

MPHPT

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COMMUNICATIONS NEWS

Biweekly Newsletter of the Ministry of Public Management, Home Affairs, Posts and Telecommunications, Japan

Minister ASO Visits the U.S. and Germany

During April 29 through May 5, 2004, Rep. ASO Taro, Minister for Public Management, Home Affairs, Posts and Telecommunications, visited the U.S. and German governments, for the purposes of exchanging opinions from a wider viewpoints to discuss more thoughtfully the postal services reform toward the future, as well as holding meetings for strengthening collaborative relationships in the ICT field, and for addressing terrorism, security measures, etc.

Outlines of meetings concerning ICT are as follows:

1. Meeting with FCC Commissioner MARTIN

Minister ASO held a meeting with Commissioner Kevin MARTIN, at the Federal Communications Commission (FCC) on April 29, 2004. At the meeting, both sides exchanged a variety of information on promotion of broadband platforms, realization of a ubiquitous network society, efforts of the two countries to address introduction of online administrative procedures, etc.

Minister ASO asked Commissioner MARTIN to convey an idea that it is quite fruitful that MPHPT and FCC hold meetings for opinion exchanges on a regular basis. In response, Commissioner MARTIN replied that since the U.S. has many things to learn from Japan, such as deployment of 3G mobile telephone services, the regular meeting is worth considering within FCC.

With regard to initiatives for broadband deployment in the U.S., Commissioner MARTIN

explained that i) the Bush administration has been striving to realize nationwide broadband deployment by 2007 through tax incentives, ii) it is thought to be an effective way for rural areas to realize development by introducing wireless broadband, and iii) fiber-to-the-home (FTTH) is also a focus of attention.

2. Meeting with Mr. Ted KASSINGER, Deputy Secretary of Commerce and Mr. Michael D. GALLAGHER, Acting Assistant Secretary of Commerce for Communications and Information and Administrator of the National Telecommunications and Information Administration (NTIA)

Minister ASO on April 30, 2004, held a meeting with Mr. KASSINGER, Deputy Secretary of Commerce, and Mr. Michael D. GALLAGHER, Administra-

tor of NTIA, at the Department of Commerce in the Washington, D.C. At the meeting, they shared a common recognition that the ICT industry is a driving force of economic growth.

Using a reference data, Minister ASO explained that Japan realized the world's most inexpensive and high-speed broadband environment and the background thereof. He added explanations on measures for realizing a ubiquitous network society through the use of RFID tags, etc. by presenting actual cases.

Mr. KASSINGER pointed out the sig-

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Minister ASO (left) and Minister CLEMENT

International Policy Division,
International Affairs Department,
Ministry of Public Management, Home
Affairs, Posts and Telecommunications
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

• MPHPT information is available at:
http://www.soumu.go.jp/joho_tsusin/eng/newsletter.html

nificance of ensuring interoperability of RFID tags and explained a recently released report on introduction of power line communications (PLC), and expressed that it is a good idea to exchange opinions on new technologies including RFID tags between MPHPT and the Department of Commerce.

In addition, information was exchanged on efforts of both countries to address construction of e-governments, including online administrative procedures.

3. Meeting with Federal Minister Wolfgang CLEMENT, the German Ministry of Economics and Labour

On May 4, 2004, Minister ASO visited the German Ministry of Economics and Labour and held a meeting with Mr. Wolfgang CLEMENT, Federal Minister for Economics and Labour.

Minister ASO stated the significance of IT use, explaining the improvement in convenience through the use of RFID tags in the distribution and medical

fields, and elimination of barriers for assisting social lives of the elderly and patients. Minister CLEMENT explained German IT policies, including efforts to address promotion of RFID for medical records and job cards.

Minister ASO, with an eye to Japan-Germany Bilateral Talk on Telecommunications to be held in June 2004, he argued construction of a ubiquitous network society through the use of IT and promotion of broadband deployment.

Report of "Study Group on Mobile Number Portability" Released

Since November 2003, MPHPT has been holding the "Study Group on Mobile Number Portability" (Chair: Dr. SAITO Tadao, Professor Emeritus, the University of Tokyo) with the objective

of deliberating upon mobile number portability (MNP). Recently, the Study Group has compiled its findings as a report.

