Document 18-1

Toward Realization of the "New Broadband Super Highway (*Hikari no Michi*)" Plan Final Report (Draft)

ICT Policy Task Force for a Global Era
"Section Meeting for Review of Previous Competition Policy"
"Section Meeting Studying Support for Environmental Change in the Telecommunications Market"

November 30, 2010

Table of Contents

Toward Realization of the "New Broadband Super Highway (*Hikari no Michi*)" Plan

Chapter 1 Promotion of the "New Broadband Super Highway (*Hikari no Michi*)" Plan

a. Commercial mobile phone and internet services fully commenced in the 1990s in the telecommunications market of many countries. In recent years, however, the environment surrounding these services has significantly changed with progress made in IP networks, broadband, and mobile communications.

b. A focus on the infrastructure and networks with recent environmental changes in Japan has resulted in a transfer from metal cables to optical fiber, or from PSTN (fixed-line telephone network) mainly constructed with switching nodes to IP networks consisting of routers and servers, including the Next Generation Network (NGN) of NTT, having started.

In addition, with wireless systems both mobile phone systems of better mobility/communication quality, etc. and wireless LAN systems with advantages in terms of speed and cost are increasingly being developed. With regard to the former 3.9th generation LTE services are scheduled to be commenced upon in December of this year and with the latter commercial WiMAX services have already been commenced upon in July 2009.

c. In addition, development of the infrastructure/networks is also having a significant impact on the services available. The number of fixed broadband service subscriptions in Japan had exceeded 30 million by December 2008 and was approximately 33 million as of the end of FY 2009. Of them the number of FTTH subscriptions surpassed that of ADSL in June 2008, and was 17.8 million as of the end of FY 2009.

The number of IP telephone subscriptions that utilize a broadband infrastructure had reached 23.15 million as of the end of FY 2009, of which the number of users of IP telephones at a quality equivalent to metal cable telephones (OABJ-IP telephones) had increased to 14.53 million. In addition, the number of mobile phone service subscriptions was 114.8 million as of the end of August 2010, of which 3rd generation mobile phones accounted for 98%.

d. Furthermore, the development of the infrastructure/networks has created new upper layer markets. Various service applications have emerged one after another, including video picture/music distribution services, video hosting sites, electronic commerce, blog/SNS, etc. through to the cloud services that are about to result in a paradigm shift in the information and communications sectors. With the mobile phone market smart phones that enable users to use and freely customize these various service applications are rapidly becoming very popular.

e. The importance of the upper layer markets and device layer markets is increasing, and hence an organic collaboration between infrastructure and service applications, such that the emergence of various applications over the highly developed broadband infrastructure can facilitate further advancement of the infrastructure, etc., is now essential in developing information and communications markets. Not only the open network layer, as conventionally considered important, but also the point of view of securing openness between layers with the growth/development of upper layer markets and device layer markets taken onto account is becoming important.

f. The "New Broadband Super Highway (*Hikari no Michi*)" Plan (with the goal of making broadband available to all households by around 2015) aims at further economic development in Japan through accelerating the development and use of a broadband infrastructure and realizing an affluent society in which the benefits of ICT can be rapidly, fairly, and sufficiently felt/enjoyed through optimal use of ICT while still protecting the communication rights of everyone. Securing openness within and between layers and establishing the above mentioned organic collaboration is considered important in promoting the plan.

g. In addition, efforts to develop a broadband infrastructure are becoming a global trend. The following broadband policies have their main focus on the development an ultra-high-speed broadband infrastructure being established in the pertinent country, with active efforts being on-going. The broadband infrastructure, including wireless broadband, in Japan is considered to be of the most advanced level in the world, but maintaining that position and making further improvements to it will require promotion of the "New Broadband Super Highway (*Hikari no Michi*)" Plan and the establishment of an ICT environment that is a world leader.

<Broadband policies in the USA/EU>

[USA]

○ A National Broadband Plan was formulated by the FCC in March 2010 in accordance with the American Recovery and Reinvestment Act (enacted in February 2009).

