



October 4, 2004, Vol. 15, No. 13

Please feel free to use the articles in this publication, with proper credits

Biweekly Newsletter of the Ministry of Internal Affairs and Communications, Japan

MIC Participates in ITU TELECOM ASIA 2004

The ITU (International Telecommunication Union) TELECOM ASIA was held in Busan, Korea, from September 7 to 11, 2004.

The ASIA 2004 consisting of an international Exhibition and Forum brought together some 24,500 people.

At the Forum, about 100 executives, including seven Ministers and a wide range of leading industry participants as well as high-level representatives from government and regulators, actively exchanged opinions on various topics on ICT, such as broadband, mobile communications and ubiquitous networks.

Rep. YAMAGUCHI Shunichi, Senior Vice-Minister for Internal Affairs and



Rep. YAMAGUCHI Shunichi, Senior Vice-Minister for Internal Affairs and Communications, Japan, delivered a keynote speech at the plenary session

Communications, Japan, delivered a keynote speech at the plenary session, introducing i) Japan's success in the penetration of broadband platforms and key policies of MIC for the success, ii) Japan's efforts to realize a ubiquitous network society, and iii) holding of the WSIS Thematic Meeting in Japan. After his speech, active

discussions took place.

Two-hundred twenty-four companies, etc. from 25 countries mainly in Asia

participated in the Exhibition, featuring the latest technologies, products and services in the ICT field. From Japan, 15 entities, including telecommunications carriers, manufacturers and universities, participated in the Exhibition, displaying mobile communications related to a ubiquitous network society and the latest technologies, products and services related to broadband systems.

Senior Vice-Minister YAMAGUCHI visited Japan's booths and other booths including Samsung, Korea Telecom and Intel.

Through those events, Japan's latest

CONTENTS

- MIC Participates in ITU TELECOM ASIA 2004 1
- Results of FY2003 Survey on Price Variances of Telecommunications Services between Japan and Foreign Countries 2
- Report from "Study Group on Networking of Digital Information Consumer Electronics" Compiled --- 4

**International Policy Division,
International Affairs Department,
Ministry of Internal Affairs and Communications**
1-2, Kasumigaseki 2-chome,
Chiyoda-ku, Tokyo 100-8926, Japan

- We welcome your comments via:
http://www.soumu.go.jp/joho_tsusin/eng/contact.html
Fax: +81-3-5253-5924
Tel.: +81-3-5253-5920
- MIC information is available at:
http://www.soumu.go.jp/joho_tsusin/eng/newsletter.html



International Exhibition of ITU TELECOM ASIA 2004

technologies and equipment aiming to realize the ubiquitous network society have strongly impressed Asia and the rest of the world. MIC will contribute to the realization of the next-generation ICT society in the world, such as transmission of concepts for the "ubiquitous network society" at the World Summit

on Information Society (WSIS).

[ITU TELECOM]

ITU TELECOM is an event organized by the ITU consisting of an international Exhibition and a Forum for the purposes of raising awareness of ITU Member States on the latest technologies and

policy trends and spreading thereof. There are two types of TELECOM; "World TELECOM" has been held every four years and "Regional TELECOM" has been held every two to four years in Asia, Africa, South and North Americas and Arab.

Results of FY2003 Survey on Price Variances of Telecommunications Services between Japan and Foreign Countries

MIC has been conducting each fiscal year a survey on price variances of telecommunications services between Japan and foreign countries, on the basis that the problem of price variances is an issue the government as a whole needs to address. MIC recently compiled the results of the survey for fiscal 2003.

1. Cities surveyed

MIC has compared prices for i) Internet access services, ii) domestic telephone services, iii) cellular telephone services, iv) international telephone services, and v) leased circuit services in Tokyo, New York, London, Paris, Düsseldorf and Geneva on a basis of the Telegraphic Transfer Selling (TTS) Rate as of June 1, 2004.

2. Survey period

The survey period was basically February 2004. However, where the tariffs concerned were revised, such tariffs were included in this survey to the greatest extent possible.

3. Outline (points)

- The charges for broadband access to the Internet on a flat-rate basis, including ADSL services, are at the lowest level in the world.
- In Tokyo, while domestic telephone charges for daytime local calls are the lowest in the world, fees for facilities-installation are at a higher level compared to other cities.
- In Tokyo, domestic cellular telephone charges are at a lower level compared to those in cities of the U.S. and Europe.

Note: There are many tariff systems on a country-by-country basis, such as differences between ordinary charges and discount charges, between regions in the same country, fluctuation in exchange rates, etc. Thus, a uniform comparison is not necessarily indicating a reality in each country. Readers are aware that results of this survey are one of the indices.

Points of individual charges to be focused on are as follows.

