

7 Issues in Info-communications

1. Developing the Global Info-communications Infrastructure

1.1 Internet Governance and Domain Names

Domain names are a key element of Internet communications, and their management (as well as IP address management) is crucial to Internet governance. Consequently, it is important that Japan actively participates in the discussion in Internet Corporation for Assigned Names and Numbers (ICANN), the private, nonprofit entity that manages domain names on an international level, and reflect the interests of Japanese Internet users and operators in order to ensure the further popularization and development of the Internet in Japan.

1.2 International E-Commerce

E-commerce is expected to provide impetus to social and economic activity in the coming years and hasten the process of globalization. Numerous issues remain in transborder electronic transactions, however, including what languages to use, international merchandise distribution, international account settlement, systems, and differences in business customs. Specific projects will be needed to deal with these issues. The MPT is involved in the development of international e-commerce through supporting a project promoted by the Telecom Services Association, the Integrated Next-Generation Electronic Commerce Environment Project (INGECEP).

1.3 The Next-Generation Mobile Communications Systems (IMT-2000)

In September 1999 the Telecommunications Technology Council reported on “Technical Conditions for Radio Equipment Employing Frequency Division Duplex (FDD) Using Code Division Multiple Access (CDMA),” one of the “Technical Conditions for Next-Generation Mobile Communications Systems.” The issue at hand is the technical conditions for radio equipment to be used when IMT-2000 is introduced in Japan. Based on the council’s report, the MPT revised the relevant regulations, including its Radio Equipment Regulations and, in March 2000, promulgated revised ministerial ordinances, which were put into effect in April 2000.

Additionally, to facilitate the introduction of IMT-2000, in March the MPT announced its policy directions for commercializing the process and wireless station licensing. The ministry began taking applications in April and aims to decide which operators to approve as soon as feasible so that IMT-2000 services can be inaugurated in 2001. The council’s report forecasts the scope of the IMT-2000 market at ¥42.02 trillion for the fiscal 2000–2010 period.

2. Building Next-Generation Network Infrastructure

2.1 Comprehensive Internet R&D

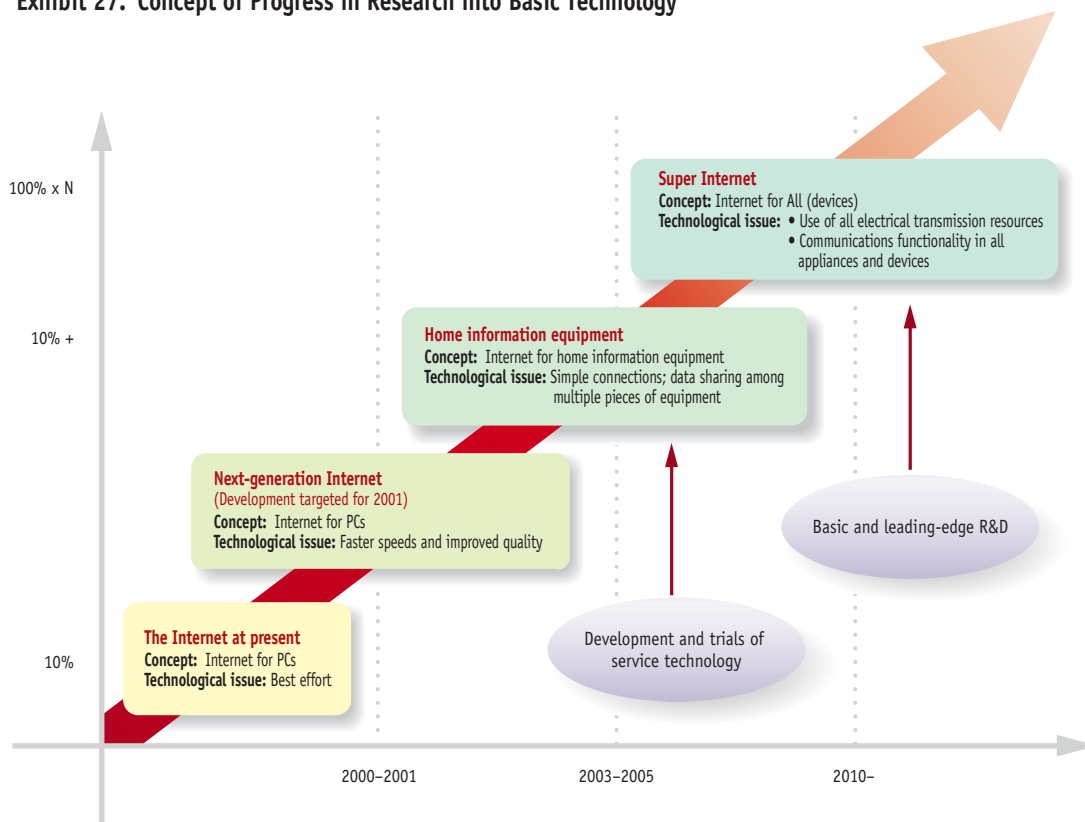
With more and more people using the Internet

