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Report Compiled by the Study Group on Long-Run Incremental Cost Model

MPHPT has been holding the "Study Group on Long-Run Incremental Cost (LRIC) Model" since September 2001, in order to review the LRIC model (a calculation methodology for interconnection charges between telecommunications carriers). In March 2002, the Study Group compiled its findings as a report.

1. Background

With regard to the Japanese interconnection rules, the Study Group on Long-Run Incremental Cost (LRIC) Model was established in March 1997 so as to establish the LRIC Model. In September 1999, the Study Group compiled a report through analysis of models in other countries, invitation of public model proposals, detailed studies for developing a technical model, etc.

Upon receipt of the report of 1999, the Ministry of Posts and Telecommunications (currently MPHPT) inquired of the Telecommunications Council about a new calculation methodology for the interconnection charges in September 1999. Upon receipt of the report concerning this inquiry in February 2000, the Telecommunications Business Law was amended in May 2000; then, the calculation method for the interconnection charges pertaining to some designated telecommunications facilities was changed from the actual costs method to the LRIC method.

On the other hand, this report recommends that: i) the revision of the model shall be started at the earliest possible stage, then, ii) it is appropriate that the revised model would be applied after the model implementation period (FY2000 through FY2002). And in the course of the revision, the following items are pointed to be reviewed:

- i) Treatment of feeder remote terminal (FRT) and other non-traffic sensitive (NTS) costs;
- ii) Economic service life;
- iii) Logic and input data; and

iv) Local loop cost.

2. Revision of the Model

Based on this background, the "Study Group on Long-Run Incremental Cost Model" was reestablished in September 2001, consisting of experts in telecommunications engineering, economics and cost accounting. This study group established three Working Groups (WGs) corresponding to the program modules ("Local Loop WG," "Switching, Interoffice, Wire Center Building and Land WG" and "Expense WG"). Those WGs were composed of members from domestic and foreign telecommunications carriers. At the study group meetings, issues postponed by the former study group and new issues raised by opinions through the invitation of public comments had been discussed. A draft report was released on February 1, 2002 and public comments on it were invited. As a result of this invitation, 22 comments in total were submitted including those from domestic and foreign telecommunications carriers and foreign governments.

On February 22, 2002, a workshop concerning the draft revised model was held. Participants included invited foreign experts and foreign government agencies (experts from the U.K. and representatives of embassies of the U.S., the U.K., Germany in Japan and the Delegation of the European Commission in Japan). They had consultations with some members of the Study Group. About 50 audiences were attended from domestic and foreign telecommunications carriers,

etc.

The report was compiled on March 8, 2002.

3. Calculation result based on the revision model

This report shows calculated costs of interconnection using the revised model. According to these calculation results, the zone center (ZC) interconnection cost is higher than the cost based on the

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existing model due to the revision of the calculation method of the amount of investment into toll switches, etc., while the group center (GC) interconnection cost has decreased.

Moreover, this report points out the following matters:

- i) It is necessary to pay close attention to traffic trends that affects the cost calculation since the volume of traffic passing through local switches in the first half of FY2001 decreased.
- ii) It is necessary to carefully deliberate on the pricing matter when considering transferring the cost of FRT to the local loop, since there is a possibility of an increase in subscriber line charges.

	Current model (Interconnection charge in FY2002)	Revised model
GC interconnection (telephone)	4.50 yen/3 min.	4.13 yen/3 min. (-8.2%)
ZC interconnection (telephone)	4.78 yen/3 min.	5.21 yen/3 min. (+9.0%)
Local loop transmission (for PHS)	1,239 yen/circuit	1,229 yen/circuit (-0.8%)

Note 1: In the case where the cost of FRT is transferred to the local loop:

GC interconnection: 3.75 yen/3 min. (-16.7%)