1. Access to the Internet

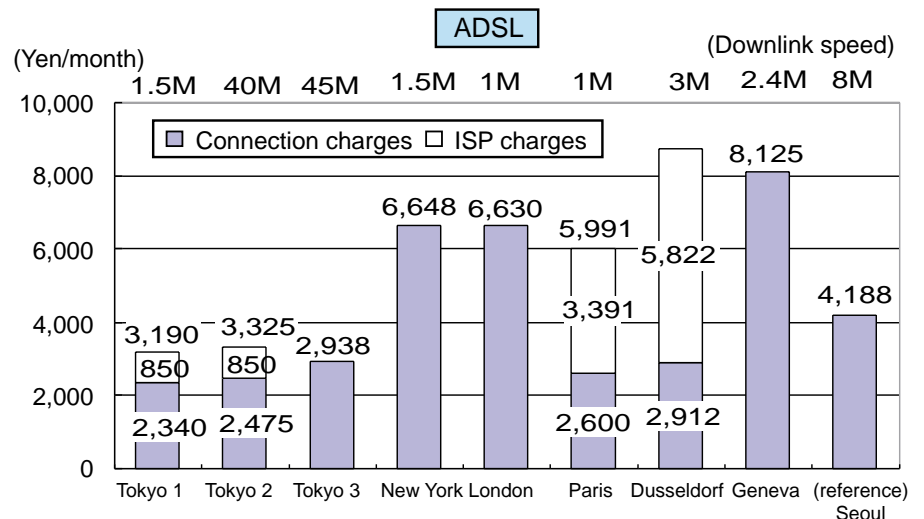
- Comparing ADSL services at a speed of 1 Mbps or higher with those in other cities, along with the development in competition among carriers, charges for Tokyo have become at the world's lowest level.
- With respect to communications speeds, speeds at Tokyo are 40 Mbps at the maximum while those for other cities are from 1 Mbps to 3 Mbps (8 Mbps for Seoul). When comparing

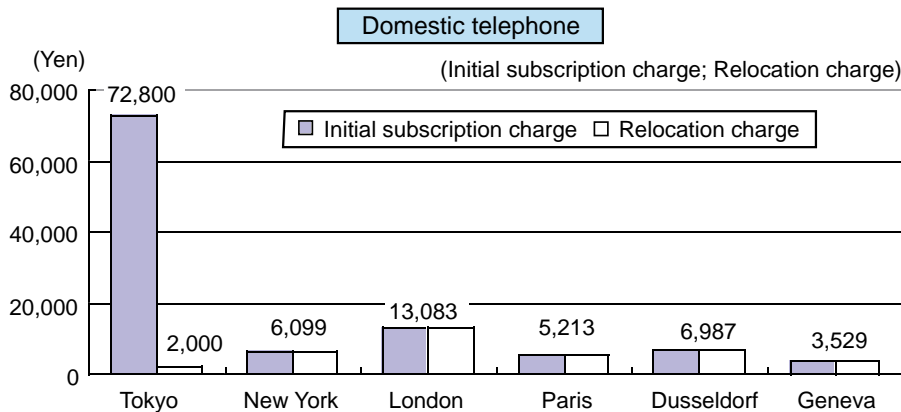
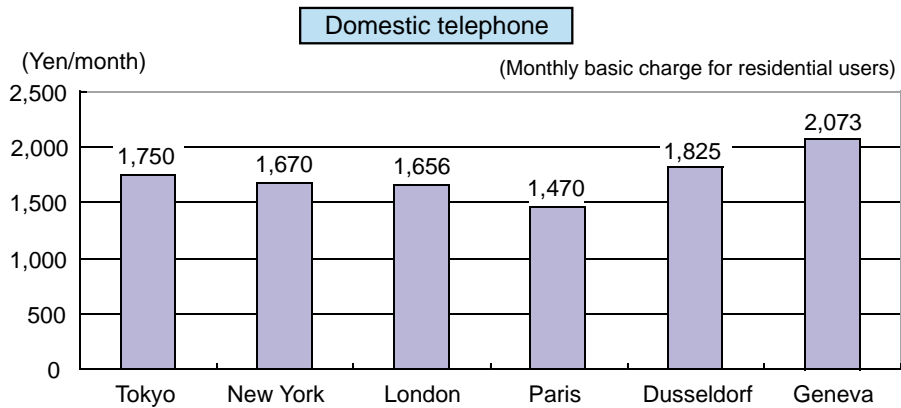
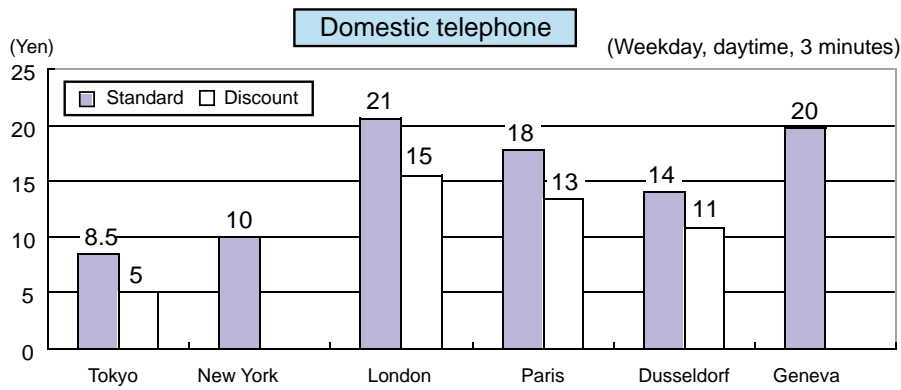
charges on a basis of communications speeds, charges for Tokyo are much lower.

