the government will establish a new interactive communication culture by reforming regulations and practices which have, until now, prevented distance-conferencing, etc. - With the view of utilizing digitalized radio networks to help bring about the world's most advanced wireless network, the government will promote the effective utilization of radio waves across the private and public sectors, by implementing: a) effective utilization of radio waves based on strategic frequency re-allocations according to future demand forecasts; b) 	<ul style="list-style-type: none"> - Content companies, telecommunications companies, medical institutions, educational institutions, and financial institutions, etc. will work toward providing content that is appealing to both the individuals and to businesses. - Telecommunications companies, etc., will promote the nation-wide dissemination of broadband Internet services. - The electrical power industry, power cable makers, and telecommunications companies, etc., will implement the R&D for high-speed power line communication networks. - Corporations, educational institutions, government agencies, etc., will actively utilize Internet teleconferencing and TV-phone systems. - Corporations will revolutionize their way of thinking to become more real face to face communications-oriented. - Telecommunications companies will promote developing wireless networks. - Radio wave users will cooperate on frequency re-allocation. - Radio wave users and IT companies, etc., will work to prevent radio wave interference. - Telecommunications companies and IT companies will promote the R&D for next-generation mobile communications, Ultra Wide Band (UWB), and software wireless communications systems. - Telecommunications companies will promote the introduction of wireless systems as Last One Mile access lines in under-populated areas and for existing apartment and housing complexes.

	<p>organizations, medical institutions, schools, libraries, and community centers? be connected to the Internet via high-speed two-way networks (for the most part employing fiber optics technology). In this way, public institutions will be able to effectively utilize IT for their functioning, activities, and services.</p> <ul style="list-style-type: none"> - By 2008, an environment will be developed which will enable high-speed wireless LAN systems to be utilized throughout the country. - By 2005, an environment will be established that will enable public as well as private automobiles, trains, and aircraft to be connected to a broadband network if desired. - By 2011, the digitalization of terrestrial broadcasting will be completed and an environment developed that will enable digital broadcasting programs to be received throughout the country. - By 2011, an environment will be developed that will enable digital 	<p>expanding license-free, interoperable radio wave utilization; c) expanding the multiplex utilization of radio waves through new regulations, and d) implementing flexible policies in order to take into consideration regional differences. By reviewing the effectiveness of radio wave utilization by public facilities and public utilities corporations, as well as by establishing a system which will allow them to utilize radio waves more effectively and equitably, the government will promote more efficient frequency utilization by the national and local government agencies, etc. In addition, it will promote the technical development for software-defined radio, as well as for the next-generation mobile communications system and the Ultra Wide Band (UWB).</p> <ul style="list-style-type: none"> - The government will study the introduction and dissemination of wireless systems as Last One Mile access lines in under-populated areas and for existing apartment and housing complexes. In order to establish a ubiquitous network infrastructure for vehicles, the government will promote spreading IP wireless communications with a flat rate throughout the country. Taking into account the future necessity of electronic tags, the government will examine frequency allocation for electronic tags in ranges including the 800/900 bandwidth. - While continuing to expand the existing Intelligent Transport Systems (ITS), particularly focusing on road system infrastructure, the government will establish a transportation system with the world's most advanced network environment by implementing Internet ITS. That will provide a highly effective information environment for drivers and passengers. - The government will improve the Internet utilization environment for automobiles, trains, aircrafts, etc. - In order to establish the highly precise positioning infrastructure, the government will establish an environment which enable accurate positional information throughout the country by more advanced Global Positioning System (GPS) as well as by the stepping up of its R&D on the Geographic Information System (GIS) and other positioning systems, such as the Quasi-Zenith Satellite System. - The government will promote the dissemination of networks and terminals which accommodate both ultra high-speed Internet access and digital broadcasting. In addition, the government will work to develop intelligent data processing technology, the technology which contributes to the development of secure and user-friendly high-definition television-quality digital content. - In order for the administration, the government and private sectors to freely exchange and share information, tentative operation will be started on a 	<ul style="list-style-type: none"> - Corporations will promote the utilization of electronic tags. - Telecommunications companies will develop a terminal-to-terminal IP wireless communications network, which can be utilized from the inside an automobile anywhere in the country. - Telecommunications companies and automakers will promote Internet Intelligent Transport Systems (Internet ITS). - Railroad companies, airlines, and IT companies will improve the Internet utilization environment on trains and airplanes. - Corporations will promote the utilization of positioning systems and the Geographic Information System (GIS). - Corporations will establish business models for utilizing positioning systems. - The broadcasting industry and IT companies will promote the popularization of ultra high-speed networks and digital terminals. The equipment necessary to utilize these technologies will be promoted and popularized. - IT companies will work to develop intelligent technology, the technology which contributes to the development of secure and user-friendly high-definition television-quality digital content. - IT companies, etc., will promote the development and popularization of more user-friendly systems and equipment.