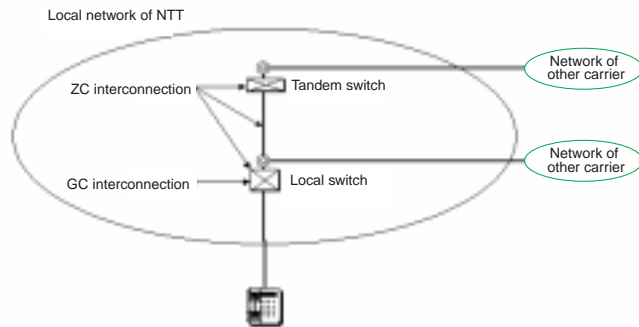
ZC interconnection: 4.83 yen/3 min. (+1.0%)

Local loop transmission (for PHS): 1,336 yen/circuit (+7.8%)

Note 2: Figures in parentheses indicate increase or decrease ratios to the interconnection charges in FY2002.

Note 3: The calculation results are based upon forecast traffic data in FY2001. Therefore the results may be changed when it is replaced by the actual traffic data in FY2001.

Image of ZC interconnection and GC interconnection



Toward Diversified Applications of Wireless Card Systems (Contactless IC Card and RFID)

Telecommunications Council Compiles Report

A report on the “establishment of technical conditions for diversified applications of wireless card systems” was submitted to MPHPT by the Telecommunications Council (Chair: Mr. AKIYAMA Yoshihisa) on March 13, 2002. An outline of this report is as follows:

[Background]

A wireless card system is a system that can read and write data in IC card at a close distance through use of radio waves, for which technical standards were developed in 1998. The system has been employed to such cards as a transportation card (e.g., a commuter ticket for passing through a wicket with automatic ticket-checking functions), radio frequency identifier (RFID) system card for management of in/out of staff, contactless IC card for a pay telephone,

etc. Since November 2001, East Japan Railway Co. introduced in the Tokyo Metropolitan area an IC card system for automatic wickets instead of a conventional magnetic card.

Currently discussions on replacing magnetic cards and bar codes used for management of automatic luggage sorting system at airports, inventory/goods management systems in the physical distribution industry, etc. by contactless IC cards. Moreover, thanks to technological progress, development of high-directional antenna technologies reducing the intensity of radio wave in unnecessary directions, and improvement of security systems using identification and cryptography technologies are now in progress. The International Organization for Standardization (ISO) and the International Electrotechnical Commis-

sion (IEC) have been studying on the standardization of contactless IC card systems and RFID for such applications in the physical distribution field, etc., in addition to existing standards.

Thus, in October 2002, MPHPT inquired of the Telecommunications Council on necessary technical conditions enabling new wireless card system applications and introduction of new technologies by taking into account the advent of new wireless applications that were not expected before and realization of highly reliable system due to progress of technologies, etc.

MPHPT will prepare relevant ministerial ordinances based on this report.

Preparation of the technical conditions for diversified applications of wireless card systems

[Telecommunications Council Inquiry

No. 2005 of October 22, 2001]

[Outline of the report]