- Charges for cable Internet services in Tokyo are ranked the third following Paris and New York. When it comes to communications speeds, while other cities are ranging from 256 kbps to 1.5 Mbps, Tokyo is at a speed of 30 Mbps, comparatively lower prices than in other cities.

2. Domestic telephone services

- Charges for domestic telephone services in daytime in Tokyo are the lowest in comparison with other cities, and those in nighttime (at 8:00 p.m.) are the second lowest following Düsseldorf.
- Ordinary charges for domestic long-distance telephone services in Tokyo, especially in comparing inter-prefectural telephone services, are lower than those for inter-state and intra-state long-distance telephone





services in New York, but at a higher level than in European cities. Discount charges for domestic long-distance telephone services in Tokyo are slightly higher than those in other cities.

- Monthly basic charges for residential users and corporate users are at nearly equal levels to other cities. Initial subscription charges in Tokyo are the highest, but relocation charges are the lowest.
- An OECD model that compares domestic telephone tariffs in six world cities (Tokyo, New York, Geneva, London, Paris and Dusseldorf) indicates that, for residential service, ordinary and discount charges in Tokyo are at nearly equal levels to those in European cities. As for corporate use, Tokyo and other cities, except

New York where ordinary charges are at a high price level, have almost same level of charges, and discount rates in Tokyo are the lowest.

3. Cellular telephone services

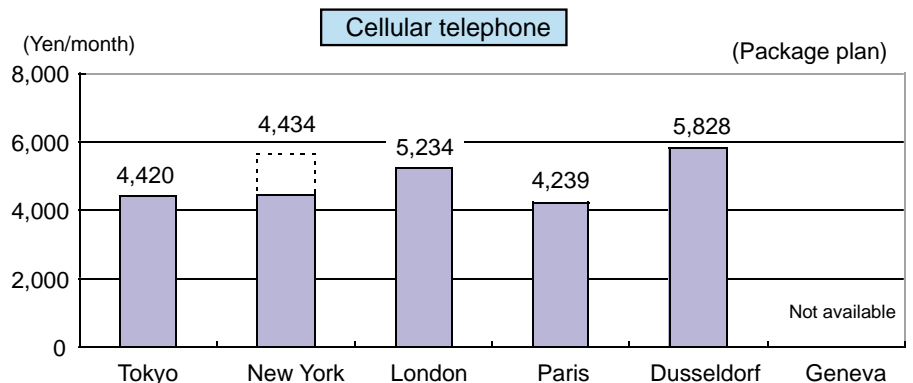
- Package-type tariff plans containing monthly basic charges and fixed hours

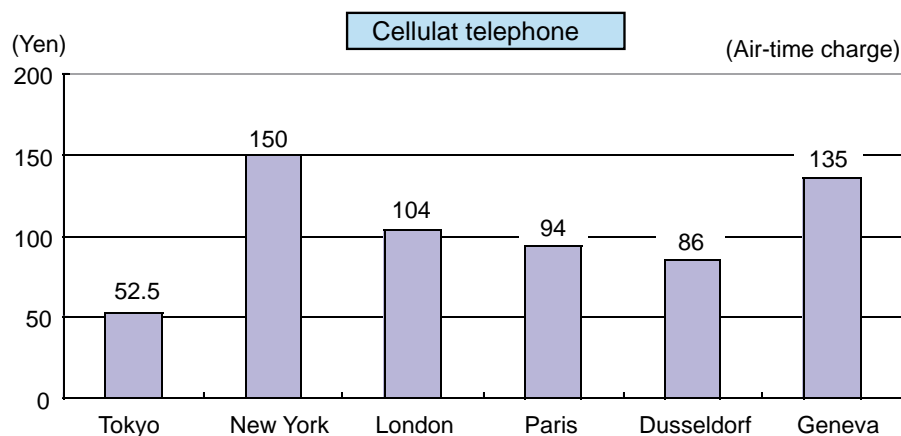
of air-time charges are the mainstream in many cities. Such plans vary from city to city. Thus, simple comparison of charges between cities is very difficult.

- Where comparing package plans most similar to a package plan reflecting the actual traffic (2 hours of use per month) of Japan in FY2002, charges in Tokyo are at lower levels.
- Air-time charges in Tokyo are lower in cases of cellular-to-fixed; charges for cellular-to-cellular calls are at nearly same levels as in other cities.
- Charges for fixed-to-cellular calls in Tokyo are the lowest than those in other cities.
- Upon comparison utilizing a Tokyo model under which average actual usages, including distance ranges, time zones, etc., are calculated based upon traffic data in Japan, charges in Tokyo are in the second place following Paris.

4. International telephone services

- While ordinary charges for international telephone calls from Tokyo to New York are lower than those from New York to Tokyo, ordinary charges for international telephone calls from Tokyo to other cities except New York are higher than those from other cities except New York to Tokyo.
- Discount charges for international telephone calls from Tokyo to London and Dusseldorf are lower than those from London and Dusseldorf to Tokyo. However, discount charges for international telephone calls from Tokyo to other cities except London and Dusseldorf are higher than those from other cities except London and Dusseldorf.
- Comparing charges for international telephone services through the use of the Tokyo model, such trends are seen as indicated above.





