CHAPTER 5   OVERVIEW OF NATIONAL IT POLICY

The "e-Japan Strategy" established by the government in January 2001, which centers around a strategic headquarters for promoting an advanced information and telecommunications network society, has been laid out and driven forward by the government.   Recently, the "e-Japan Strategy II," which emphasizes not only infrastructure and rule upgrades but IT use and exploitation, and the "e-Japan Strategy II Acceleration Package" that accelerates the pace of its implementation were drawn up, and the "e-Japan Priority Policy Program" was formulated and implemented as a plan of action.   As a result, Japan is being guided from the phase in which it caught up with the world's most advanced IT countries toward the phase in which it leads the world in building a 21st century IT society.   In light of this, the "IT New Reform Strategy" was formulated in 2006.   In addition, "IT New Reform Strategy Policy Package" that accelerates the pace of its implementation and "Priority Policy Program - 2007" which is an action plan were formulated in 2007.

Along with reviewing the trends in this national IT strategy, we will summarize here the trends in IT policy at the Ministry of Economy, Trade and Industry (METI) and the Ministry of Internal Affairs and Communications (MIC) that are based on these.

Further, in the past the term "IT (Information Technology)" was used to refer to the technology related to information and communications, but in recent years, the term "ICT (Information and Communication Technology)" is also used.   Here, we will not integrate the terminology, but instead, will use the terms as they appear in the official documents.

5-1. TRENDS IN NATIONAL IT STRATEGY

1. Background to Present

In Japan's IT policy, the IT Basic Law was enacted in November 2000, followed by the establishment of the Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society (IT Strategic Headquarters: Directed by the Prime Minister) and the "e-Japan Strategy" was formulated as the backbone of information policy in January 2001.   Within that framework, the goal of "becoming the world's most advanced IT nation in five years (2005)" was set, and structural improvements focusing on infrastructure and rule upgrades were undertaken.   Structural improvement measures to become the world's most advanced IT nation, which could be referred to as the first phase, resulted in the achievement of infrastructure enhancements such as a dramatic rise in the Internet penetration rate accompanying the spread of ADSL, systemic reforms in e-commerce, and the introduction of online administrative procedures plus improvements in related systems and regulations.   Having gained those results, the Strategic Headquarters in July 2003 formulated an "e-Japan Strategy II" as it second-phase policy emphasizing IT use and exploitation, and has been addressing cross-sectional issues such as the seven leading sectors of health care, food, daily life, SME financing, knowledge, employment and government services with next-generation infrastructure and international strategies.