- By 2020 broadband at a measured minimum downstream speed of 100 Mbps and measured minimum upstream speed of 50 Mbps will be available for use in 100 million households.
- A "Connect America Fund" will be created in providing universal broadband and voice services at a measured minimum downstream speed of 4 Mbps
- The 500 MHz band will be made available for use within the next 10 years and then allocated for mobile broadband, etc. use.

[EU]

○ Europe 2020 Strategy (June 2010) and EU Digital Agenda (May 2010)

- Broadband access to be available to all European citizens by 2013
- Broadband access of 30 Mbps or higher to be available to all European citizens and 50% or more households to have broadband of 100 Mbps or higher subscriptions by 2020, etc.

○ Budget of 360 million Euros (approximately 40 billion yen) over two years allocated as an emergency economic measure

h. As a concrete ideal policy further promotion of competition is considered to have the result of market revitalization, facilitation of infrastructure developments, and improved utilization. Technological innovations with regard to the infrastructure and development/introduction of attractive services, etc. can only be realized via the existence of competition in infrastructure developments.

i. However, infrastructure developments through competition between private business operators cannot be expected to occur in remote regions, etc. Infrastructure developments and their utilization in those regions will therefore need to be promoted by the government and local governments playing specific roles through providing support as measures that supplement the competition policy.

j. Japan has the most advanced level of ultra-high-speed broadband infrastructure in the world, but issues remain with its utilization. Broadband utilization needs to be improved through drastic review of systems/rules, etc. that inhibit its use in the medical, educational, and governmental, etc. sectors.

k. Promotion of the following three major policies is therefore considered appropriate in realizing the "New Broadband Super Highway (*Hikari no Michi*)" Plan.

[1] Promotion of "ICT utilization infrastructure" development in regions where development has not made much progress

[2] Promotion of competition policy, including ideal position of NTT

[3] Facilitating ICT utilization through regulatory reform, etc.

Chapter 2 Promotion of "ICT Utilization Infrastructure" Development in Regions where Development has not made much Progress

(Facilitating infrastructure development)

a. The most advanced broadband usage environment in the world has been developed in Japan through active business developments being made by private business operators and competition between business operators by developing a fair competition environment, etc. A broadband deployment rate of 100% is expected to have been realized by the end of this fiscal year.

b. However, the deployment rate with the ultra-high-speed broadband infrastructure was approximately 90% as of the end of March 2010, and thus infrastructural developments for the remaining 10% households taking place under the leadership of the private sector in a competitive environment is in general considered appropriate.

c. Infrastructure development in regions where the development of an ultra-high-speed broadband infrastructure has not made much progress is considered to require, however, a large amount of developmental costs (approximately 1.5 trillion yen according to an estimate made by NTT East and West), with making a profits from that development over the short-term considered difficult. Providing incentives in accelerating the infrastructure development is therefore necessary.

d. This has taken place before in realizing the provision of broadband via a public-built and privately operated method in which local governments with support from the government develop an infrastructure with local requests, etc. taken into account and then lend it to private business operators in accordance with IRU (Indefeasible Right of User), and resulted in certain achievements being attained.

e. Facilitating ultra-high-speed broadband infrastructure development with government support based on the public-built and privately operated method is also therefore considered appropriate here. In view of facilitating the utilization of the developed infrastructure, though, the infrastructure developed by local governments, etc. should take place in an integrated manner along with the introduction of public applications in the medical, educational, and government, etc. sectors and with financial support from the government, etc. being provided on the assumption they are promoting such use.

f. Considering that technologies with a speed close to the level of FTT is in practical use with some cabled (HFC) and wireless broadband communications systems (BWA (Broadband

Wireless Access), etc.) the development of the "New Broadband Super Highway (*Hikari no Michi*)" in cases where deployment of optical fiber is difficult due to geographical conditions or economic rationalities, etc. can effective utilize cabled and wireless broadband communications systems an alternative method.

Chapter 3 Promotion of Competition Policy, including Ideal Position of NTT

a. Basic ideas in discussing ideal competition policy, including ideal position of NTT, include the following two points.