and multimedia functionality growing, it is becoming increasingly crucial to (1) develop ultra-high-speed and high-capacity capabilities for the Internet and (2) research and develop the technology needed to make a wide range of equipment Internet-adjustable — including home information equipments such as digital TVs and portable terminals, and moreover, memories, devices contained in CPUs, and other electronic equipment besides PCs. The MPT is undertaking a research under the Millennium Project to ensure comprehensive Internet R&D. Some of this research is described below (Exhibit 27).

2.2 Electronic Signatures and Electronic Certification

The “Action plan for the Basic Guidelines on the Promotion of the Advanced Information and Telecommunications Society” (set by the Advanced Information and Telecommunications Society Promotion Headquarters in April 1999) notes the need for the immediate development of a system for electronic signatures and electronic certification. In light of this, the MPT, the Ministry of International Trade and Industry (MITI), and the Ministry of Justice have studied the legal system, worked together to solve points of contention, and solicited public comments. The result was a Bill on Electronic

Exhibit 27. Concept of Progress in Research into Basic Technology



Signature and Electronic Certification Operations, submitted to the 147th session of the Diet in April 2000.

2.3 Intelligent Transport Systems

The Intelligent Transport Systems (ITS) is a sophisticated next-generation transport system that uses leading-edge info-communications technology to organically link the driver, the road, and the vehicle to enhance road safety, transport efficiency, and the experience of driving. Such systems are also expected to contribute significantly to preserving the environment.

On the basis of already-developed non-stop Electronic Toll Collection (ETC) systems, R&D of futuristic parking lots that use wireless IC cards mounted in car to process entries and exits and attract cars automatically to the parking lot was conducted in fiscal 1999. Additionally, in January 2000 the MPT asked its Telecommunications Technology Council to deliberate on the "Technical Requirements for Dedicated Short-Range Communications (DSRC) Systems," aiming at the realization of DSRC to utilize the wireless technology of ETC systems for more multiple purposes.

3. Laying the Groundwork for Info-communications Usage

3.1 Information Security Measures

Illegal access to others' computer networks (hacking) is a growing problem. In response to this, in September 1999 the government created

a Council of Government Ministry and Agency Heads on Information Security, chaired by the Deputy Chief Cabinet Secretary, to study the legal system, look into the development of basis for measures against hackers, and take measures to counter cyber-terror. The broad makeup of the council will help ensure a comprehensive, government-wide response to the problem. The MPT is actively participating in the process. In January 2000 the council compiled an Action Plan for Building Foundations of Information, which includes a call for stronger government action and promotes private-sector efforts. A follow-up report, delineating progress made on the issue, is to be prepared in December 2000. (On February 29, 2000, an Information Security Countermeasures Promotion Council was set up under the auspices of the Advanced Information and Telecommunications Society Promotion Headquarters, replacing the Council of Government Ministry and Agency Heads on Information Security, which was abolished.)

3.2 Dealing with Illegal and Harmful Information

The appearance of illegal and harmful information on the Internet over the past several years has become a significant problem. To ensure that anyone can safely use the Internet as a means of communication, it is crucial that rules on the distribution of information over the Internet be developed, at the same time preserving the free distribution of information. For its part, the Telecom Services Association in February 1998 issued a guideline on codes of

practice for Internet service providers to follow.