The outline of the report is as follows:

telephone user is allowed to change a mobile telephone carrier without worrying about changing the mobile telephone number. Since MNP will bring about for users many options in terms of terminals and services, society's interests in and demands for MNP are growing. In order to introduce MNP, it is necessary to invest considerable amounts of money into mobile carriers' facilities for installation/modification; and to fully consider user demands and effects of introducing MNP. For this end, this Study Group,

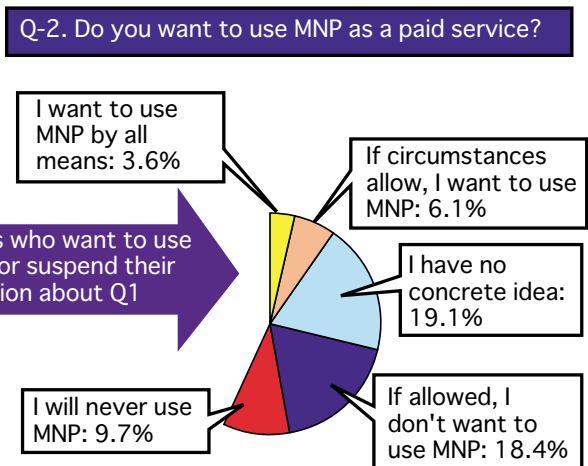
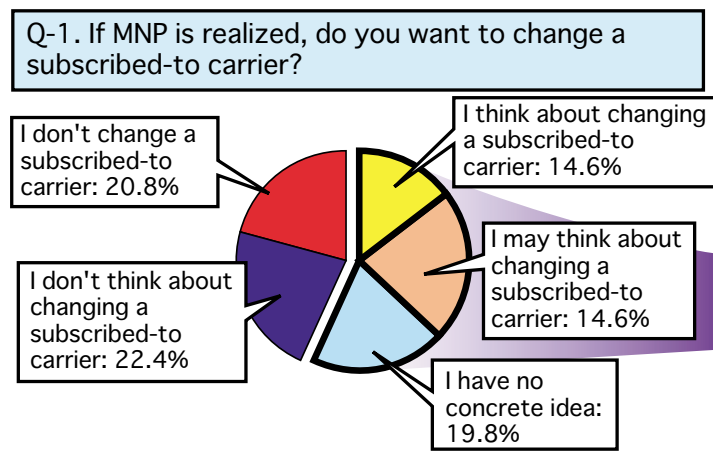
Outline of the report on the Study Group on Mobile Number Portability

Chapter I. Outline of MNP and background of deliberations thereon

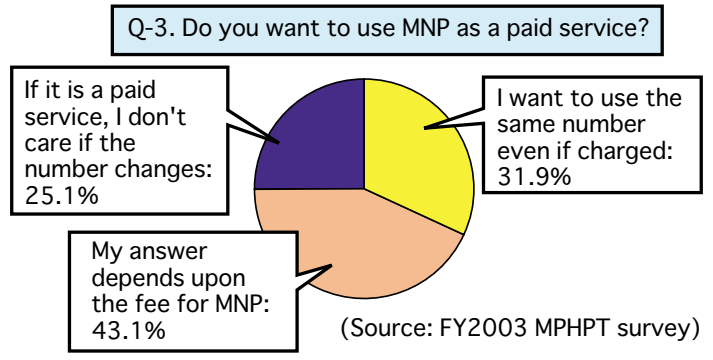
MNP is a mechanism that allows a mobile telephone user to retain the same

telephone number without changing the telephone number, after the user changes a subscribed-to mobile telephone carrier to a new mobile telephone carrier.

Thus, once MNP is realized, a mobile



Users who want to use MNP or suspend their decision about Q1



(Source: Mobile carriers' survey)

There are needs for MNP. [Q-1. Depending upon terms and conditions: 37 - 57%] However, if it is a paid service, the ratio of subscribers who want to use MNP goes down and depends upon the price range. [Q-2. 10 - 30% (mobile carriers' survey); Q-3. 32 - 75% (FY2003 MPHPT survey)] Although there are differences between the two surveys, it can be construed that about 30% of all mobile telephone subscribers intend to use MNP.

consisting of experts from mobile carriers, academia, consumer organizations, etc., was established with the purpose of deliberating upon wide-ranging issues.

Chapter II. User needs

User needs for MNP were analyzed based on two questionnaire surveys; one targeted telecommunications service monitors and was conducted by MPHPT in FY2002 and FY2003, and the other targeted mobile telephone subscribers and was conducted by mobile carriers in FY2003.