5. Domestic leased circuit services

- In Tokyo, charges for leased digital circuit services of 64 kbps for distances of 15 km and 50 km are the lowest. Charges for leased digital circuit services of 1.5 Mbps for a distance of 15 km are in the second place following New York; and those for 50 km are the second highest following Geneva. Charges for leased digital circuit services of 45 Mbps for distances of 15 km and 50 km in Tokyo are the lowest.
- When utilizing the OECD model, charges for leased digital circuit services of 64 kbps in Tokyo are the lowest; those for 1.5 Mbps in Tokyo are the second highest following Geneva; 45 Mbps are lower following Dusseldorf and New York.

6. Conclusion

- (1) According to this survey, although communications charges in Japan vary depending upon types of services, charges for broadband and cellular telephone services are lower in comparison with other countries.
- (2) MIC will henceforth prepare an environment for reducing charges, including promotion of fair competition, in order to make Japan the most advanced ICT nation in the world.

[Reference 1]

Surveyed carriers

- Japan: Nippon Telegraph and Telephone East Corp., NTT Communications Corp., NTT DoCoMo, Inc., its communications Inc.
- U.S.: Verizon Communications, AT&T, Comcast, Verizon Wireless
- U.K.: British Telecom, Vodafone, Telewest Communications
- France: France Telecom, Orange

France, noas (a cable TV broadband carrier)

- Germany: Deutsche Telekom, T-Mobile, Infocity (a cable TV broadband carrier)
- Switzerland: Swisscom, Swisscom Mobile

[Reference 2]

• OECD Model

The Organization for Economic Cooperation and Development (OECD) carries out a price competition using a model it has formulated which sets a traffic pattern by communications distance range, time zone, etc. in order to compare prices of telecommunications services in its 30 member countries.

Note: In cases of cellular telephones, under the OECD model, air-time charges in Japan are calculated as a comparatively higher price range. Since the OECD model was designed based upon international communications between OECD member countries, there is a problem that the model does not necessarily reflect the actual status of Japan.

• Tokyo Model

The Tokyo Model was established for cases where there is no OECD Model.

The Tokyo Model is a model that calculates average usage conditions for communications distance range, time zone, etc. based on traffic in Japan, and compares prices based on this.

Report from "Study Group on Networking of Digital Information Consumer Electronics" Compiled

Since February 2004, MIC has been holding the "Study Group on Networking of Digital Information Consumer Electronics" (Chair: Prof. HATORI Mitsutoshi, Chuo University) for deliberating upon comprehensive measures, etc. to promote networking of digital information consumer electronics (CEs) that will be conducive to improvement in convenience of social lives. Recently, the Study Group has compiled its findings as a report on challenges to realize networking of digital information CEs and promotion measures thereof.

[Outline]

In recent years, digital information CEs, such as digital TV units, digital video recorders, are being placed on the market. Digital information CEs with network interconnection functions have potentials to realize advanced services.

However, at present, standards of methods to interconnect digital information CEs are different type-by-type and field-by-field (CEs of digital AV, PC, telephone/facsimile, white goods, etc.). Even in cases of the same standards, de-

tails of methods to interconnect and control CEs are different manufacturer-by-manufacturer. Subsequently, equipment in different fields and equipment made by different manufacturers cannot be interconnected to each other for utilizing digital information CE functions.

The Study Group has i) surveyed trends in technologies related to digital information CEs in Japan and foreign countries, ii) analyzed consumer needs for digital information CEs, and iii) deliberated upon challenges to realize networking of digital information CEs and

promotion measures thereof. Results of such studies have been compiled as a report.

MIC will, paying due respect to the report, carry out R&D on necessary technologies, take measures for ensuring

interconnectivity, and continue to consider various measures for networking of digital information CEs.

Digital information CEs and networking thereof

Current status

In recent years, digital information CEs, such as digital TV and digital video recorder (DVR), are being placed on the market.

➡ Potentials to realize advanced services via networks

Digital AV (digital TV, DVR, etc.), PC, telephone/facsimile, white goods (washing machine, air conditioner, etc.)

Challenges

- i) Standards for methods to interconnect digital information CEs differ, type-by-type and field-by-field.
- ii) Methods to interconnect and control CEs differ manufacturer-by-manufacturer.