In the intervening period, the "e-Japan Strategy II Acceleration Package" was formulated by the government in February 2004 to speed up the implementation of the "e-Japan Strategy II," crystallizing efforts in six crucial areas toward the development of an international strategy for the IT sector in Asia and elsewhere, the strengthening of security policies (safety and security), the promotion of a content policy, IT deregulation, a general assessment with regard to the achievement of targets set forth in the "e-Japan Strategy" and "e-Japan Strategy II," and the promotion of e-government and e-municipalities.
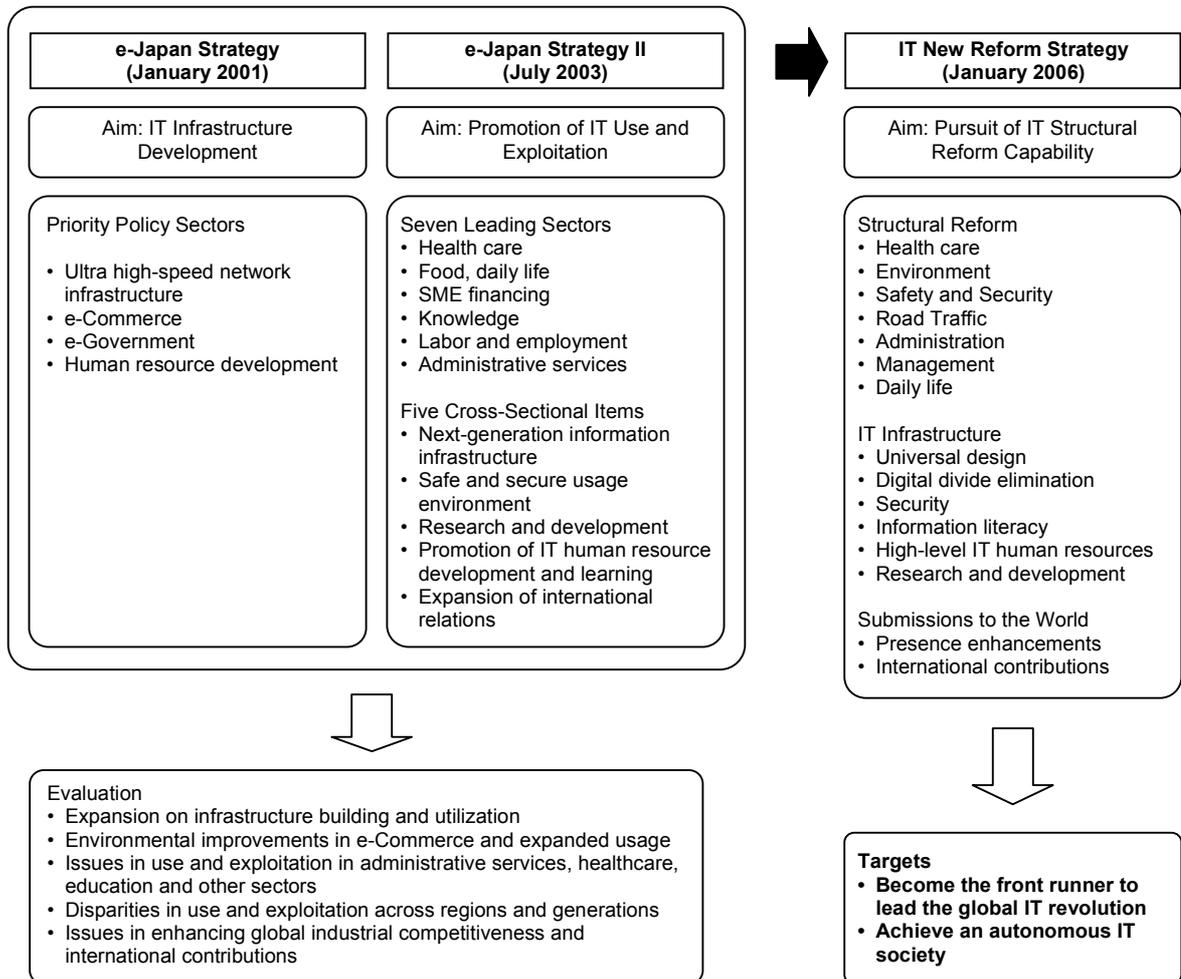
Further, it came up with the "IT Policy Package 2005" in February 2005 as a measure from the user's perspective. This gave shape to an intensive effort in e-government, e-municipalities, health care, education and human resources, daily life, e-commerce, data security and personal information protection, international policy, and research and development.

As a result of these efforts, Japan is achieving globally advanced status in terms of broadband infrastructure upgrades and the expansion of its availability, the spread of sophisticated cellular telephones, and environmental improvements in e-commerce and its dramatic expansion. Through this process, significant progress is also being made on the construction of an IT propulsion mechanism with the establishment of a public-private cooperative system and an IT strategy evaluation system, which is leading Japan out of the phase of catching up to the world's leaders toward a phase in which it will lead the world in building a 21st century IT society.

In this manner, Japan is one of the most advanced nations in the world for infrastructural improvements at the user level, and has become the world's most advanced IT nation to have a state-of-the-art market and technical environment. On the other hand, it is confronted with issues of improving national satisfaction with the application and use of IT in the administrative services, healthcare and education sectors, rectifying regional and cross-generational disparities in information usage, promoting security measures, implementing disaster prevention and preparedness measures, enhancing IT use and exploitation, and supporting the international competitiveness of industry in corporate management.