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	<p>broadcast-quality programs to be broadcast and received throughout the country.</p>	<p>public information database of user-defined Japanese characters during the course of FY 2003, to be up and running fully by FY2005. This database, which will take international compatibility into account, will become the standard for character encoding.</p> <ul style="list-style-type: none"> - In order for all people—including the elderly and physically disabled—to be able to utilize IT effectively, the government will promote barrier-free information policies, such as the promotion of improved information utilization among citizens, as well as the development and popularization of more user-friendly systems and equipment. 	
<p>Development of a Secure and Reliable IT Environment</p>	<ul style="list-style-type: none"> - By 2005, the government will develop a system in order to formulate technological guidelines for minimizing damages from DoS attacks, computer viruses, computer hacking, etc., as well as to implement technical audits. - At the very latest by the end of early 2005, the government will implement policies in order to establish a “responsibility system” for the secure operation of e-local government by clarifying exactly who the person in charge of information security is in all regional public agencies throughout the country. 	<ul style="list-style-type: none"> - With the rapid increase in IT utilization, such as the Internet, the government will take measures to promote various hardware/software services that have taken the proper security measures into account. In addition, the government itself will facilitate taking timely corrective measures against software security problems, etc. - The government will widely promote a culture of “information security awareness,” informing and reminding citizens to take the appropriate security measures. - The government will promote taking measures in order to maintain information security and to deal with illegal hacking, the illegal and harmful distribution of information, and other unlawful acts. In addition, it will examine the relevant legal system. - With regard to public information, the government will implement a “responsibility system” whereby certain authorities are placed in charge of information security for the cabinet office and each ministry and local public agency throughout the country. In addition the government will a) formulate specific guidelines for improving security and reliability; b) instigate technical audits; and c) examine the system relating to information security standards in order to appropriately implement examinations, evaluations, and improvements, as well as operations management for the public information system. In addition, the government will establish an alternative operations system, and operation procedures to be used in emergencies, as well as provide 24-hour monitoring of the information system. The government will also reinforce cooperation among related personnel, such as encouraging the collecting and sharing of information concerning information security. - The government will develop specialists who have sufficient knowledge and technical skills in the field of information security. In order to further develop specialist skills and knowledge, the government will support the expansion of educational research institutions; promote educational training for government personnel; and work toward more effectively utilizing the qualifications system. - The government will promote infrastructure R&D, as well as support technological development by the private sector concerning information security, such as reducing the vulnerability of information systems and creating anti-virus measures. In addition, the government will examine and evaluate open source software in terms of information security. - Taking into account the beneficial and valuable utilization of personal data, 	<ul style="list-style-type: none"> - IT companies will offer extensive and various hardware/software services which have included the proper security measures. - Software companies will provide timely measures against software security problems. - IT companies will widely promote a culture of “information security awareness,” informing and reminding citizens to take the appropriate security measures. - Main infrastructure-construction companies will work toward clarifying the details of the responsibility system for information security: implementing appropriately its operation and management, as well as refining the system through evaluation and testing. - Educational and research institutions will work to cultivate and enhance the education of human resource specialists so that they will have sufficient knowledge and technical skills in the field of information security. - IT companies will work toward more effectively utilizing the qualifications system - Educational and research institutions and IT companies, etc., will implement the technological developments concerning information security, such as reducing the vulnerability of information systems and creating anti-virus measures. - Corporations will promote the appropriate use of personal information.