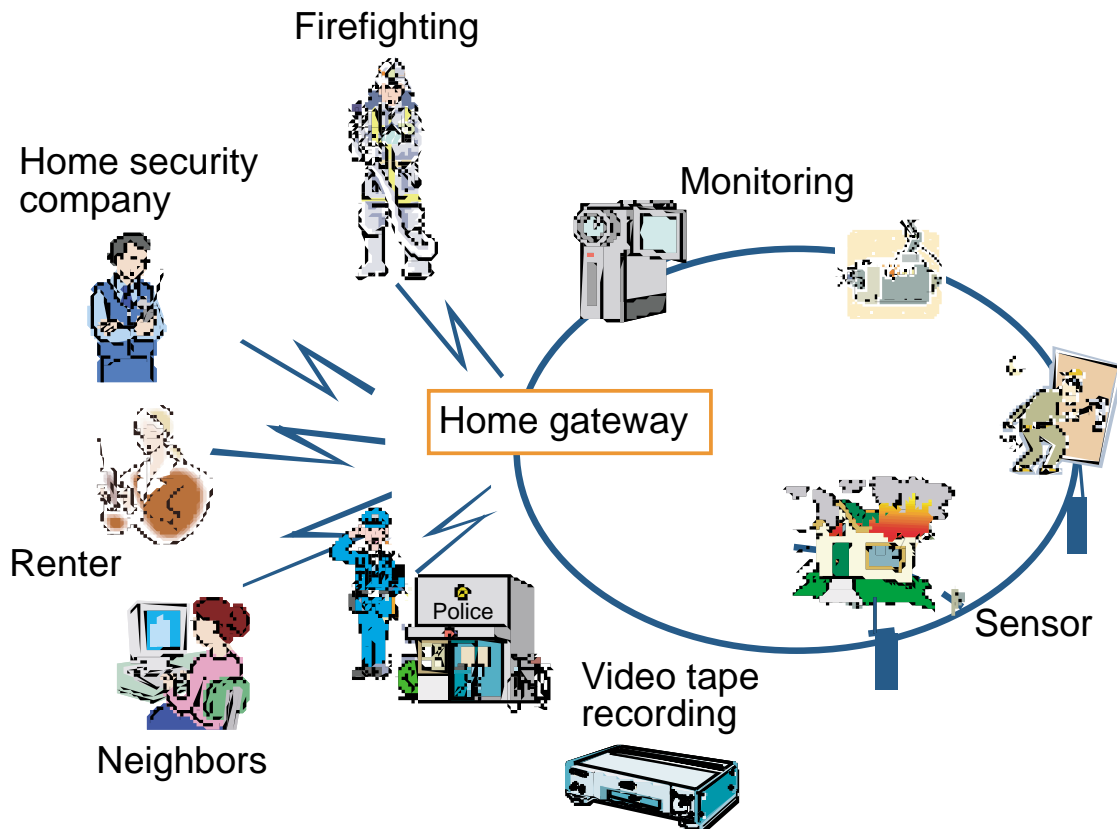
➡

- When types and fields of CEs differ from each other, such CEs cannot be interconnected via networks.
- Even CEs in the same field, such CEs made by different manufacturers cannot be interconnected to each other via networks.

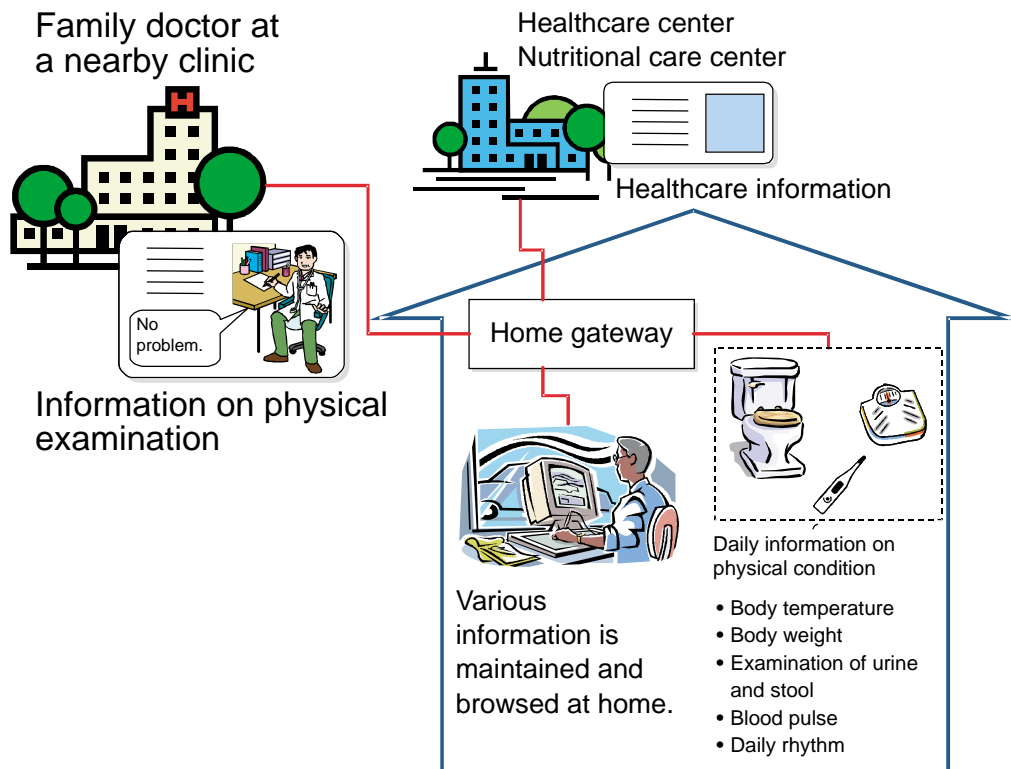
On the other hand, the following efforts for networking digital information CEs in major foreign countries are being made:

- Korea: Based upon the 90% household coverage of broadband platforms, the public and private sectors have been promoting a "digital home" initiative. Concerted efforts of the public and private sectors, including two groups of SK Telecom and KT, aim at establishing 10-million "digital homes" by 2007.
- Europe: Under IT policies of the European Commission, the "eEurope 2005," the EU is focusing not only on PC but also the third-generation mobile telephone systems, digital TV, etc. as Internet access platforms, and promoting R&D thereon.
- U.S.: Networking at home is centered on cable Internet. A private sector group, mainly Microsoft and Intel, is trying to establish a de facto standard for realizing the "digital home."
- China: The Chinese government has been strengthening production of digital CEs. Henceforth, such efforts will be directed to digital information CEs.