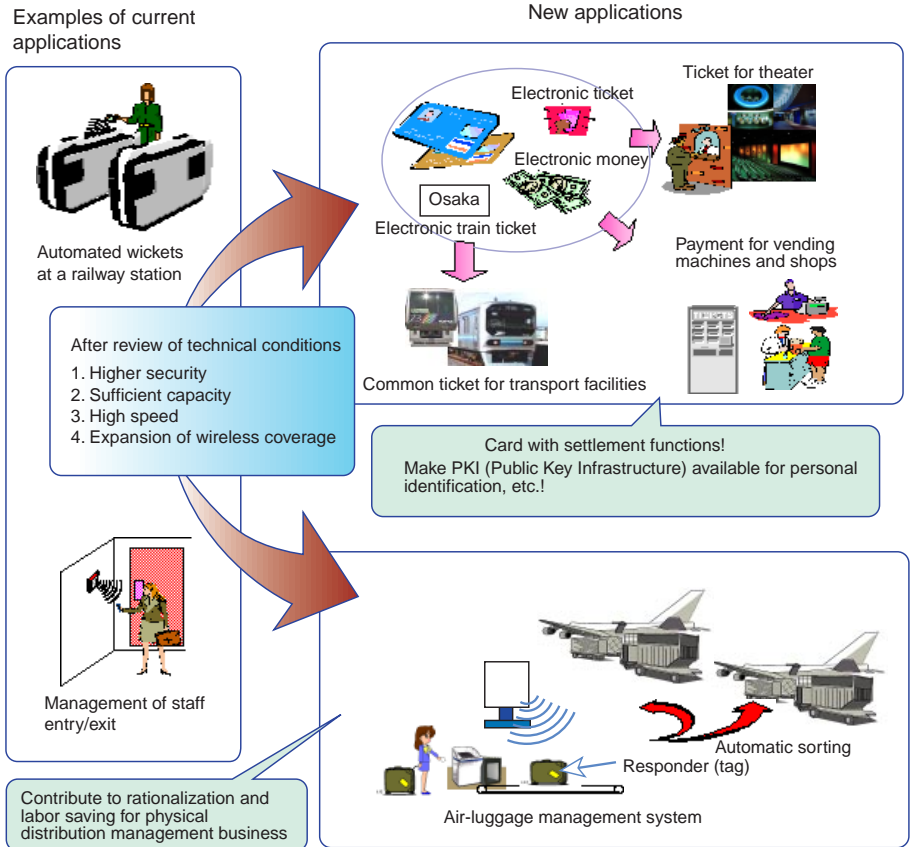
1. Merits of the system

- 1) Necessary information, etc. can be transmitted by placing a card close to a reader-writer.
- 2) Since an IC chip is mounted on a card, it has higher security and sufficient scalability for functions.
- 3) A reader-writer has no mechanical component, resulting in easy maintenance.
- 4) Since a card has no battery, it is handy for the user.
- 5) Since a 13.56-MHz band (which is allocated internationally) is used for it, it can be used worldwide.

2. Outline of review of technical conditions

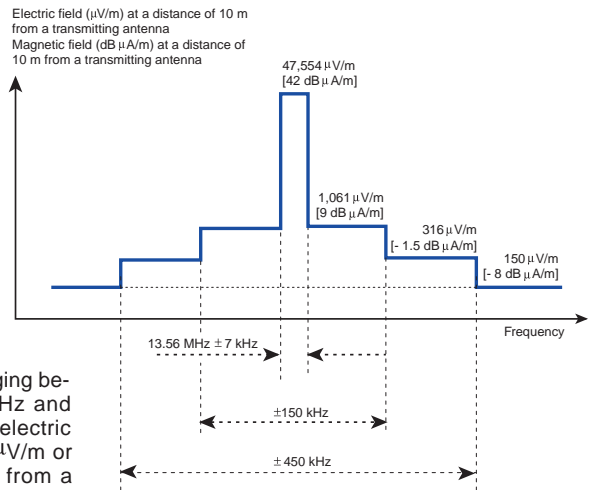
- 1) Provisions on antenna power and antenna gain are to be changed to ones on the spectrum mask.
- 2) Consistency with spectrum specifications as regulated in Western countries are to be ensured.