Section 1. Demand for MNP

It can be construed that about 30% (24 million subscribers) of all mobile telephone subscribers have intend to use MNP.

Section 2. Problems caused by change in numbers

It can be said that one of demerits in changing a subscribed-to carrier may be the change in telephone number.

Section 3. Charges pertaining to MNP

If MNP is a paid service, the lump-sum fee is the payment method preferred by most potential MNP users. In this case, potential users may want a price range between 1,000 yen through 2,000

yen.

Section 4. Directory service for new telephone numbers

Even if a directory service for new telephone numbers is provided, such service cannot perfectly meet user demands.

Section 5. Mail address

Users who feel inconvenienced upon the change in e-mail addresses may not be much more than those who feel inconvenienced upon the change in telephone numbers. Users who want to continue using the same e-mail addresses may not be much more than those who want to continue using the same telephone numbers. Many of them would rather select alternative services, such as transfer services.

Section 6. Others

Many mobile telephone users think that mobile carriers should shoulder the costs for MNP; and the MNP function is one of basic functions the mobile carriers should prepare.

Chapter III. MNP in other countries

Section 1. MNP in other countries

In the E.U., the U.S. and the Asia-Oceania region, introduction of MNP has been in progress.

Section 2. Effects and impacts of introducing MNP in other countries

Reductions of communications charges are not necessarily caused only by MNP. However, it can be confirmed that before and after introduction of MNP, communications charges have declined.

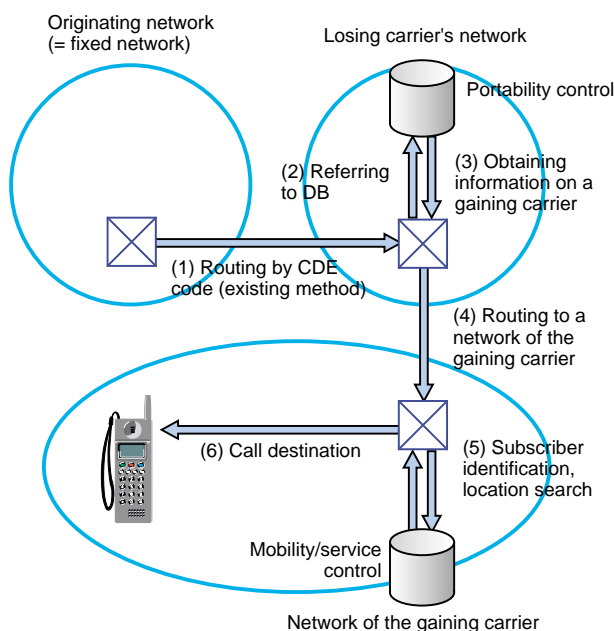
Taking a look at the time necessary to process changes of telephone numbers and usage rates of telephone number changes, in countries where it takes shorter time to process telephone number changes, subscribers tend to use MNP. In countries where usage rates of telephone number changes are not so high, it is pointed out that one of reasons why usage rates are not so high is insufficient awareness campaigns for MNP.

Chapter IV. Effects and impacts of introducing MNP

Section 1. Effects and impacts of introducing MNP on users

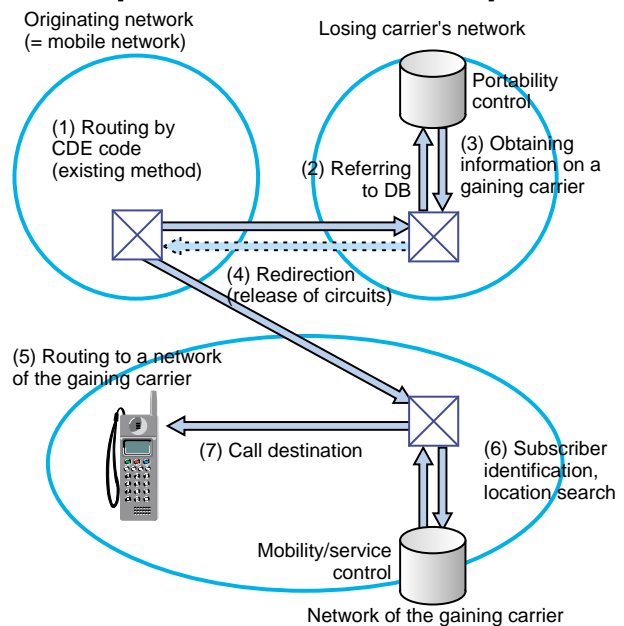
MNP allows mobile telephone users to retain the same number even after changing a subscribed-to mobile carrier. MNP improves users' convenience, such as free selection of mobile carriers, no time and no cost required in informing of the new telephone numbers, etc. On the other hand, for subscribers who concluded discount long-term contracts,

[Outline of Transfer Method]



- The originating network routes a call by the existing CDE codes.
- The network of a losing carrier transfers a call to a network of the gaining carrier by using information indicating the gaining network.
- The gaining network controls the mobility/services according to information indicating the gaining network.