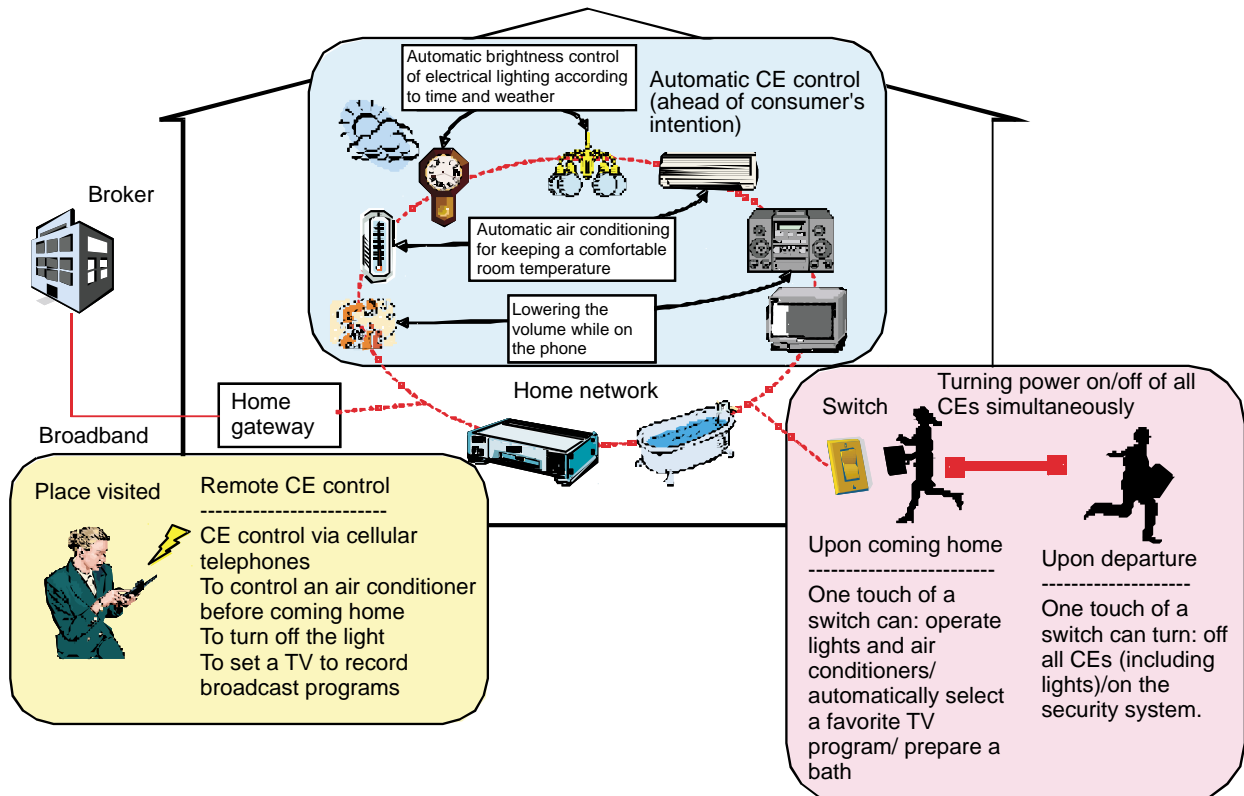
Envisioned use of digital information CEs