The "IT New Reform Strategy," a new national information policy strategy that takes this situation into account, was formulated in January 2006. In addition, the "IT New Reform Strategy Policy Package" that accelerates the pace of its implementation was drawn up in April 2007, and "Priority Policy Program - 2007" was formulated in July 2007 as a policy to be strictly enforced under the "IT New Reform Strategy" and "IT New Reform Strategy Policy Package." (Figure 5-1)

(Based on the "e-Japan Strategy," the "e-Japan Strategy II" and the "IT New Reform Strategy.")

e-Japan Strategy (January 2001)	e-Japan Strategy II (July 2003)	IT New Reform Strategy (January 2006)
Aim: IT Infrastructure Development	Aim: Promotion of IT Use and Exploitation	Aim: Pursuit of IT Structural Reform Capability

e-Japan Strategy (January 2001)

Priority Policy Sectors

• Ultra high-speed network infrastructure
• e-Commerce
• e-Government
• Human resource development

e-Japan Strategy II (July 2003)

Seven Leading Sectors
• Health care
• Food, daily life
• SME financing
• Knowledge
• Labor and employment
• Administrative services

Five Cross-Sectional Items
• Next-generation information infrastructure
• Safe and secure usage environment
• Research and development
• Promotion of IT human resource development and learning
• Expansion of international relations

IT New Reform Strategy (January 2006)

Structural Reform
• Health care
• Environment
• Safety and Security
• Road Traffic
• Administration
• Management
• Daily life

IT Infrastructure
• Universal design
• Digital divide elimination
• Security
• Information literacy
• High-level IT human resources
• Research and development

Submissions to the World
• Presence enhancements
• International contributions

Evaluation
• Expansion on infrastructure building and utilization
• Environmental improvements in e-Commerce and expanded usage
• Issues in use and exploitation in administrative services, healthcare, education and other sectors
• Disparities in use and exploitation across regions and generations
• Issues in enhancing global industrial competitiveness and international contributions

Targets
• **Become the front runner to lead the global IT revolution**
• **Achieve an autonomous IT society**

Figure 5-1
Development of National IT Strategy

Source: *Produced based on "e-Japan Strategy," "e-Japan Strategy II," and IT New Reform Strategy.".*

2. The IT New Reform Strategy Policy Package

The "IT New Reform Strategy – Achieving a society in which the benefits of IT can be realized anytime, anywhere, by anyone," formulated in January 2006, and continued after the "e-Japan Strategy" and the "e-Japan Strategy II" as Japan's information policy strategy that will bring IT-based reforms to fruition in the year 2010 with the goal of transforming Japan into a collaborative-style IT society in which sustainable development can be autonomous and everyone can participate in the activities of society voluntarily.

The "IT New Reform Strategy Policy Package" was formulated in April 2007 with the objective of attaining this "IT New Reform Strategy," and encompassed the basic direction of the future IT strategy. Its aims are to: 1) Realize rapid progress of the IT New Reform Strategy and 2) Become the engine for creation and reform to bring about new possibilities.

The following three points are the policy targets that policy package strives to achieve:

- Advancement of efficiency and productivity and the creation of new value

   Strategic full utilization of the world's highest level IT infrastructure by both government and business and a significant advancement of efficiency and productivity of the entire nation through networks that transcend organizations, and the creation of new values for the citizenry of Japan.

- Realization of a healthy and secure society

   Realization of a society in which all people, regardless of age and gender, can securely enjoy a high quality of life without worry about life in old age by fully utilizing the IT infrastructure.

- Building of a creative development infrastructure

   Creation of new value and improving efficiency and productivity, as well as building and exploiting an infrastructure that can lead to future creative development, as the foundation for realizing a society in which citizens can be healthy and secure.

3. Priority Policy Program – 2007

The "Priority Policy Program – 2007" was formulated in July 2007 as a priority policy to achieve the targets established in the "IT New Reform Strategy" and the "IT New Reform Strategy Policy Package."

Further, "strengthening of the evaluation and enactment system" is presented as the basic policy for enforcement and development. The PDCA cycle will be steadily enacted by enacting a rigorous evaluation by the "Expert Committee on IT New Reform Strategy" comprised of prominent civilians or the "Medical Audit Committee" or "e-Government Evaluation Committee" established below it and having the results of that evaluation appropriately reflected in priority policy programs that are formulated in the future.