		the government will implement the necessary policies to keep the handling of personal data appropriate and to protect the rights and interests of the individual. These policies will be implemented after the Act for Protection of Computer Processed Personal Data has been passed	
Promotion of Technology R&D to Create Next Generation Knowledge		<ul style="list-style-type: none"> - R&D on our world-class, cutting-edge technologies, such as for mobile terminals, wireless Internet, optical technology, electronic devices, information appliances, and robot technology that contributes to effective IT utilization will be stepped up. - R&D on substrate software and software with higher reliability will be promoted. - The basic development of Internet technologies will be promoted from the scope of transmission speeds of 100 Gbps to Tbps. With the aim of moving toward the ubiquitous network era, the R&D on Test Bed Networks will be promoted on a nationwide scale. The R&D for applied technology that utilizes ultra high-speed networks, will also be promoted with the findings incorporated into basic development. In addition, the improvement of the international Test Bed Network, which is currently being developed by a collaborative research team, consisting of researchers from Europe, the United States, and Asia Oceania will be promoted. - In addition to the development of Internet technology employing Ipv6, the development of application technology based on the assumption that all electrical appliances and information devices inside and outside the home can be entirely connected will be promoted. As a prerequisite for the development of this network, R&D on security and authentication technology, as well as for the protection of individual information will be promoted. In addition, human interface technology will be developed, taking the possible effects this technology might have on health and human stress levels into account. Taking user privacy into account, R&D on the development of an online payment method (electronic money) which can be utilized via various kinds of electronic terminals will be promoted. Finally, in order to realize an environment whereby wireless communications and power line communications can be utilized interoperable within the home, cutting-edge, evidence-based R&D on an effective low output radio wave environment will be promoted. - R&D (including feasibility testing) will be promoted on the hardware technology used for electronic identification technology, such as in RFID tags, as well as work toward reducing electronic ID hardware unit prices. In addition, integrated technology R&D for electronic identification technology and IPv6-based Internet will be promoted. - In order to promote interactive next-generation communication media, the R&D on facilities for interactive Internet teleconferencing and Internet videophone using images and sounds available for a flat rate will be supported and promoted. R&D will also be promoted for enhancing digital broadcasting and wireless Internet technology and on mobile terminals which are compatible with the enhanced digital broadcasting and wireless Internet, etc. - The research and study of issues of security and reliability, concerning overall information systems, as well as on the formation of necessary social rules revolving around new technologies, such as RFID tags will be promoted - In order to maximize the results of the R&D mentioned above, the international standardization and the effective utilization of research results in society, as well as the development of better collaboration among industry, academia, and the government will be promoted. In addition, it will promote advance ubiquitous network feasibility tests with user participation in order to dramatically improve terminals, inter-connectability, interoperability, and usability. 	
Promotion of IT Human Resource Development and Education for the Era of Efficient IT Utilization	- By 2005, a system will be established so that distance learning provided in Japan can be received in Asian countries.	<ul style="list-style-type: none"> - The government will promote the development of high-level human resources through the expansion of IT-relevant graduate school departments, etc., as well as more practical-based IT education, etc., which will take the needs of industry into account. - The government will continue to promote software R&D, etc., at the same time creating a firm base for the development of high-level human resources. - The government will promote introducing e-learning systems in other Asian countries. - In addition to improving the Japanese-language learning environment for non-Japanese people via the Internet, the government will promote the development of a promotion program for Japanese language content. - The government will promote accepting more outstanding IT-related researchers from overseas at national research institutions such as universities, etc. 	<ul style="list-style-type: none"> - Educational institutions will reinforce their development of high-level human resources through the expansion of IT-relevant graduate school departments, etc., as well as more practical-based IT education, etc., which will take industrial needs into account. - Educational institutions will continue their R&D, etc., on software, at the same time creating a firm base for the development of high-level human resources. - IT companies and educational institutions will promote introducing e-learning systems in other Asian countries. - In addition to improving the Japanese-language learning environment for non-Japanese people via the Internet, educational institutions will develop a promotion program for Japanese language content. - University and other research institutions will accept more outstanding IT-related researchers from overseas. - IT companies will promote the development and popularization of more user-friendly systems and equipment.