3.3 Protecting Personal Information

The Subcommittee to Study Personal-Information Protection, created in July 1999 as part of the Advanced Information and Telecommunications Society Promotion Headquarters (chaired by the prime minister), conducted a comprehensive, government-wide study on how personal information should be protected and used, in light of the need to quickly develop a system, including legal measures, for protecting personal information in both the public and private sectors. The subcommittee compiled a report in November 1999.

For its part, in September 1999 the MPT convened a Study Group on a Legal System for Personal-Information Protection in the Telecommunications Field, which submitted a report in November. The report noted the need to create a legal system for the protection of personal information in the telecommunica-

tions field and indicated the basic direction an investigation should take in a study, focusing on sanctions for illegal acts.

4. The Digital Divide

4.1 Differentials of Internet Penetration

Data on regional Internet penetration rates (Exhibit 28) indicate that the US and Canada have an extremely high rate, 45.7%, while the rates in other regions are far behind, with second-place Europe at 9.9% and the Middle East, for example, at 2.2%. *Communications Usage Trend Survey (Household Section)* indicates that Internet penetration rates tend to vary directly with the size of the city in which respondents live, vary inversely with respondent age, and vary directly with household income (Exhibit 29). In other words, there are significant differentials in terms of region, age, and income.

Exhibit 28. Internet Penetration Rates, by Region

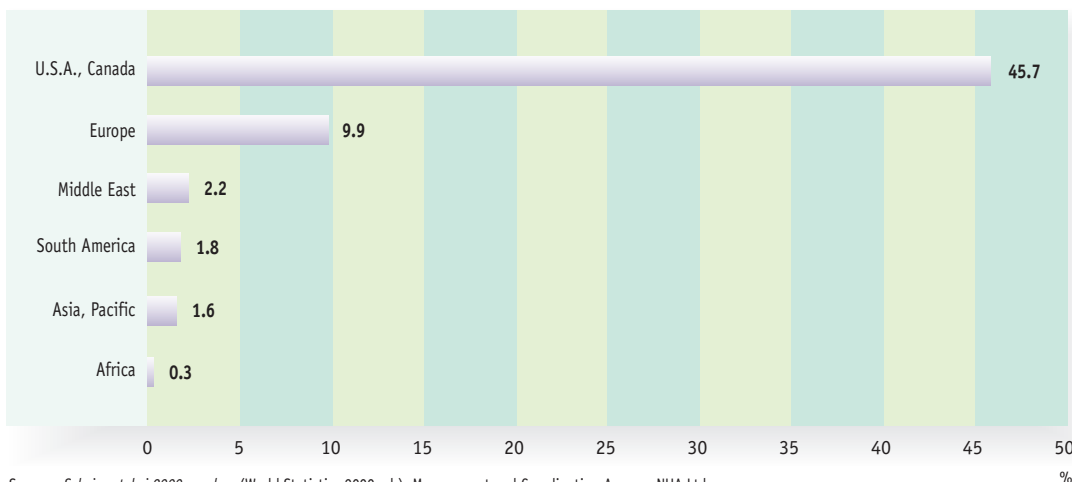
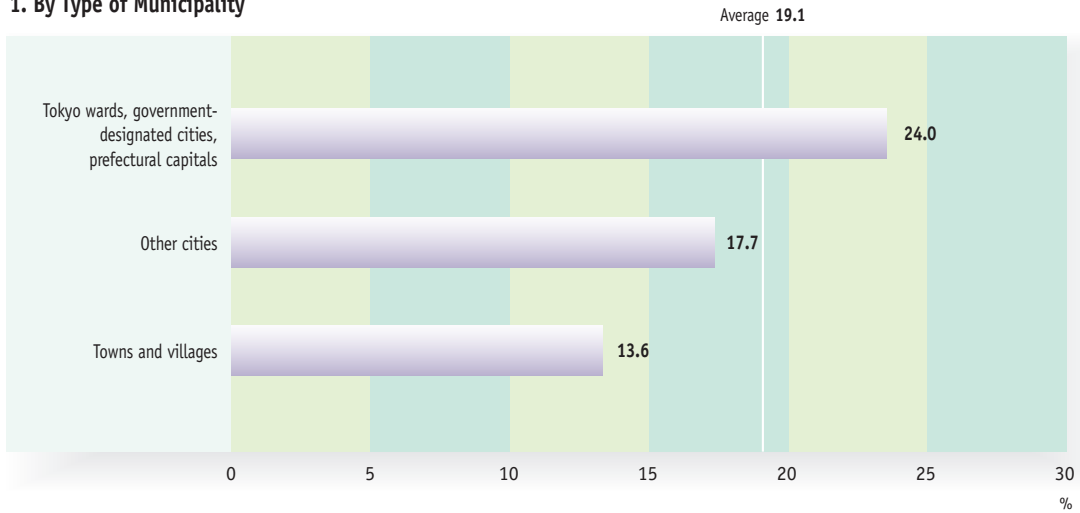
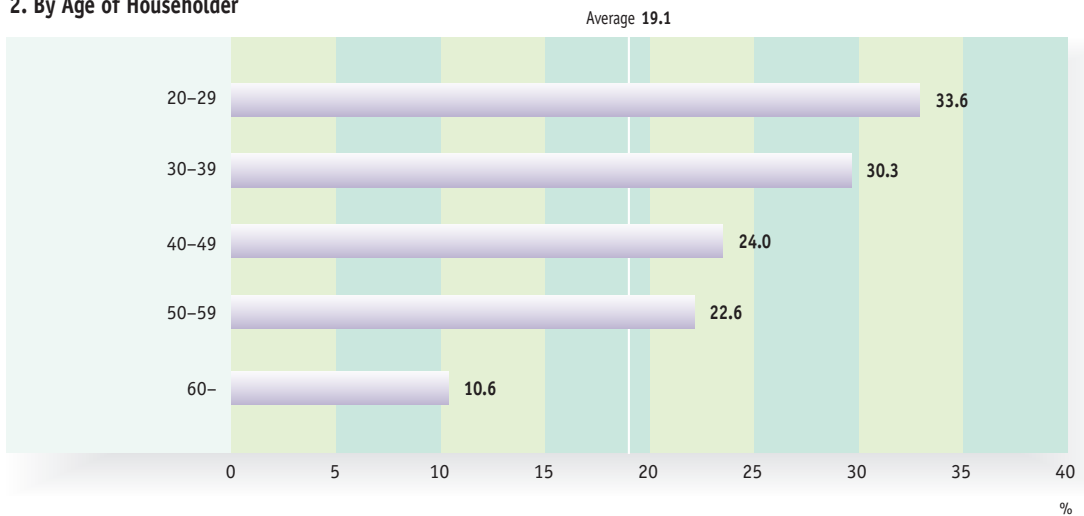