3. Possible applications under new technical conditions



4. Outline of technical specifications

Frequency band	13.56 MHz band
Transmission power and out-band emission limit	<ol style="list-style-type: none"> 1) As for a frequency band under 13.56 MHz \pm 7 kHz, the electric field intensity shall be 47,544 μV/m or less at a distance of 10 m from a transmitting antenna. 2) As for a frequency band ranging between 13.56 MHz \pm 7 kHz and 13.56 MHz \pm 150 kHz, the electric field intensity shall be 1,061 μV/m or less at a distance of 10 m from a transmitting antenna. 3) As for a frequency band ranging between 13.56 MHz \pm 150 kHz and 13.56 MHz \pm 450 kHz, the electric field intensity shall be 316 μV/m or less at a distance of 10 m from a transmitting antenna. 4) As for a frequency band exceeds 13.56 MHz \pm 450 kHz, the electric field intensity shall be 150 μV/m or less at a distance of 10 m from a transmitting antenna.
Permissible deviation of antenna power	Since the maximum value of electric field intensity at a distance of 10 m from a transmitting antenna is defined, it is not defined specifically.
Permissible deviation of frequency	50/1,000,000
Power levels of spurious emission intensity	50 μ W or less under average power
Permissible value of private frequency bandwidth	Since the maximum value of electric field intensity at a distance of 10 m from a transmitting antenna is defined, it is not defined specifically.
Antenna and antenna gain	In order to maintain scalability of systems, it is not defined specifically.



“Study Group on Telecommunications Number of FY 2002” Held

1. Purpose

Taking into account recent trends in IP-related technologies and IP telephony services, etc. inside and outside of Japan, the “Study Group on IP Network Technology” (Chair: Professor SAITO Tadao, Chuo University) discussed issues on an IP telephony numbering plan and number management, and compiled its findings as a report. However, it is necessary to study on foreseeable problems, in cases where IP telephony services are

provided, and preferable ways of managing the IP telephony number in Japan. Moreover, it is an immediate agenda to ensure sufficient number space to meet new services, to be introduced due to an increase in demands for numbers of fixed-communications terminals, because of entries of new telecommunications carriers.

To this end, the “Study Group on Telecommunications Number of FY 2002” (Chair: Professor SAITO Tadao, Profes-

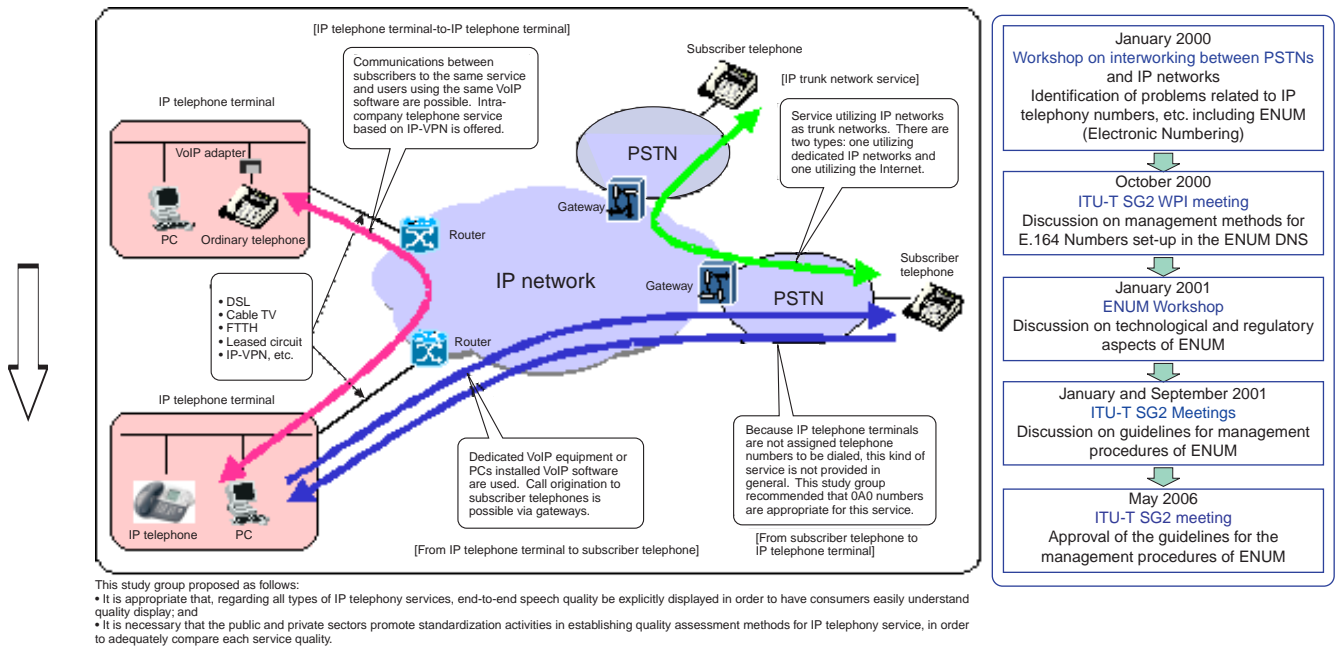
sor of Chuo University) was held in order to deliberate on issues concerning the telecommunications number and measures for ensuring numbers of fixed-communications terminals in an IP network era taking into account trends in other countries.