			<ul style="list-style-type: none"> - In addition to improving the IT-environment in schools, education-related companies will establish an environment that whereby high quality network-oriented learning content can be easily distributed to institutions such as elementary and secondary schools.
Development of New International Relations via IT Technology	<ul style="list-style-type: none"> - By 2008, the government will establish cooperative relations in the field of information and communications with over 10 countries in Asia. - By 2008, the government will equalize the quantity of information distributed between Asia and North America/Europe, making it the same as that between Europe and the United States. 	<ul style="list-style-type: none"> - The government will develop initiatives for promoting the ubiquitous network, including disseminating IPv6 throughout Asia. - In the aim of realizing a globally balanced network infrastructure, the government will promote broadband network infrastructure development in the Asia - The government will promote dealing with the following issues concerning the Asia region: a) the control and protection of intellectual property rights regarding the distribution of content; b) the prevention of infringements of intellectual property rights regarding the inappropriate distribution of content; and c) the standardization of character codes. In addition, the government will promote content digitalizing and archiving activities for broadcasting and publishing content; as well as museum collection images. The government will also promote the active utilization of content throughout Asia by creating content in various languages. • The government will establish an environment that allows people in the major cities of the world to access the latest Japanese content? including TV programs via broadcast, cable, and the Internet. In addition, the government will make an effort to see that particularly urgent or timely content is made available in real time as much as possible. In order to accomplish this, we will need to solve the issues concerning intellectual property rights, as well as implement policies to promote the increase of Japanese content overseas. - The government will develop e-commerce infrastructure by establishing better cooperation throughout Asia in trade and finance, information security infrastructure development, and products/parts traceability etc. - In addition to developing high-level IT human resources by improving training and education (including distance learning), the government will promote the establishment of better international evaluation criteria for IT-related education, training, and qualifications recognition at home and abroad. It will also promote international cooperation concerning Japanese IT-related qualifications. In addition, the government will promote the development of a system to help facilitate the acceptance of foreign IT specialists to work in Japan by relaxing and improving immigration policies. - The government will promote IT-related technology and standardization activities, by implementing R&D projects for optical technology-compatible 	<ul style="list-style-type: none"> - Information and communications equipment manufacturers, communications system consultants, and technical support service agencies will actively make new system suggestions working on the premise of popularizing IPv6 for establishing a broadband network infrastructure in Asia. They also will develop and provide related equipment as well as necessary support for its appropriate operation. - Content development and distribution companies will promote digitalizing and archiving the content created by the broadcasting and publishing activities as well as museum collection images taking into account the control and protection of intellectual property rights regarding the distribution of content. The above corporations will also promote the active utilization of content throughout Asia by creating content in various languages, at the same time, cooperating with the government to promote a system which can prevent the distribution of content whose intellectual property rights have been infringed on. - Content development, distribution companies, and users will establish a system that allows people in the major cities of the world to access the latest Japanese content-- including TV programs via broadcast, cable, and the Internet. In addition, they will make an effort to see that particularly urgent or timely content is made available in real time as much as possible. In order to accomplish this, they will need to solve issues concerning the control and protection of intellectual property rights regarding the distribution of content, as well as work toward promoting the increase of Japanese content overseas. - Consulting companies, telecommunications companies, financial institutions, and information, and communications equipment manufacturers will cooperate on infrastructures development from both the technological and practical for e-commerce. - In addition to developing high-level IT human resources by improving education and training (such as distance learning), educational institutions will promote the establishment of better international qualifications recognition in order for Japanese IT-related qualifications at home to be recognized internationally. - Research institutions and information and communications companies will