[Outline of Redirection Method]



- The originating network routes a call by the existing CDE codes.
- The network of a losing carrier orders a redirection (information indicating the gaining carrier).
- The originating network routes a call to the gaining network by information indicating the gaining carrier.
- The gaining network controls the mobility/services according to information indicating the gaining network.

there would be cases where such subscribers should have to pay penalties.

Section 2. Effects and impacts of introducing MNP on people other than users

Calling parties will benefit from MNP. For instance, since telephone numbers of called parties do not change, calling parties are not required to change their records or rewrite memoranda.

Section 3. Promotion of competition among mobile carriers

Since users can change a carrier to another carrier without restriction, MNP would promote i) competition among mobile carriers, ii) further rate reductions, iii) improvement of services encouraging long-term contracts other than charges, and iv) price cuts for replacing models in use. As a result, effects of MNP would cover not only MNP users but also mobile subscribers as a whole. In addition, it is expected that through advancement of services, MNP will encourage technological innovations and improve international competitiveness of Japan's industries.

However, some experts pointed out concerns about whether mobile carriers would lose funds for rate reductions through cut-throat competition and whether development of services and R&D would fall behind other countries.

Section 4. Economic assessment of MNP (cost-benefit analysis)

As a means of judging whether MNP should be introduced, assessment shall be carried out from the viewpoint of cost-effectiveness, for instance, what the costs will add up to for introduction of MNP; and to what extent the benefits will be brought about through introduction of MNP. According to a result of a trial calculation based on a given assumption, benefits of introducing MNP surpass the costs necessary for introducing MNP. Although given costs are needed to introduce MNP, it is thought that as a whole, the benefits of introducing MNP surpass the costs necessary for introducing MNP.

Cost-benefit analysis/assessment

1. Effects (direct benefit) to be obtained by MNP users (about 3.7 billion yen – 85.5 billion yen)
Assumption for calculation: (Because

telephone numbers are not changed) effects of cost reductions for informing new telephone numbers (Usage rates are set at 10%; usage rates for juridical persons are set at 0% to 50%)

2. Effects (indirect benefits) to be obtained by non-MNP mobile users (about 199.5 billion yen – 285.0 billion yen)

Assumption for calculation: Reductions in costs for replacing terminal models; effects of price-gap reductions in comparison with new contracts (Frequency of terminal model changes: 2 years per replacement – 1.4 years per replacement)

3. Effects (indirect benefits²) to be obtained by all mobile users (about 269.6 billion yen)

Assumption for calculation: Rate reductions in air charges (Air charges will be reduced by 10%; excluding changes in basic charges)

Costs for introducing MNP (about 92.8 billion yen – 141.1 billion yen)
< Benefits from MNP introduction (about 273.3 billion yen – 355.1 billion yen*)

*: Direct benefits + indirect benefits²

Benefits of MNP surpass the costs necessary for introducing MNP.

Chapter V. MNP as it should be

Section 1. Necessity for introducing MNP in Japan

Considering user needs, trends in MNP in foreign countries, expected effects, etc., it is expected that MNP will promote users' convenience and competition among mobile carriers in Japan. Thus, it is appropriate to introduce MNP.

Section 2. Procedures for introduction

[Basic concepts]

Since MNP will greatly improve as well as promote users' convenience and competition among mobile carriers, it can be thought that MNP shall be a service that is to be uniformly provided by all mobile carriers. It is appropriate for all mobile carriers to provide MNP at the same time on a two-way basis. In addition, it is appropriate to introduce MNP into all mobile systems, including 2G and 3G.

[Procedures for MNP]

In order to promote MNP use, proce-

dures for MNP shall be based upon ease-of-use for users. It is preferable to enable users to use all services of newly selected mobile carriers.