As the "Priority Policy Program – 2007" is steadily implemented and the extent of its accomplishments is continually evaluated in the days to come, it is expected that the goals of the "IT New Reform Strategy" will be reached by further accelerating and front loading its measures according to those conditions.

5-2. POLICY TRENDS AT THE MINISTRY OF ECONOMY, TRADE AND INDUSTRY (METI)

1. Policy Overview

METI has proposed or enacted the following policies in order to create new lifestyles and realize dynamic economic activities by exploiting IT.

- Enhancing IT industry competitiveness

  The global competitiveness of the Japanese IT industry is aimed at by strengthening the availability of our country's electrical and electronic equipment industry and the IT services and software industry. Specifically, under conditions of increasingly competitive conditions internationally and appeals for a technological innovation, METI is engaging in policies that support research and development, the development of software technologies in order to realize technological innovation, the reduction of costs, the differentiation of products, and the cultivation of new markets.

- Enhancing the competitiveness of IT users

  IT has become indispensable to businesses and organizations. With the understanding that its use has an effect on competitiveness, policies are being formulated in order to support the exploitation and implementation of IT technology by businesses and organizations. Specifically, policies that support the promotion of e-municipalities and management reforms by utilizing IT among SMEs are being enacted.

- Building an environment for information economy society

  This policy is to realize an economy as well as society that everyone can safely and comfortably participate in, based on an awareness that with the arrival of an economic society in which a large quantity of many types of information circulate, businesses and governmental activities, while peoples' lifestyles face new problems. METI is currently implementing measures to build infrastructure for information security and protecting personal information, increase the sophistication of the industrial structure, and enact policies to ensure fairness in market transactions.

2. IT Services and Software Industry Restoration

Under the realization that the IT services and software industry will be the driving force of Japan's economic development and competitive strength, the IT services and Software Industry Sub-committee of the Industrial Structure Council's Information Economy Sectional Committee reviewed these approaches to industrial development. As an interim summary of this review, a report entitled "Information Services and Software Industry Restoration – Toward the Realization of an Attractive Information Services and Software Industry" was published in September 2006.

The interim summary pointed out that the factors obstructing the enhancement of productivity and contributing to the issue of the reliability of the information systems were the lack of transparency in the transaction structure and industrial structure of the IT services and software industry.

- Information system, model transaction and contract

  In the "Guideline about the Reliability of the Information System" formulated in June 2006 and the "Information Services and Software Industry Restoration," transparency in the contract articles and the visualization of transaction relations between users and vendors were deemed necessary. Following these publications, the "Information system, model transaction and contract" was published in April 2007. This model transaction and contract is comprised of the following three components:

1) Model contract process: information system building

   Organization of the relationship between the transaction process and the contract process

2) Model contract (planning, development, repair and maintenance and operation): items to be decided in a contract based on the transactions customs and special character of information systems

3) Document model: examples of documents besides contracts that will be used.

There are plans to deliberate the form of the diverse contracts based on diverse development models, and to revise them periodically.

- Reliability index

  Observing the "Guideline about Reliability of Information System" formulated in June 2006, an actual index that evaluates reliability was deliberated. In April 2007, a trial edition was formulated, and an evaluation of this draft is being conducted.

- ADR (Alternative Dispute Resolution) use

  Latent conflicts will only increase as the use and exploitation of information system diversifies and the risk increases. ADR is targeted as something that will enable the resolution to these conflicts by technical specialists, while maintaining secrecy and speed compared to a strict trial procedure. Efforts to conduct seminars in order to resolve the issues of the lack of understanding and knowledge about ADR and the absence of an ADR organization that specializes in the software fields are being promoted.

- Guidelines to evaluate IT investment value

  Based on the belief that involvement of the management is necessary in order to conduct IT investment that leads to true increases in productivity, guidelines will be formulated so that management can quantitatively evaluate IT investment. Deliberations toward the formulation of these guidelines are underway.