2. Themes

- 1) Long-term perspectives for a numbering plan and its management
 - i) Measures to be taken for coping

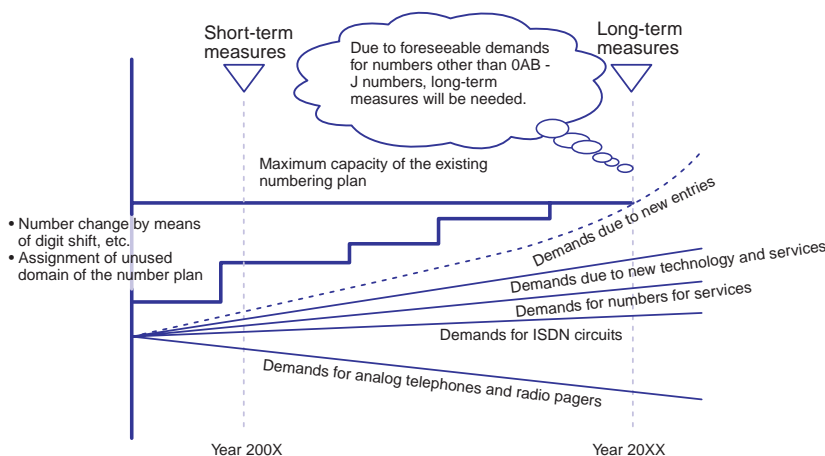
Widespread use of IP telephony services

Deliberation on succeeded themes to promote widespread use of IP telephony services



This study group proposed as follows:
 • It is appropriate that, regarding all types of IP telephony services, end-to-end speech quality be explicitly displayed in order to have consumers easily understand quality display; and
 • It is necessary that the public and private sectors promote standardization activities in establishing quality assessment methods for IP telephony service, in order to adequately compare each service quality.

Extending the life of the existing numbering plan, and creation of new number space



with issues concerning an IP telephony numbering plan and its management.

- ii) Measures to be taken for ensuring numbers, etc. of fixed-communications terminal.

2) Others

3. Members

Learned persons, telecommunications carriers, manufacturers, consumer organizations, etc.

4. Schedule

The first meeting was held on March

29, 2002 and the final report based upon its findings will be compiled around September 2002.

(Reference)

Major topics to be deliberated upon at the study group

Due to entries of new telecommunications carriers and widespread introduction of IP-based networks, solutions against shortage of assignable telephone numbers including those for terminals in fixed communications systems become

an urgent issue. Thus, it becomes difficult to assign new telephone numbers to new services arising from technological developments.

Accordingly, issues related to the numbering plan and its management, measures to extend the life of the existing numbering plan, and creation of new number space will be discussed, resulting in contribution to a policy-making for the numbering plan in a long-term prospective.

“Study Group Concerning Satellite Broadcasting” Held

MPHPT held the first meeting of the “Study Group Concerning Satellite Broadcasting” (Chair: TAGAYA Kazuteru, Vice-President for Education of Chiba University) on March 27, 2002.

With respect to satellite broadcasting in Japan, the BS digital broadcasting providing the digital Hi-Vision broadcasting and data broadcasting, etc. started from December 2000. In order to facilitate the digitalization of broadcasting systems, it is necessary to increase the number of subscribers to those broadcasting systems.