[Newcomers]

When a newcomer enters the mobile market, in order to ensure users' convenience, it is appropriate for the newcomer to prepare MNP functions upon initial market entry.

[e-mail address portability]

With respect to e-mail address portability, this is a significant problem of Internet services involving not only mobile carriers but also all Internet access providers, because transfer/succession of domain names are to be resolved. Judging from results of the questionnaire surveys, needs for e-mail address portability are comparatively fewer than those for MNP. In addition, there are substitutable services such as transfer services and services for informing new addresses. Thus, it can be said that for the time being there is no need to implement e-mail address portability.

Section 3. Methods to realize MNP

From the viewpoints of the lowest possible introduction costs, minimum impacts on networks of fixed telecommunications carriers, various methods to implement MNP were considered. According to findings thereof, the basic MNP methods for "interconnection from fixed networks" would be a "transfer method," considering merits that development of network functions would be minimized at calling-party side fixed telecommunications carriers; and those for "interconnection between mobile telephone networks" would be a "redirection method," considering merits that telecommunications facilities would be efficiently used and costs for modifying facilities would be lowered than the IN method.

Section 4. Cost sharing method

It is vital to recover facilities investment for MNP through appropriate measures after mobile carriers have shouldered costs for their own facilities. As for such costs for investment, since it would be ensured that all users, in addition to MNP users, should enjoy benefits of MNP, it is thought to be appropriate to require not only MNP users who enjoy the direct benefits to mainly shoulder the costs; but also other users who

enjoy the indirect benefits to indirectly shoulder the costs. The following methods may be employed to recover the costs:

- MNP users and mobile carriers are to shoulder costs for i) facilities pertaining to mobile telephone networks and ii) operating expenses pertaining to operations and maintenance.
- MNP users are to shoulder costs equivalent to actual expenses, such as handling charges for porting procedures upon request from the users.

Mobile carriers shall enable subscribers to use MNP with ease-of-use by encouraging subscribers to use MNP.

Section 5. Procedures pertaining to MNP

It is preferable that procedures for using MNP should be ones through which potential MNP users can apply for MNP with ease-of-use. In order to prevent troubles with mobile telephone users who want to use MNP users and faults of interconnection pertaining to online processing, etc., mobile carriers are requested to fully coordinate proceedings among carriers involved, fully inform mobile telephone users who want to use MNP users of details of MNP and make efforts to implement MNP.

In addition, since personal data (proprietary information) are closely related to mobile telephone numbers than ever before, it is critical for mobile carriers to manage personal data appropriately.

Some stated that it is preferable to shorten the porting lead time (a time from the completion of application for MNP at an office of a mobile carrier (or a dealer) to a date and time for porting activation at the gaining mobile carrier). For realizing one-stop shopping, it is vi-

tal to carefully identify issues, such as debt information on delinquents, etc. Thus, detailed deliberations thereupon, including possibility of one-stop shopping, shall be made.

Section 6. Schedule

In order to introduce MNP, establishment of detailed specifications, methods for cost recovery and adjustment, development of operation rules, development of software, confirmation of interconnection with all telecommunications carriers, etc. are needed. These processes would take a length of time. Since MNP is expected to be introduced at the earliest possible stage, it is appropriate to implement MNP at the earliest possible date in FY2006.

Chapter VI. Toward implementation [Measures to be taken by mobile carriers]

It is requested to begin deliberating upon detailed specifications of MNP implementation, methods for cost recovery and adjustment, development of operation rules, etc. as soon as possible. Upon deliberation thereupon, it is preferable that careful consideration be made for avoiding hindrance of users' benefits and realizing MNP at the earliest possible stage.

Since procedures for porting MNP are expected to be simple and easy-to-understand, opinions from users should be considered. It is vital to consider establishment of a mechanism for accepting complaints and procedures for complaint settlement.

Of these matters, with respect to matters to be deliberated upon by all telecommunications carriers to be interconnected, it is thought that all carriers in-

involved would establish a forum for discussion. Also, in order to ensure transparency, it is appropriate to develop and establish standards thereof at the Telecommunications Technology Committee, a domestic standardization organization. With regard to interfaces between carriers, operation rules, etc. necessary for interconnection, it is essential to disclose them to all interested carriers, including newcomers, without restriction on use. Furthermore, with respect to user fees pertaining to MNP, it is required that the fees shall not be decided by negotiations between carriers.