Exhibit 29. Internet Penetration Rates in Japan

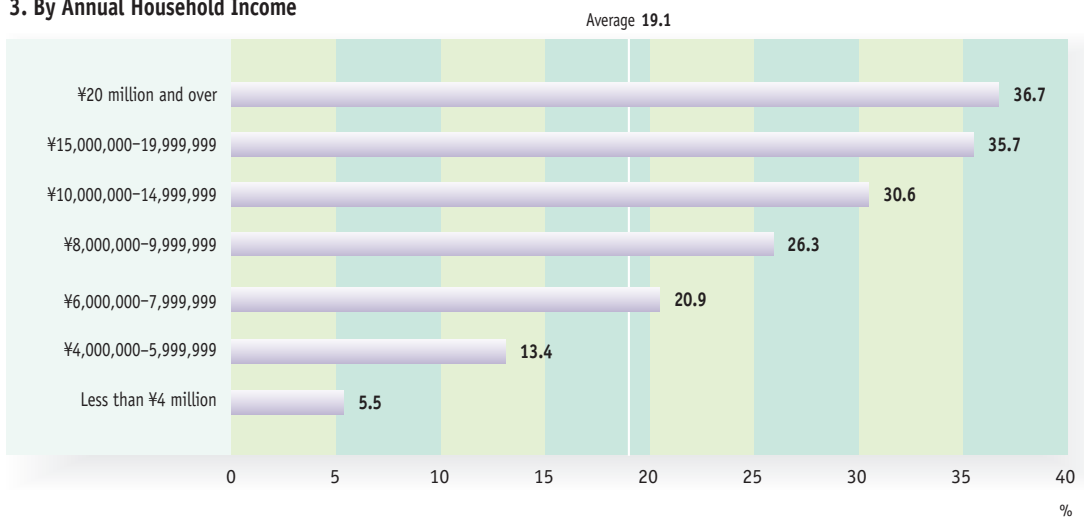
1. By Type of Municipality



2. By Age of Householder



3. By Annual Household Income



Source: Communications Usage Trend Survey (Household Section), MPT.

4.2 Information Literacy

Comparing with fiscal 1997, the average score of information literacy as of fiscal 1999 had risen from 6.55 to 6.71. Scores for people in their 50s and 60s, however, declined; average scores for other age groups improved, especially among respondents in their 30s and 40s (Exhibit 30).

4.3 The Internet in Schools

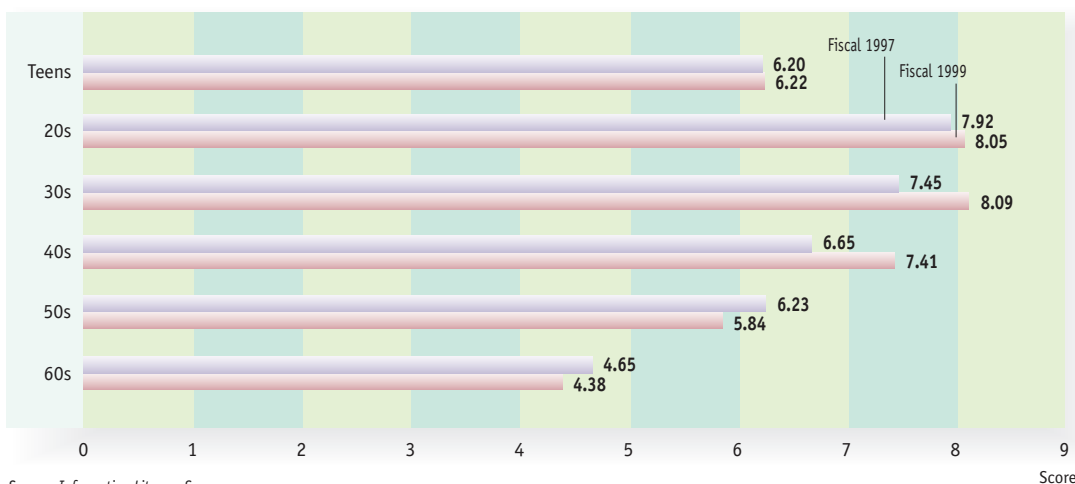
To promote the use of the Internet in education, the MPT, cooperated with the Ministry of Education, has conducted three-year project (fiscal 1999–2001) to (1) develop an R&D network that joins about 1,000 of Japan's elementary, junior high, and senior high schools via fiber-optic lines, digital subscriber lines (DSLs), and satellite communications etc. and (2) develop new network construction technology that can use these high-speed access circuits in complex ways. The R&D network comprises 30 regional centers to serve as base sites, which are connected to the schools by

1.5 Mbps (high-speed) circuits. The central network center (located in the Mitaka Education Center) was put on line in September 1999, and full-scale research activities began.

4.4 The Elderly and Disabled

To ensure that anyone can use info-communications systems effectively, the MPT and the Ministry of Health and Welfare have formed a Study Group on Way to Realize an Information Barrier-Free Environment, which compiled a report in May 1999. The report mentions several desirable measures that the group believes should be taken to promote the creation of information barrier-free environment: (1) creation of national-level databases on user support technology and usage methods; (2) development of info-communications usage support center functions; (3) study of Guidelines for Accessible Web Content in Internet; and (4) study of support measures for nonprofit organizations, including management support systems.