		<p>next-generation information and communications networks, as well as developing an international joint study team for developing the ubiquitous network.</p> <ul style="list-style-type: none"> - Through the implementation of various pilot projects, the government will introduce new social systems utilizing IT throughout the Asian region, such as international cooperation concerning the patents system. - Okinawa, in concert with the national and prefectural government, is developing industries related to information and communications as the new key industries following tourism in Okinawa. The government will promote comprehensive policies in order to facilitate IT- related companies entering that market. - These policies will also be applied in other geographic areas. 	<p>promote the exchange of technology and the standardization of optical technology-compatible next-generation information and communications networks and the development of ubiquitous network by participating in international joint study.</p>
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Glossary of Terms

Term	Meaning	Section
Archive	Packaging documents or records together for storing. Using digital technology, various types of resources, such as text, images, sound can be packaged together for distribution, retrieval, or reuse over the Internet, etc.	Chapter 2: 5. Knowledge p.22
Asia IT Initiative	This initiative is aimed at establishing cooperative bilateral and/or multilateral relationships with countries in the Asia region centering on IT. It was created in view of implementing comprehensive and consistent policies and will include various policies in addition to the “Asian Broadband Strategy.”	Chapter 3 5. Development of New International Relations via IT Technology p.37
Asian Broadband Strategy	An action plan that aims to develop the broadband environment in Asia, which was compiled by the Ministry of Public Management, Home Affairs, Posts and Telecommunications, the cabinet office, and other related ministries on March 28, 2003. The plan is based on the <i>e-Japan Priority Policy Plan 2002</i> (Compiled by the Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society, June 18, 2002,) as well as the <i>Basic Policies for Economic and Fiscal Management and Structural Reform 2003</i> (Compiled by the Cabinet on June 25, 2002).	Chapter 3 5. Development of New International Relations via IT Technology p.37
A User-defined Japanese Character	These are unusual readings for characters not included (“external”) in the JIS character set which a computer user can specifically add. The characters will not correctly appear on computers which have not been defined by the user in this way.	Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation p.32
Computer Virus	An intentionally harmful program which infiltrates people's computers through the Internet and other means. Particularly harmful viruses can destroy data and files.	Chapter 3: 2. Development of a Secure and Reliable IT Environment p.33

Content	Information or substance. Web content refers to text or graphics posted on a website.	Chapter 2: 5. Knowledge	p.22
DoS Attack	Abbreviation of denial-of-service attack. A type of attack on a computer or network which overloads the system or exploits security holes with the aim of completely disabling operations	Chapter 3: 2. Development of a Secure and Reliable IT Environment	p.33
EDI	Abbreviation of Electronic Data Interchange. This technology enables business transaction data, such as orders and payments, to be electronically exchanged between different companies via computer networks using an agreed-upon format.	Chapter 2 2. Food	p.13
Escrow	Third party financial holding system. Escrow is a service that can enhance the financial security of business transactions through the intermediation of a third party that holds property or money until the obligations of a contract have been met. This service reduces the risks in such transactions.	Chapter 2: 4. Small and Medium Enterprises Financing	p.19
Gbps	Abbreviation of Giga bits per second. Bps (bits per second) is the standard measure of data transmission speeds. A gigabit equals 10 to the 9 th power, or 1,000,000,000 bits.	Chapter 3: 3. Promotion of Technology R&D to Create Next Generation Knowledge	p.35
GIS	Abbreviation of Geographic Information System. Tools and technology enabling us to manage, produce, and visually display (as maps and charts) spatial data information related to positioning. This information can be used for advanced analysis and rapid interpretation.	Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation	p.32
GPS	Abbreviation of Global Positioning System, which utilizes radio signals sent from satellites to calculate longitude, latitude, and altitude. The system was developed by the United States Department of Defense..	Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation	p.32

Information Appliances	Electrical appliances for the average consumer which have a basic interface for connecting up to the Internet or are capable of interoperability and inter-connection to other devices.	Chapter 3: 3. Promotion of Technology R&D to Create Next Generation Knowledge p.35