[1] Secure further fair competition conditions between the key business operator of NTT and other competing business operators in facilitating the provision of advanced and diverse services and lowering the price

[2] Review existing systems/rules to enable telecommunications business operators, including NTT, to immediately incorporate the results of technological innovations and appropriately respond to consumers' needs

b. The results of discussions based on these basic ideas at a "Section Meeting for Review of Previous Competition Policy" and "Section Meeting Studying Support for Environmental Change in the Telecommunications Market" (hereinafter referred to as the "Joint Section Meeting") of this Task Force were used to make recommendations on political measures to be taken with the following issues being deemed appropriate.

[1] Ideal open access to access-networks

[2] Ideal open access to relay networks

[3] Ideal methods for securing equal use of bottleneck facilities

[4] Ideal universal services

[5] Response to future changes in market environment

Section 1 Ideal Competition Policy

(1) Promotion of facility competition and service competition (past details, etc.)

a. Competition policy in the telecommunications sector aims to optimize users' benefits through lowered the price and diverse services being provided by facilitating competition.

There are two ways competition is facilitated between business operators: facility competition (competition between business operators that provide services through establishing their own facilities) and service competition (competition between business operators that provide services through renting facilities from other business operators). The conventional competition policy has involved promotions with an appropriate balance of both facility competition and service competition.

b. In facilitating facility competition open access to the infrastructure for laying lines, including utility poles and conduits, etc. and diverse access networks through the introduction of new

wireless technologies, etc., have been promoted.

"Guidelines on the Use of Utility Poles and Conduits, etc. by Public Utility Business Operators", which specifies standards for the handling of loan procedures for the infrastructure with laying lines, including utility poles and conduits, etc. that public utility business operators own (telecommunications carriers, etc.), etc., was formulated (April 2001) with regard to open access to the infrastructure for laying lines by the Ministry of Internal Affairs and Communications and then revised five times in taking requests from business operators, etc. into account.

Measures from the point of view of facilitating facility competition in the telecommunications sector are still being taken as the revision in April of this year added base stations, etc. to the subjects of the Guidelines.

In ensuring diverse access is in place networks have been promoted through the introduction of new wireless technologies, etc., and efforts have been made such as the introduction of BWA in 2009 and discussions held on securing frequencies for realizing wireless broadband, including mobile communications systems such as mobile phones and BWA, by the "Working Group on Discussion of Frequencies Needed to Realize Wireless Broadband Services" that was established under this Task Force.

c. A partial amendment of the Telecommunications Business Act (hereinafter referred to as the "Business Act") introduced a special connection rule (so-called asymmetric regulation) in facilitating service competition and with attention paid to facility bottlenecks in responding to any blocks to competition such as connection negotiations with the provision of new services not progressing smoothly between NTT and newly entering business operators. It obligates Type 1 telecommunications carriers establishing designated telecommunications facilities (so-called bottleneck facilities) to formulate/approve connection provisions (paragraph 2, Article 33 of the current Act, etc.) and maintain connection accounts (paragraph 13, Article 33 of the current Act).

In addition, the unbundling (segmentation of functions) of subscriber lines (metal cables, optical fiber) and collocation rules (rental rules for spaces in stations used to install the equipment required for connections) were developed from 2000 to 2001, which then contributed to the rapid development of broadband services, including ADSL services, etc., in Japan.

Furthermore, partial amendment of the Business Act in 2001 introduced a "prohibited acts" regulation (Articles 30 and 31 of the current Act) that prohibits certain anti-competitive acts being carried out by telecommunications carriers with market dominance with the aim of preventing any abuse of their market dominance. This then resulted in the introduction of new regulations that paid attention to any market dominance through the Business Act.