- Guidelines for the Subcontract Law

  Enact deliberations and create a proposal in preparation for the formulation of practical guidelines related to the Subcontract Law as it applies to the IT services and software industry.

- Enhancement of transactions

  As the industrial structure becomes more complex, in order to enhance industry while also ensuring the complete compliance with laws, deliberation of issues related to the promotion of compliance with the labor law system, deliberations of how to flatten the transaction structure through joint ventures with LLP (limited liability partnership), civil associations, and the deliberation of transactions based on dispatch contracts are being conducted.

3.   IT Frontier Initiative

In June 2007, the Information Economy Committee of the Industrial Structure Council published "Toward Accelerating IT-Based Productivity Improvement" (IT Frontier Initiative).   This is an overview of the proposal for the acceleration of productivity improvement capitalizing on IT.   While Japan has the most advanced IT infrastructure in the world, and though progress has been made on technological innovations, the reality is that these conditions do not necessarily mean that IT is being utilized to its fullest for the future improvement of productivity.   In order to accelerate productivity improvement capitalizing on IT, the following three recommendations and specific measures were laid out:

Make a sharp distinction between the competitive domains where differentiation is necessary and non-competitive domains where businesses should cooperate within each function of IT investment, and enhance the efficiency of IT investment through "selection and concentration."

Create a network of business information utilizing electronic tags and e-Commerce in order to advance the sharing of information across organizations.

Prioritize support of the use of IT in SMEs, which comprise 99% of all Japanese businesses, and the service industries, which comprises 70% of the country's GDP.

In addition, as an infrastructure that can support IT use, specific measures were formulated related to the development of high-level IT personnel, securing of information security, and responses to structural problems.

METI plans to formulate specific policies based on this.

4.   Overview of Fiscal 2008 Efforts

An overview of information policy at the Ministry of Economy, Trade and Industry in Fiscal 2008 is as follows (figures reflect the budget disclosed in the government proposal in December 2007).

1)   IT response to social issues like the environment and safety

- Build a shared infrastructure of EDI and electronic tags as measures to promote the environment and safety (JPY 1.4 billion)

  Build a system that goes beyond the boundaries of specific enterprises, markets and business sectors in terms of information related to chemical properties in products and product safety by exploiting the electronic tag and EDI (electronic data exchange).

- Promote of the "Green IT Project" to realize a significant conservation of energy in IT use (JPY 3 billion)

  Develop innovative energy conservation technologies over the entire network, in addition to individual devices and equipment in order to build an IT society in harmony with the environment.

- Develop ITS technology that strengthens the electric technology infrastructure of automobiles and contributes to energy conservation (JPY 850 million)

  International standardization of our country's superior ITS, and conduct studies of a technological roadmap of semiconductors in response to the computerization of automobiles.   Further, develop new ITS technology that contributes to energy conservation, such as automobile technology for truck convoys and traffic signal control technologies that can reduce traffic.

2) Create of an IT industry and technology that is an international leader

- Promote of the "Dream Chip Development Project" (JPY 1.2 billion)

  Develop a sophisticated semiconductor (dream chip) that develops and integrates three dimension semiconductor device technologies that can respond to the many social and lifestyle needs in the future, such as the creation of a mobile phone that can freely transmit anytime, anywhere.

- Promote the "Information Big Voyage Project" (JPY 4.1 billion)

  Conduct technological development and project development support in order to conveniently and accurately search for and interpret necessary information from the large quantity of diverse types of information.

- Promote technology development projects for the next-generation circuit architecture (JPY 250 million)

  Conduct the enforcement and evaluation of semiconductor devices selected from public submissions in order to promote the development of innovative semiconductor device technologies from talented people in academia.

3) Improve IT investment efficiency and strengthening of the competitiveness of the industry

- Technological development of embedded software for common products and information systems (JPY 900 million)

  Conduct the technological development of common control software that are integrated in information appliances, mobile phones, car navigation systems and robots, and implement the technological development for common infrastructure related to production control in order to improve the efficiency of IT investment.