Moreover, with regard to CS broadcasting, more than 180 TV channels have been provided. Furthermore, since March 2002, the 110 degrees east longitude CS digital broadcasting commenced its services in succession. In terms of regulations, the Law Concerning Broadcast on Telecommunications Service came into force in January 2002; thus a new future of broadcasting is becoming a reality.

Under such new conditions as a drastic increase in the number of multi-channel systems, MPHPT held the Study

Group in order to deliberate on the following necessary themes:

1. Status of satellite broadcasting as massmedia and the direction of its development;
2. Desirable promotion methods of BS digital broadcasting, and
3. Desirable promotion methods of CS digital broadcasting.

Hereinafter, this Study Group will continue with the study until December 2002.

Results of Japan-China Policy Dialogue on Regulations and Pro-Competitive Policies

Based on the “Japan-China ICT Partnership” signed in January 2002 at the Japan-China ICT ministers’ meeting, MPHPT held meetings to exchange opinions concerning regulations and pro-competitive policies, and regulatory reforms, etc. in each country by inviting persons in charge of regulations and pro-competitive policies including Ms. WAN, Deputy Director-General, Telecommunications Administration Bureau, the Chinese Ministry of Information Industry (MII).

The Chinese members stayed in Japan from March 24 through 30, 2002, and

had a meeting to exchange opinions with telecommunications carriers besides the Policy Dialogue.

An outline of this Policy Dialogue is as following.

1. Opinion exchange between persons in charge of regulations and pro-competitive policies

Opinions were exchanged between members from two countries one by one on each topic concerning pro-competitive policies, tariff policies, interconnection policies, support measures for telecommunications subscribers, technology

regulation policies, numbering plans, radio regulatory policies, standards/certification system, etc.

The current situation in China by item are as follows:

1) Pro-competitive policies

The number of fixed line users in China is 179 million (the second largest in the world), while the number of mobile communications subscribers in China is 145 million (the largest in the world) as of the end of December 2001. The number of Internet users reaches 33.7 million. It is estimated that in 2005 the number of fixed line users will reach

300 million, the number of mobile communications subscribers will reach 360 million, and the total length of fiber-optic cables will reach 2.5 million km. ISPs number in the hundreds. Out of these, there are about ten ISPs with Internet backbones. Competition among carriers would be promoted by means of the division and restructuring of the China Telecommunications Group (CHINA TELECOM). Moreover, the establishment of the universal service fund to construct telecommunications networks in rural areas is planned, while introduction methods and management systems were under consideration in units involved.

2) Interconnection and tariff policies

Since ministerial ordinances concerning interconnection are provided for based upon the applicable laws, interconnection issues are dealt with in accordance with the regulations. Measures

to meet specific cases such as interconnection between newly established two carriers due to the division of CHINA TELECOM are problems to be tackled in the near future.

3) Support measures for telecommunications users

The quality of service (QoS) is to be improved through competitions. To this end, quality standards are developed, thereby current service levels are monitored and examined. In specific, based on the idea of one standard, two methods (2 ministerial ordinances), and three systems (a notification system, a report system and an evaluation system), the Telecommunications Complaint Center (TCC) was established so as to improve services for consumers. The number of complaints received at TCC totaled 1,310 during the fourth quarter of FY2001, and it is forecast to increase further. A survey on customer satisfac-

tion targeting five major carriers was conducted, and research findings disclosed.

4) Technology regulation policies and numbering plans

The numbering plans are to be prepared by MII, and reorganization of the carrier identification numbers, etc. are under consideration. The carrier pre-registration (pre-selection or dialing parity) system equivalent to Japanese MY-LINE system will be implemented during CY2002, accordingly preparatory works for the implementation was in progress.

2. Opinion exchange with telecommunications carriers

An opinion exchange meeting was held with participation of corporate officers from NTT Communications Corp., NTT DoCoMo, Inc. and KDDI Corp.