(2) Ideal open access to access-network

(a) Facilitating facility competition (open access to the infrastructure for laying lines, etc.)

a. Facilitating technological innovations through an advanced infrastructure and ICT utilization while promoting lower prices and more diverse services is considered appropriate in realizing service developments and improved usage rates. From this point of view facility competition needs to be facilitated through promotion of open access to the infrastructure for laying lines and diverse access networks while maintaining a good balance with service competition.

b. The "Guidelines on the Use of Utility Poles and Conduits, etc. by Public Utility Business Operators" was revised several times to ensure open access to the infrastructure for laying lines with consideration given to the requests of business operators, etc., with certain achievements being made. However, fully securing equal use between business operators in possession of the infrastructure for laying lines and those wishing to enter facility competition is difficult due to the physical limitations of the infrastructure for laying lines, etc., with issues involving access to apartment buildings and indoor wiring for switching business operators having also being pointed out in recent years. Continuing to further discuss measures with consideration given to the requests of business operators, etc. is considered appropriate in further ensuring open access to the infrastructure for laying lines.

c. The mobile communications business involves allocation of frequencies that are limited in availability, and hence the infrastructure for laying lines, including base stations, etc. needs to be in principle developed themselves. In some cases, however, the available physical space for establishing base stations, etc. can be limited. Discussing further measures toward solving issues with consideration given to requests from business operators, etc. is considered appropriate.

d. In view of promoting a diverse access-network the government will need to make a drastic reallocation of frequencies in developing/disseminating wireless broadband. The realization of rapid frequency reallocation therefore makes discussing a system that incorporates the idea of auctions with regard to bearing the transfer expenses of existing frequency users by wireless broadband business operators appropriate. In addition, discussions will also need to be held on auctions implemented in foreign countries in consideration of the status of frequency reallocation.

(b) Facilitating service competition (review of subscriber optical fiber connection fees)

a. In addition to facility competition service competition is also important in facilitating

competition between business operators. Competing business operators are required to use the bottleneck facilities (subscriber optical fiber, etc.) of NTT East and West in providing their services, thus making lowering the connection fees of NTT East and West important in facilitating lower user prices through competition between business operators.

Efforts in lowering connection fees have previously been made and contributed to the development of the broadband market, especially the ADSL market, in Japan.

Opinions on lowering subscriber optical fiber connection fees, including review of the schemes used to set connection fees, were expressed by competing business operators at hearings held at a Joint Section Meeting, etc. in further developing broadband market in Japan through improving the optical services usage rate.

b. Conversely, however, some business operators with facilities expressed the negative opinion that even further open access of optical fiber beyond the current scheme will one-sidedly impose a risk to investment in infrastructure development to them, thus lowering the incentive to develop the infrastructure and inhibiting technological innovations and the provision of diverse services.

c. Subscriber optical fiber of NTT East and West is currently provided using [1] the shared access method (split a single core into 8 at maximum using splitters outside buildings and connect to the split terminal line: independent houses) or [2] the single star method (directly connect to a single subscriber core dark fiber: apartment buildings).

Unbundled connection fees for subscriber optical fiber were set in FY 2001 but then twice revised in realizing a certain level of a lower connection fee. Current subscriber optical fiber connection fees were set for the calculation period of between FY 2008 and FY 2010, and hence connection fees for FY 2011 and later need to be set through revision of connection provisions (requires authorization of the Minister for Internal Affairs and Communications after a request for advice has been made to the Information and Communications and Posts Administrative Council).

d. The ideal subscriber optical connection fee has been discussed with attention paid to the shared access method in particular, which was pointed out at hearings. At present subscriber optical fiber connection fees for the shared access method are set per single core. A proposal has been made that connection fees be set for each split line as a concrete measure in lowering the connection fees and taking into consideration the actual situation with usage.

Connection fee setting per single core and connection fee setting per split line are considered to have the following respective advantages and disadvantages.

[1] Connection fee setting per single core takes into relative consideration facility competition, but is comparatively expensive for business operators only using a small number of split lines.