5-3. POLICY TRENDS AT THE MINISTRY OF INTERNAL AFFAIRS AND COMMUNICATIONS (MIC)

1. Policy Overview

Based on the understanding that realizing a "ubiquitous network society" is essential to find solutions to serious impending social problems, such as the decline in birthrate and growing proportion of elderly people, the Ministry of Internal Affairs and Communications formulated the "u-Japan Policy," a systematic information and communication technology (ITC) policy, in December 2004 with the goal of achieving this by the year 2010.

The following three points constitute the basic linchpins of this policy.

- From broadband to ubiquitous

  A shift from wire-centric infrastructure building to a seamless ubiquitous network environment with no wired or wireless distinction

- From information promotion to business solutions

  From measures and policies focusing on areas that are slow to computerize to the stage of proactively using and exploiting IT to solve the social problems of the 21st century

- Drastic enhancements in the usage environment

  Dispelling anxiety toward privacy and security in response to the spread and penetration of ICT into people's lives and a growth in its use and exploitation

The aim of this policy is to have ICT work its way into every nook and cranny of life through efforts like this, and for inventive use and exploitation to be promoted for the enhancement of the quality of society as a whole.

Specifically, the following targets have been established.

- Realize a society in which all citizens can use high-speed or ultra high-speed network, by 2010.

- Realize a society where 80% of the citizens consider ICT to be useful for resolving problems, by 2010.

- Realize an environment in which 80% of the citizens feel safe and secure using information communication, by 2010.

The MIC is formulating policies to achieve these targets.

2. ICT Reform Promotion Program

The MIC formulated the "ICT Reform Promotion Program" in April 2007. This program's aim is to accelerate the structural reform of the ICT field in order to improve convenience for users and to enhance the international competitiveness of the ICT industry, which contributes greatly to economic growth in Japan, where population decrease is a serious social problem.

For this, the following will be prioritized.

- Enhancement of international competitiveness

  Engage in maintenance of ICT shared infrastructure maintenance for the establishment of a "ubiquitous zone," the formulation and enactment of the "ICT International Competitiveness Enhancement Program," the enrichment of international broadcasting and the raising of productivity.

- Promotion of telecommunication and broadcasting reform

  Promotion of reform on NHK, promotion of the competitiveness of broadcasting, and communication

  Engage in the promotion of circulation of content, and integration and cooperation in broadcasting

- Fundamental enhancement of international strategic systems related to information communication

  Reconsideration of the structure used to comprehensively and strategically enhance international competitiveness of the ICT industry and the integration and cooperation in communication and broadcasting.

3. Overview of Fiscal 2008 Efforts

An overview of information policy at the Ministry of Internal Affairs and Communication in Fiscal 2008 is as follows (figures reflect the budget disclosed in the government proposal in December 2007).

1) Enhancing international competitiveness (JPY 15.51 billion)

   The "promotion of ubiquitous zone businesses," "promotion of the Japan Initiative Project," "enhancement of standardization activities," "promotion of ICT human resource development and the use and exploitation of education," "enhancement of soft power," "maintenance of ICT shared infrastructure to increase productivity" and "support for international expansion" were conducted.

2) Building of a ubiquitous network for the revitalization of regional communities (JPY 47.25 billion)

   The promotion of the "eradication of the digital divide," "complete switchover to terrestrial digital broadcasting," the "revitalization of regional communities through the ubiquitous community design," and the "promotion of content circulation."

3) Advanced use and exploitation of ICT and building an environment for its utilization (JPY 7.57 billion)

   The promotion of "social system reform through the use of ICT," the "promotion of advanced ICT use and exploitation," the "securing of the safety and stability of ICT."

4) Promotion of technological strategies (JPY 33.22 billion)

   The promotion of "promotion of technological development to enhance competitiveness," "promotion of a social restoration acceleration project for innovation," "promotion of research and development that utilizes creativity and originality," and "the enhancement of standardization activities."