IP Phone	Telephone (voice call) service using part or all of an IP (Internet protocol) network	Chapter 2: 3. Lifestyle p.17
IPv6	Abbreviation of Internet Protocol Version 6, it is also referred to as "Internet Protocol next generation. (IPng)" Improvements in this version include IP addresses being lengthened from 32 bits to 128 bits.	Chapter 3: 3. Promotion of Technology R&D to Create Next Generation Knowledge p.35
IT Locker	Payment and home-delivery electronic locker system. For example, when purchasing something online, you can specify "IT locker" to have it paid for and simultaneously delivered via your IT locker.	Chapter 2: 3. Lifestyle p.16
ITS	Abbreviation of Intelligent Transport Systems. Using information and communications technology, this system integrates people, automobiles, and the road. The technology can be used to overcome traffic-related problems such as traffic jams, accidents, and the impact which traffic has on the environment.	Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation p.32
Portability	The portability of pensions or benefits is a situation whereby a person changing jobs can transfer their pension and benefits.	Chapter 2: 6. Employment and Labor p.26
Portal Site	Satellite communications system in orbit 36,000 km above sea level and positioned 45 degrees over the equator. This system, because of its steep angle enables high quality mobile transmission, broadcast, and position, not impaired by buildings.	Chapter 2: 7. Public Service Chapter 3: 4. Promotion of Human Resource Development and Education for the Era of Effective IT Utilization p.28 p.37

Quasi-Zenith Satellite	Satellite communications system in orbit 36,000 km above sea level and positioned 45 degrees over the equator. This system, because of its steep angle enables high quality mobile transmission, broadcast, and position, not impaired by buildings.	Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation p.32
RFID Tag	Abbreviation of Radio Frequency Identification tags. These tags are equipped with internal IC chips which can store identification data. Utilizing radio waves, stored data can be accessed (read/write) within close distance without actual physical contact.	Chapter 2: 2. Food p.14 Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation p.32 Chapter 3: 3. Promotion of Technology R&D to Create Next Generation Knowledge p.35
SCM	Abbreviation of Supply Chain Management. A logistics management system which optimizes the distribution of products based on data (procuring, producing, and delivering) obtained by using IT..	Chapter 2 1. Medical Services p.9
Software Defined Radio	Software technology that can flexibly define the wireless transmission method, such as band frequency.	Chapter 3: 3. Promotion of Technology R&D to Create Next Generation Knowledge p.32
SOHO	Abbreviation of Small Office Home Office. Includes non-company teleworkers	Chapter 2: 6. Employment and Labor p.25
Substrate Software	Basic software platforms (such as operating systems) which run various applications.	Chapter 3: 3. Promotion of Technology R&D to Create Next Generation Knowledge p.35

Tbps	Abbreviation of Tera bits per second which is 10 to the 12 th power (or approximately 1 trillion bits per second)..	Chapter 3: 3. Promotion of Technology R&D to Create Next Generation Knowledge p.35
Technical Graduate Programs	Graduate programs which are aimed at providing specialists (such as certified public accounts, or legal professionals like lawyers and prosecutors) with the skills and knowledge needed in their professions. Set to begin in April of 2003, these programs are aimed at cultivating human resources..	Chapter 2: 5. Knowledge p.22
Telework	Moving away from traditional concepts of the work place and set working times, a new working style which utilizes IT to allow people to choose the most efficient and results-producing workplace and work times.	Chapter 2: 6. Employment and Labor p.25
Traceability	Being able to trace the history and product information of a product through each stage of the process it takes from production to processing to distribution.	Chapter 2: 2. Food p.13 Chapter 3: 5. Expansion of New IT-Centered International Relations p.38
Ultra High-Speed /High-Speed Internet	High-speed Internet is characterized by DSL, CATV Internet, and Fixed Wireless Access (FWA), which enable the smooth download of large amounts of data, such as music files. Ultra high-speed Internet is characterized by subscriber fiber optic access, which enables the smooth download extremely large	Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation p.30
Unauthorized Access	The condition whereby someone unauthorized accesses a computer.	Chapter 3: 2. Development of a Secure and Reliable IT Environment p.33
UWB	Abbreviation of Ultra-Wideband. System which emits ultra-low power radio signals with very short electrical pulses in the frequency band of more than several GHz. The system can enable high speed data transmission in the range of 100Mbps within a 10-meter radius, and can also be used to high precision positioning.	Chapter 3: 1. Information and Telecommunications Infrastructure Development for the Next Generation p.32