[2] Connection fee setting per split line only necessitates cost of the split lines used to be borne, and thus is considered to facilitate service competition. However, there are concerns that it may affect facility competition or lower the incentive to make more efficient use of them.

e. As described above individual business operators have differing opinions on open access to optical fiber and ideal connection fees, and there are both advantages and disadvantages in them. However, the deployment rate of ultra-high-speed broadband infrastructure exceeds 90% but the usage rate remains just over 30%, while the share of NTT East and West in the FTTH market continues to increase (approximately 75%). Facilitating lower subscription optical fiber connection fees and revitalizing the FTTH market after taking into consideration that facility competition should not be negatively affected and no unreasonable financial burden and investment risk imposed on NTT East and West is therefore considered extremely important.

f. For the above reasons, and in ascertaining the ideal subscriber optical fiber connection fee calculation, thus promoting lower connection fees and diverse services through facilitating entry of competing business operators, and in view of improving the usage rate of optical services commencing concrete discussions on reviewing the connection fee calculation methods for FY 2011 and later, including connection fee setting per split line, between the Ministry of Internal Affairs and Communications and relevant business operators is considered appropriate.

In view of balancing facility competition and service competition connecting business operators will need to bear a share of the facility investment risk, while sufficient consideration should be given to the impact on facility competition, etc. through considering not only technological innovations being impaired, including diverse quality-assured services by business operators with facilities, but also the rapid provision of new services.

(3) Ideal open access to relay networks

a. Activating service competition will require the various telecommunications carriers and contents providers, etc. being able to flexibly use the facilities of telecommunications carriers. In realizing flexible use of the bottleneck facilities of NTT East and West, which are essential in the business developments of other business operators, in particular, appropriate unbundling measures will need to be taken.

b. NGN of NTT East and West was established monolithically with and functions cooperatively with the bottleneck facility of the subscription optical fiber. Service competition is therefore rather difficult to facilitate when compared to PSTN. NGN is expected to be the core relay IP network in the future in Japan, and hence realizing open access in an appropriate and timely manner is considered very important in enabling various telecommunications carriers and

contents providers, etc. to flexibly provide a variety of services.

c. The current connection rules concerning NGN were initially set with consideration given to first three years following the development of connection rules and that the NGN would be in the process of developing their areas of provision, number of users, and service content. The connection rules will therefore need to be reviewed in an appropriate and timely manner according to the development of networks but with consideration given to the conditions surrounding NGN.

d. With regard to this point NTT East and West expressed their intention to implement a planned migration from PSTN in consideration of the life span of the facilities, etc. that was published in their general outlook on November 2 of this year. Migration from PSTN does, however, require clarification of the services/functions not implemented in the current form of the NGN (number portability function, My-Line services, etc.).

e. Facilitating its utilization will make the provision of a variety of content and applications by various business operators very important. In addition, examination of the individual layers of the information and communications industries revealed the market growth rate of the upper layers to be high, with the strategic importance of the platform layer being particularly recognized. Open access to the communication platform functions of NGN (authentication functions, network control functions, etc.) therefore needs to be discussed.

f. For the above reasons above, and from a technical point of view, etc., holding discussions on unbundling the functions/services that should be implemented through NGN and issues with the migration, etc., including ideal the communication platform functions of NGN and treatment of functions and services implemented on PSTN, is considered appropriate in enabling other business operators to provide competing services and various business operators to provide a variety of content and applications, etc. over the NGN. The Ministry of Internal Affairs and Communications and relevant business operators should therefore immediately commence upon discussions, including the implementation methods and ideal methods for the cost to be borne.

(4) Ideal methods for securing equal use of bottleneck facilities

a. The development of a fair competition environment makes unbundling bottleneck facilities important, as described above, but at the same time equal use of unbundled bottleneck facilities between NTT East and West and other business operators will need to be secured.

b. Under the current system the following specific measures were taken against NTT East and

West in securing equal use of the bottleneck facilities.

- The Business Act requires the telecommunications carriers in possession of bottleneck facilities (NTT East and West) to formulate connection provisions with regard to connection fees and the conditions for other business operators to use the facilities and obtain the authorization of the Minister for Internal Affairs and Communications. One of the conditions for authorization is securing equal connection conditions with their own sectors that utilize the facilities and other business operators.
- Preparation and publishing of connection accounts is also required with the aim of monitoring cross subsidization between the sectors that are managing the bottleneck facilities and the sectors using the facilities.
- In addition, NTT East and West are prohibited to use/provide any information acquired in the course of the interconnection business for any other purpose than that of that business (hereinafter referred to as "prohibited acts regulation").