5-4. EFFORTS OF OTHER MINISTRIES

Policies based on the National IT Strategy have been carried out in ministries and agencies other than the Ministry of Economy, Trade and Industry and the Ministry of Internal Affairs and Communications, such as the "IT New Reform Strategy." The specific policies expressed in the "Priority Policy Program – 2007" specifies the responsible ministries and agencies for each part, and specific efforts are promoted.

This section introduces an overview of efforts related to computerization the medical fields and education, which are often discussed in the IT strategic headquarters as they are intimately related to the life of the citizenry.

1. Computerization of the Medical Fields

The Ministry of Health, Labour and Welfare promotes computerization of the medical fields based on an understanding that IT is an important infrastructure necessary for improving the quality of service and efficiency in the medical fields and for the collection, analysis and evaluation (PDCA: Plan-Do-Check-Action) cycle related to these services. In March 2007, the "grand design for computerization in the medical, healthcare, nursing and social welfare fields (IT grand design)" was formulated in order to focus specifically on the computerization in the medical fields. Here, the following targets for realization in the next five years were established based on an analysis of the problems related to the advancement of computerization, as well as on an assessment of the needs of the citizenry, medical institutions, caregivers and insurers.

- Enable personal collection and management of one's medical examination and health information records electronically to utilize in daily health management, and when the need arises, supply this information to medical institutions to receive the appropriate medical treatment. Further, insurers will be able to utilize the medical examination information and receipt data in order to provide effective leadership in the preservation of health.

- Promote the statistical use of information and epidemiological exploitation, the promotion of medical safety through the prevention of misreading and misrecording, smooth and speedy transmission of information, safe and effective management of physical distribution, and the efficient delivery and preservation of medical records through the computerization within medical institutions.

- Establish a safe network for medical institutions, enabling the safe and smooth exchange of information related to images of diagnoses and test information, making it possible to introduce these records to specialists or to seek a second opinion smoothly.

- Sharing of information electronically between medical institutions and insurers, enabling the smooth and safe transmission of information related to the user (chronic illnesses, allergies, responses to major changes, etc) to facilitate the safe receipt of this information by the user.

- Promote EBM (Evidence-based Medicine) to enable medical researchers, medical employees, the state, municipal bodies and insurers to conduct the statistical and epidemiological analysis from medical information, medical treatment information and receipts, while keeping in mind the need to protect personal information for the advancement of medical schools and enhancement of the quality of medical treatment services.

- Keep down the medical insurance related costs of medical institutions, review and payment facilities, and insurers by making the receipt request task completely online.

Further, specific policies have been formulated to realize these targets, and efforts are being made to enact them.

2.   The Computerization of the Educational Fields

The Ministry of Education, Culture, Sports, Science and Technology conducted efforts to aggressively promote the use of computers and the internet among elementary, junior high and high school students based on the understanding that it was important to foster the "ability to use information" in children, and also made subjects and content related to information compulsory in junior high and high schools.   Further, based on the "e-Japan Strategy," conducted efforts to support computer maintenance and internet connection for education, enrichment of teacher training, the development and spread of content for education, and the enrichment of the functions of the National Information Center for Educational Resources.   In December 2005, the "Action Plan for the Promotion of Computerization in Education" was formulated and the computerization of the educational field has been accelerated through this.

Further, in 2006 and 2007, the "Integrated Plan to Promote the Computerization of School Education." This aimed to meet the targets related to the computerization of education laid out in the "IT New Reform Strategy" and promote the computerization of school education in an integrated manner, specifically through the maintenance of the ICT environment in schools, enhancement of teachers' leadership abilities in ICT, the enrichment of ICT education, computerization of school administration and information moral education.   The targets related to the computerization of education in the "IT New Reform Strategy" are as follows.

- High-speed internet connectivity rate ➔ fiber optical ultra high-speed internet: Roughly 100%

- Ratio of schools equipped with LAN: Roughly 100%

- Number of educational computers per school child: 3.5 to 1

- Ratio of teachers who can teach using computers: Roughly 100%

- Ratio of educational computers per teacher: 1 per person

The Ministry of Education, Culture, Sports, Science and Technology continues to promote the "Integrated Plan to Promote the Computerization of School Education" in 2008, and is working toward achieving the above targets.