Exhibit 30. Average Information-Literacy Scores, by Age



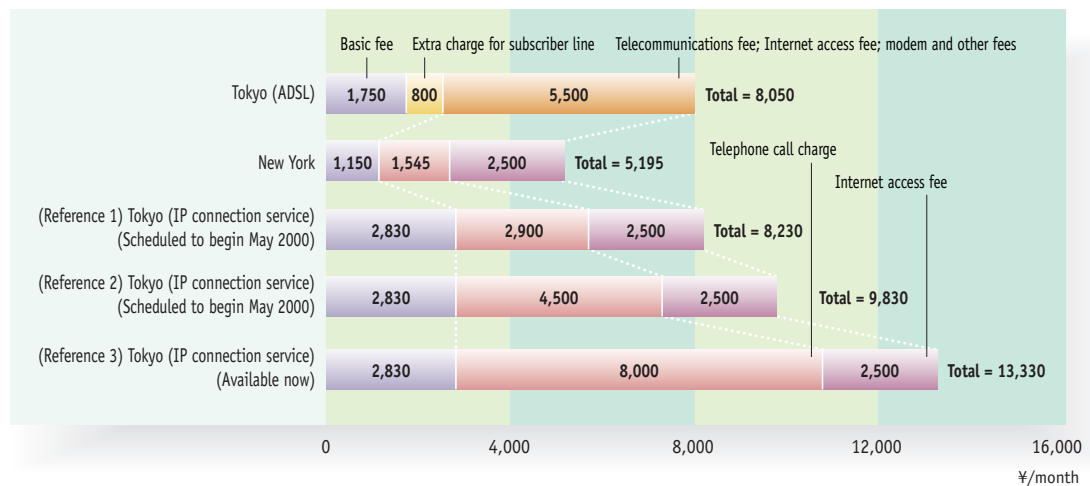
5. Internet Fees

As ever, the total fees charged to users for constant connection to the Internet are higher in Japan than in the United States, the world's leading country in terms of Internet usage (Exhibit 31). However, NTT East and West have announced that beginning in May 2000, it will expand the service areas in which it offers its currently experimental IP connection service (offering constant connection Internet service), which was inaugurated in November 1999. This will entail a significant reduction in rates, according to the company. Additionally, the company will switch from experimental to regular service, and, as it gradually expands the service area, consider the standard of rates further.

6. Electronic Government

As part of its policy measures such as Policy Measures for Economic Rebirth and Millennium Project, the Japanese government is studying how to realize electronic government. A total of 3,024 application and registration procedures of the 9,089 considered as candidates for being made available in electronic format were to be in fact available in that format in fiscal 1999, a rate of 56.8%. Of the 370 possible MPT procedures, 235 were made available in electronic format as of fiscal 1999.

Exhibit 31. Comparison of Monthly Flat-Rate Internet Usage Fees in Japan and the US (as of March 2000)



Notes: 1. The basic fees for Tokyo ADSL service comprises NTT East's basic residential telephone fee (¥1,750) and IP routing network connection service (¥800). The telecommunications fee, Internet access fee, modem fee, and other fees category (¥5,500) is that of DSL Internet connection service (a standard ADSL connection) provided by Tokyo Metallic Communications.

2. The basic and telecommunications fees for New York are those of Bell Atlantic's telephone service. The basic fee comprises the basic fee portion of the flat rate plus a subscriber access charge; the telecommunications fee comprises the telecommunications fee portion of the New York Group 9 flat rate. The Internet access fee is that of AT&T World Net (constant connection). (The average IMF exchange rate for 1999 was used.)

3. Reference 1, 2, and 3: The basic fee is for NTT East's INS Net 64 residential service (¥2,830). The Internet access fee is that of KDD's constant dial-up connection service (¥2,500). The various telecommunications fees are those for NTT East's IP connection service. The telecommunications fee for Reference 1 will be charged when the user and provider use the same telephone exchange; the fee for Reference 2 will be charged when the user and provider use different telephone exchanges; the fee for Reference 3 is the current charged to all users at present.

4. All the examples assume connections to local access points with service available 24 hours a day; all assume a 30-day month.

Sources: MPT, NTT East, and KDD etc.