



## Section 3

# Upgrading Information and Communications Networks

### 1. Promoting Improvement of the Network Infrastructure

#### (1) Promoting the shift to IPv6

Since fiscal 2003 the MPHPT has been implementing demonstrative experiments relating to the shift from IPv4 (Internet Protocol version 4) to IPv6 (Internet Protocol version 6) for networks comprising such Internet user entities as households, companies, and local governments. The objective is to solve issues arising in network operation and to formulate the most appropriate models for users to facilitate their shift to IPv6 without exerting an impact on the present IPv4. Also, in order to promote the international shift to IPv6, the MPHPT intends to transmit the know-how relating to the shift to IPv6 obtained from these demonstrative experiments to other countries by means of the publicizing of the results of the experiments and so on.

#### (2) Study on construction of next-generation network infrastructure

In consideration of the further development of IP and broadband that is expected from now on, the MPHPT since February 2004 has been convening the Study Group on Next-Generation IP Infrastructure to study prospects for the construction of next-generation network infrastructure capable of responding to the rapid increase of traffic in the future, policy support for infrastructure construction, and other issues. The study group is scheduled to issue its first report in June 2004.

#### (3) Study on mobile phone number portability

From November 2003 discussions were held in the MPHPT's Study Group on Mobile Number Portability, which compiled a report in April 2004. This report noted that around 30% of mobile phone users (the equivalent of about 24 million subscriptions) intended to use portability; that introduction was making progress in other countries and having the effect of lowering rates through the promotion of competition; that there was a strong possibility of the merits spreading widely among not only the users of number portability but all mobile phone users; and that estimates of the effects of introducing portability showed that the benefits of introduction would exceed the cost. Therefore, the report proposed that it would be appropriate to introduce mobile phone portability at the earliest opportunity in fiscal 2006.

#### (4) Upgrading of the wireless Internet

In order to respond to new applications in the future (such as the transmission of three-dimensional images

and ultra-high-definition images and the parallel and distributed processing of large amounts of information), the realization of super-high-speed wireless LAN enabling gigabit-class communication is called for. The e-Japan Priority Policy Program 2003 also states that "in order to enable gigabit-class communication indoors, etc., efforts will be made to realize super-high-speed wireless access by fiscal 2010." In consideration of such opinions, the MPHPT in fiscal 2004 commenced research and development toward the realization of super-high-speed wireless LAN with the aim of contributing to the building of the most advanced mobile IT environment in the world.

### 2. Promoting Advances in Broadcasting

In July 2001 the "National Conference for Promotion of Terrestrial Digital Broadcasting" was established, consisting of three parties: NHK, commercial broadcasters, and the MPHPT. After discussing such matters as countermeasures for the change of analog frequencies, the estimate of expenses for countermeasures, and future developments, the council in August 2002 estimated that expenses for countermeasures would amount to about 180 billion yen, the number of stations requiring countermeasures would be 801, and the number of households requiring countermeasures would be around 4.26 million. In consideration of these study results, in the three major metropolitan regions the MPHPT began countermeasures for transmitters in August 2002 and countermeasures for individual households and others in February 2003. In other areas, it began countermeasures relating to Seto Inland Sea in September 2003 and then decided to bring forward countermeasures elsewhere around the country and implement them in an intensive manner in fiscal 2004.

In order to promote the construction of facilities for the operation of terrestrial digital broadcasting, the MPHPT provides tax benefits and financial support to broadcasters whose implementation plans have been certified (119 companies had received certification by the end of fiscal 2003) on the basis of the "Advanced Television Broadcasting Facility Promotion Temporary Measures Law". Furthermore, as a result of the tax system revision in fiscal 2003, efforts are made to further lighten the investment burden on companies, for example by expanding the scope of eligible facilities and equipment, and support measures involving national taxes (special repayment of corporate tax or income tax) and the fiscal investment and loan program are applied to broadcast program production companies.

### 3. Convergence of Communications and Broadcasting

Digital broadcasting, which is highly compatible with the Internet, allows easier distribution of conventional broadcast contents on various media other than broadcasting, particularly through a combination with the IPv6 Internet, expanding the possibilities for new services that converge communications and broadcasting.

On the basis of the “Law Concerning Promotion of Development of Technologies for Communications and Broadcasting Convergence”, which went into effect in November 2001, the MPHPT grants subsidies to private developers of technologies used for services that converge communications and broadcasting and establishes telecommunications systems for the common use of such

developers, thereby supporting the developers of such technologies and accelerating and promoting the development of services that converge communications and broadcasting.

In fiscal 2003, in response to the start of terrestrial digital broadcasting in the three major metropolitan areas, the MPHPT increased the construction of equipment compatible with terrestrial digital broadcasting in the test-bed systems for the development of communications-broadcasting convergence technologies so as to promote the early participation of broadcasting stations and related companies and to contribute toward accelerating and promoting the creation of new business models through terrestrial digital broadcasting.

## Section 4

### Promoting IT in Private Companies

#### 1. Establishment of Environment for Promoting the Creation and Growth of IT Venture Companies

Because many IT venture companies face such problems as a lack of credit capability immediately after founding, they have difficulty in procuring funds, securing human resources, and finding clients, which makes it hard for them to turn an excellent technology into a new business. Therefore, in order to promote the startup and growth of IT venture companies, the MPHPT provides various support measures in the areas of fund supply, human resources and know-how, taxation, and so on. In addition, a subsidy scheme involving cooperation between the public and private sectors was established in fiscal 2004, whereby the National Institute of Information and Communications Technology (NICT) grants subsidies to IT venture companies that have investment from private venture capital.

#### 2. Diffusing and Promoting Electronic Signatures and Certification Services

The MPHPT is reviewing the standards relating to the accreditation of designated certification services and is making efforts to ensure the safety of electronic signatures and security relating to certification services. Also,

in order to make it possible for anyone to make easy use of strict certification functions using electronic certificates and to enable the safe supply and use of network services, the MPHPT from fiscal 2004 is implementing research and development relating to the establishment of an advanced network certification infrastructure.

Furthermore, a list of recommendable cryptographic techniques for e-government procurement activities was decided in February 2003. Bearing this list in mind, when using a code for the building of an information system, ministries as far as possible make efforts to use a code that is included in the e-government recommendable cryptographic list. At present, in response to the further upgrading of offensive techniques against cryptography, the Cryptographic Technique Monitoring Subcommittee is conducting surveillance activities, such as gathering information on technological trends relating to cryptography, so as to maintain the safety of the codes included in the e-government recommendable cryptographic list.