Telediagnosis system



CE control system

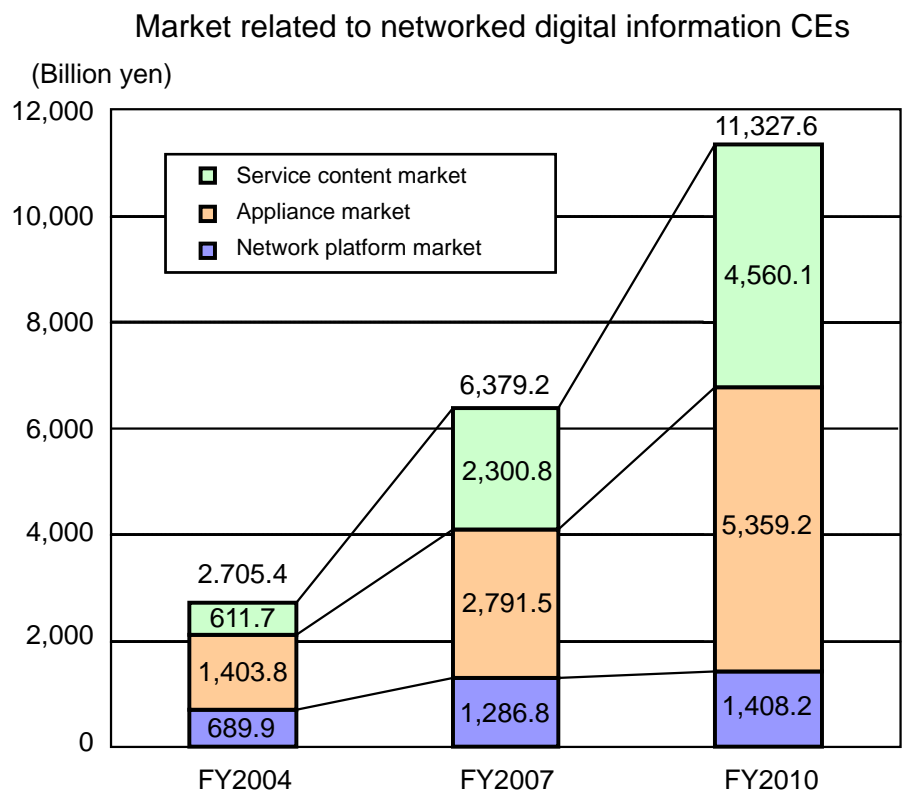


Forecast on markets related to networking of digital information CEs

- The size for the market related to digital information CEs via major networks in 2010 will grow to 11 trillion yen (more than four times from 2004)
- Furthermore, when adding the cellular telephone market (including network platforms and appliances), the size for the market related to digital information CEs via major networks in 2010 will grow to some 20 trillion yen.

Market related to networked digital information CEs

- **Service content market**
Content, such as entertainment information on movies, drama, etc.
Services, such as distance learning (tele-education), security services, etc.
- **Appliance market**
Digital information CEs, such as TV, washing machine, PC, modem, etc.
- **Network platform market**
 - Networks, including ADSL, cable Internet, fiber-optic cables, etc.
 - Platforms, such as ones for billing, authentication



Challenges for networking digital information CEs

Technical issues for promoting interconnection

- (1) Identifying requirements for communications methods
 - i) Communications speed (high-speed services: 50 Mbps or higher, low-speed services: around 64 kbps)
 - ii) Quality of communications (time delay: within 10 ms (required for wired and wireless communications))
 - iii) Functions needed for ensuring communications according to an ordering of priority of emergency levels
- (2) Agreement on protocols to be used
 - It is required that coverage of communications media, transmission systems, etc. shall be identified; and unified standards for equipment control and recognition protocols shall be established.
- (3) Considering network architectures
 - It is required that network architectures for realizing interconnection between various communications systems with different communications speeds, high-speed or low-speed systems, shall be established.
- (4) Realizing interconnection between many and different communications systems
 - It is required that R&D on technologies for realizing interconnection among multiple CEs employing different communications systems, including other networks, shall be carried out.
- (5) Being equipped with directories (database functions)
 - It is required that database functions handling information on equipment IDs, services to be provided by equipment, users' rights-of-use, etc. shall be needed.
- (6) R&D on functions relating to management of equipment authentication, user authentication and the provision of services
 - It is vital to realize functions for managing information in (5) and for granting authentication.
- (7) Standardization of related technologies
 - It is vital to unify equipment setting functions ("plug and play"), data formats, etc. or to develop mutual conversion functions.

Issues related to preparation of a promotion scheme for interconnection

- (1) Preparation of a scheme for experiments on interconnection and procedures for experiments

- It is essential to prepare a scheme for experiments on interconnection and details of test items and procedures for experiments.
- (2) Preparation of a software development scheme for meeting networked CEs
 - It is necessary, for reducing R&D burdens for meeting networked CEs, to standardize various technologies and to share information.