[Other measures to be taken by carriers]

Upon development of specifications, modification of systems, interconnectivity tests in introducing MNP, etc., understanding and collaboration among carriers are required for smoothly and surely realizing MNP.

[Measures to be taken by the government (MPHPT)]

In order to smoothly and surely realize MNP, MPHPT is required to i) develop guidelines for introduction methods, realization methods, cost sharing methods, procedures for MNP use, introduction schedule, matters to be considered in providing MNP service; and ii) prepare necessary regulatory frameworks. In addition, MPHPT is requested to follow up deliberation among carriers and, if necessary, support and direct their efforts.

As for mobile telephone users, MPHPT is requested to make efforts to raise public awareness on detailed information on MNP services and precautions for MNP use, before and after the introduction.

Report by the "Study Group on Long-Run Incremental Cost (LRIC) Model" Released

MPHPT reconvened the Study Group on LRIC Model (chaired by Professor SAITO Tadao, Chuo University) in September 2003 in order to investigate Long-run Incremental Cost (LRIC) model that can be used as method for calculating interconnection charges from fiscal 2005. After invitation of comments from the public, the Study Group compiled its findings as a report.

The outline of the released report is as follows:

[Outline of the report from the Study Group]

Chapter I. Background of reestablishment of the Study Group

Section 1. Situation before the current model

Instead of the conventional historical cost methodology, a Long-Run Incremental Cost methodology has been used to calculate interconnection charges since FY 2000, for which long-run incremental cost model have been developed. The Study Group on Long-run Incremental Cost Model developed a primary model in September 1999 and a secondary model in March 2002, and the Telecommunications Council requested that figures calculated based on the first model should be applied to the interconnection charge calculations for FY 2000 to FY 2002 and those based on the second model to the calculations for FY 2003 to FY 2004.

Section 2. Background of reestablishment of the Study Group

The Telecommunications Council, to which a case of interconnection charges for FY 2003 to FY 2004 was referred, recommended in its report on March 28, 2003, that MPHPT should investigate a method for calculating interconnection charges from FY 2005 that take into consideration major changes in environment such as a reduction in traffic and a slowdown in new investments. The Study Group was therefore reestablished to

amend a model for calculating interconnection charges from FY 2005.

Chapter II. Changes in the business environment of models

Section 1. Reduction in fixed telephone traffic volume

The end-to-end traffic volumes through switches of NTT East and NTT West have fallen sharply in both the number of calls and total traffic since FY 2001. The number of registered users has also been declining since FY 2001. Fixed telephone traffic is likely to continue to decline in both the number of calls and total traffic due to the following three reasons

- Marked growth in mobile phone usage
- Considerably increasingly the number of subscribers to high-speed and ultra-high-speed Internet
- Growth in demand for VoIP services

Section 2. Slowdown of new investment in fixed telephone facilities

Equipment investment by NTT East and NTT West has sharply decreased since FY 2000. NTT stated that traffic would inevitably shift from fixed telephone lines to the IP telephone network, and so, in principle, they would stop investing in the fixed telephone network, reduce the fixed telephone network costs, etc. Slowdown of investment in the fixed telephone network will therefore continue. The depreciation cost is also declining in line with the slowdown of investment for fixed telephone network equipment.

Chapter III. Review of models

Section 1. Considerations, basic policies, etc.

Currently, the Study Group investigated the following three points based on the context of its reestablishment:

- (1) Reflect the slowdown of new investment in the fixed telephone network
- (2) Reevaluate and review the relations between traffic and cost changes

- (3) Other special issues to be considered

Section 2. Specific considerations

Out of the six issues listed for discussion, the following four were investigated:

- Review of economic lifetime based on the slowdown of new investment (Section 3)
- Consideration of the costs of excess facilities in a period of demand declination (Section 4)
- Reflection of facilities shared with data transmission services (Section 5)
- Revision of input values, etc. (Section 6)

The other two items were withdrawn because of the difficulty of making specific proposals.

Section 3. Review of economic lifetime based on the slowdown of new investment

NTT's slowdown of investment in facilities has resulted in lower depreciation expense, which means that economic lifetime has been extended. To reflect this fact in the long-run incremental cost model, a new method for adjusting the current economic lifetime, was formulated.