Issues from the viewpoint of users

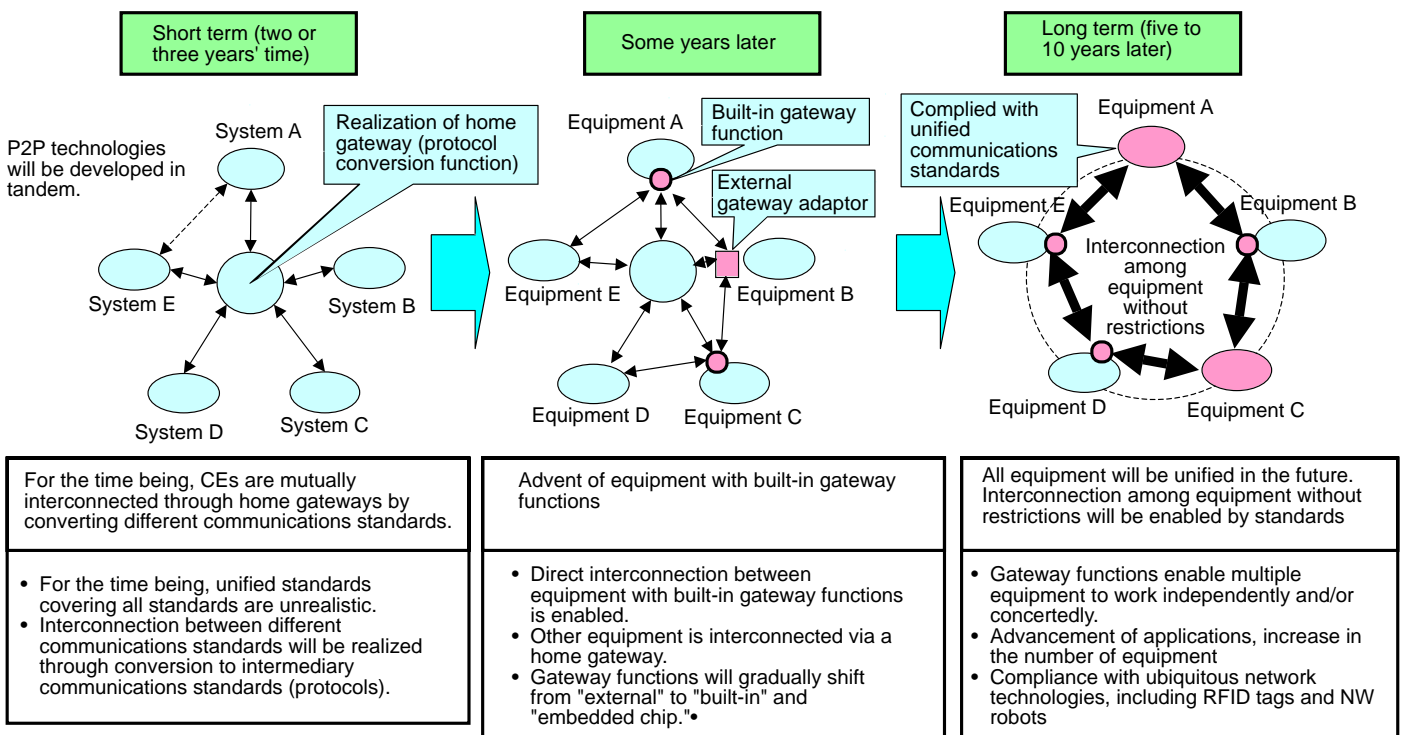
- (1) R&D on technologies for security and authentication
 - It is vital to develop security and authentication technologies for i) responding to unauthorized access, ii) ensuring secure communications, and iii) user authentication.
- (2) R&D on user interface
 - It is vital to develop standardized, simplified and automated user interface employing universal designs which do not require high-level knowledge for operating equipment setting.
- (3) Cost reductions
 - It is essential to strive to reduce costs pertaining to networking, such as equipment prices, installation fees, repair fees, outsourcing costs, etc.

Issues for widespread use

- (1) Copyright protection
 - It is vital to consider establishment of technical standards, etc. for copyright protection, countermeasures against unauthorized use of content, etc.
- (2) Establishment of an effective business model
 - From the viewpoints of simplifying complicated procedures for use and increasing users, it is vital to realize the provision of a comprehensive service (one-stop services), etc.
- (3) Efforts to consider environmental protection, etc.
 - It is essential to develop technologies for saving power, etc. from the viewpoints of considering cost burdens on users and environmental protection, etc.

Desirable networking of digital information CEs (Promising scenario)

- Taking into consideration the current status of technological development, standardization trends, etc., networking of



digital information CEs will progress.

Concrete promotion measures for networking digital information CEs

- (1) Priority allocation of human and economic resources
 - It is vital to invest in priority R&D for implementing research activities, standardization activities and verification experiments.
- (2) Promotion of technological development
 - It is vital to promote technological development, including home gateway functions for ensuring interconnectivity among different communications standards.
- (3) Promotion of common standards
 - It is vital to promote common standards among Japan and foreign countries for various relevant protocols, information exchange formats, etc.
- (4) Implementation of interconnection tests and verification experiments
 - It is necessary to implement interconnection tests and verification experiments on communications standards for digital information CEs through participation of the private sector, etc.
- (5) Promotion of collaboration with foreign countries
 - Upon carrying out R&D and standardization activities in Japan, it is necessary to promote harmonization with European, North American and Asian countries, including China and Korea.
- (6) Promotion of concerted efforts of industry-academia-government-civil society
 - In order to carry out R&D and verification experiments, in addition to collaboration among industry-academia-government, it is vital to extend results thereof to the general public through collaboration with the civil society.
- (7) Utilization of wireless broadband environments
 - In cases where house wiring is difficult, wireless systems interconnecting digital information CEs without restrictions are to be utilized.
- (8) Utilization of wired broadband environments
 - In cases where house wiring is allowed, inexpensive plastic fiber-optic cables, etc. enabling high-speed and stable communications are to be utilized.
- (9) Implementation of measures for protecting copyrights
 - With respect to content to be used by digital information CEs, it is vital to consider copyright protection technologies and frameworks for enabling content holders to grant license to users.
- (10) Implementation of measures for protecting users
 - It is vital to i) establish technologies and frameworks for protecting personal information obtained through digital information CEs and ii) consider explicit liabilities for compensating users in faults, etc.
- (11) Consideration of the earth's environment (recycling and energy saving)
 - It is vital to pay consideration to the earth's environment through extended lives by ensuring repair parts and energy savings, including reduction of power consumption while in waiting mode.