Section 4. Consideration of the costs of excess facilities in a period of demand declination

When demand peaks and starts to decline, some of the facilities at the peak become dormant assets, without being eliminated or removed. The Study Group considered a method for estimating the costs of excess facilities and decided that it was not appropriate to calculate such costs because such calculation conflicted with the objective of the long-run incremental cost model.

Section 5. Reflection of facilities shared with data transmission services

To calculate the volumes of telephone and the ISDN facilities using models

more correctly, logic has been established for considering those facilities which are shared with data transmission services, demand for which has soared in recent years, in addition to sharing with leased lines that have been considered current models.

Section 6. Revision of input values, etc.

Some of the economic lifetime and other input values were revised, when the marine interoffice transmission sections that had selected duct facilities in the air or underground like those on the ground were revised this time to select proper submarine cables or wireless facilities.

Chapter IV. Evaluations and notes

Section 1. Calculation results and evaluation

The results of calculation are given below. When calculated using the traffic volume for FY 2002, the group center (GC) and zone center (ZC) interconnection cost decreased by 93.4 billion yen, down 11.2 %, from 831.7 billion yen, the current model cost, to 738.3 billion yen. The subscriber line transmission cost decreased 57.9 billion yen, down 6.2%, from 933.8 billion yen to 875.9 billion yen.

In the terms of unit costs of major unbundling elements, the calculation results are as follows:

- (1) Regarding the Tandem switch function, extending the economic lifetime of switches reduced the annual cost by 3.5%.
- (2) Regarding the Interoffice transmis-

sion function, as a result of sharing facilities with data transmission services, 60 percent of the trunk optical cables between the GC and IC are applied to telephone lines and 40 percent to leased lines and data transmission services in order to ensure proper allocation of costs. Extending the economic lifetime of conduit lines, etc. resulted in a fall of 9.2% in annual costs.

- (3) With regard to the Local switch function, as a result of the sharing of facilities with data transmission services, 60 percent of the optical cables between RT and GC are applied to telephone lines and 40 percent to leased lines and data transmission services to ensure the proper cost allocation. The reduction in cost resulting from revising the economic lifetime of metal cables reduced the number of feeder remote terminal , but increased the number of remote terminals. The annual cost dropped by 11.6%.
- (4) Regarding the subscriber line transmission function, extending the economic lifetime of conduit lines and metal cables reduced the annual cost by 6.2%.

Section 2. Updating input data

The Study Group pointed out that national census data should be updated and appropriate input data collected in the future.

Section 3. Considerations when revising the models

Considerations when revising the

models in the future are as follows:

- (1) Reflect advanced technologies, etc. in the models

Key considerations when reflecting new technologies in models: the logic for selecting Feeder RTs in ADSL services requires increasing attention to be paid as ADSL services spread, so the model adopting VoIP should not deviate too far from the network configuration of the incumbents, etc.

- (2) Reflect structural changes in demand in the model

As the demand for data transmission services is expected to increase, it will be necessary to consider models based on the network architecture of data transmission services.

- (3) Considerations concerning model assumptions

Because model and actual facility construction are based on different assumptions, various points must be considered in the cost calculation, but this should be done when pricing is discussed in the future.

- (4) Establishment of a review system to ensure transparency and disclosure

It is extremely difficult to strike a balance between confidentiality regarding telecommunications carriers data and ensuring the transparency and disclosure of discussions. It is necessary, however, to maintain such a balance when revising the model in the future.

Note: The headings and signs including chapters and paragraphs in this document are based on the text of the draft report.

Calculation results

	Current model values		New model values	Rate of change (Note)
	Latter half of FY2001 + 1st half of FY2002	Actual results for FY2002		
Traffic (Hours of calls: GC) (Hours of calls: ZC)	8.1 billion hours 3.3 billion hours	7.1 billion hours 3.1 billion hours	7.1 billion hours 3.1 billion hours	
Local switch functions	753.6 billion yen	751.5 billion yen	664.0 billion yen	-11.6%
Interoffice transmission functions	54.6 billion yen	54.6 billion yen	49.6 billion yen	-9.2%
Tandem switch functions	25.4 billion yen	25.6 billion yen	24.7 billion yen	-3.5%
(Subtotal)	833.6 billion yen	831.7 billion yen	738.3 billion yen	-11.2%
Subscriber line transmission functions	927.2 billion yen	933.8 billion yen	875.9 billion yen	-6.2%

Note: Comparison between new and old models based on the actual traffic volume for FY2002