c. In addition to these various measures the effectiveness and appropriateness of the fair competition requirements get verified every fiscal year through implementation of a competition safe guard system, etc. That verification revealed the optical service business using 116 number desks (general reception desks) in the process of making telephone number transfers, etc. to be an issue to ensuring fair competition. Furthermore, use of connection information for an unintended purpose by NTT West was discovered in November 2009. With regard to this point the opinion that the sections of NTT East and West managing the bottleneck facilities and those using the facilities should be structurally separated was expressed at hearings held by the Joint Section Meeting.

d. Taking measures to further secure equal use of the bottleneck facilities is therefore considered needed, with the following three methods under consideration.

[1] Realization method through structural reform of NTT East and West [structural measure]

1) Separation of investment (complete split-up) (a method that completely splits the sectors in control of the bottleneck facilities from the NTT group)
2) Structural separation (split-up within the group) (a method that will make the sectors in control of the bottleneck facilities a separate company under the NTT holding company)

[2] Realization method without any structural reform of NTT East and West [non-structural measure]

3) Functional separation (a method that implements strict enforcement of firewalls between the human resources, information, and accounts, etc. of the NTT East and West sectors in control of the bottleneck facilities and the other sectors)

To determine the ideal method of effectively securing equal use of bottleneck facilities with the

business operators in control of the bottleneck facilities (NTT East and West) and other business operators, the following three methods, namely separation of investment, structural separation, and functional separation, are therefore being discussed.

(a) Ideal structure of NTT East and West

a. The ideal structure of NTT East and West needs to be comprehensively determined from various angles, including the point of view of securing equal use of bottleneck facilities, as discussed above. More concretely, the Joint Section Meeting will make an assessment from the points of view of [1] facilitating facility competition and service competition, [2] protecting the right to access of the people, [3] response to global competition, [4] impact on NTT stockholders, [5] time and cost required for realization, and [6] facilitating the development of the "New Broadband Super Highway (*Hikari no Michi*)". The ideas involved in these points of view can be summarized as follows.

[Idea]

[1] Facilitating facility competition and service competition

Service competition is considered to make progress when strict enforcement of firewalls between the sectors in control of bottleneck facilities and other sectors is imposed as more fair competition conditions are then secured.

The impact of both structural and non-structural measures on facility competition is considered to be rather neural. Making a separate access company to play a special role in optical fiber development, however, will increase the possibility of monopolization of the infrastructure development and thus reduced facility competition.

[2] Protecting the right to access of the people

The right to access of the people can be considered to be eventually protected through universal service system and obtaining equivalent effects under any of the business forms is considered possible depending on the design of this system.

[3] Response to global competition

Univocally defining the factors required in global competition is considered difficult. Responding to diverse global competition involves various factors, including financial strength, fund raising ability, technology, mobility, and decision making, etc. A generalized decision on which one is better than the other from the business form alone is therefore considered difficult. Regardless of the business form, subjecting the pertinent business operators and other players to competition in the market can be considered to improve their comprehensive management capabilities in being capable of responding to global market competition.

[4] Impact on NTT stockholders

NTT has approximately 1 million individual stockholders and institutional investors, etc., and thus any structural reform needs to take the stockholders into account. The impact of separating access sectors on the stockholders will depend on the overall system design rather than the business form, but the fact that subscriber optical fiber networks are in the phase of making a return on investment also needs to be taken into consideration. In addition, impact of higher level of splitting-up on the existing stockholders is considered to be larger.

[5] Time and cost required for realization

If the reformation of NTT that took place in 1999 and example cases in foreign countries, etc. are used as reference a functional separation through strengthening firewalls, etc. can be expected to be realized in a relatively short time, but creating a separate company through transferring the assets of NTT East and West can be expected to take approximately two years after enactment of any law. In addition, corresponding splitting-up costs can also be expected.

[6] Facilitating the development of the "New Broadband Super Highway (*Hikari no Michi*)"

From the point of view of facilitating the development of the "New Broadband Super Highway (Hikari no Michi)" the form of the business form considered to be neutral. If a separate company is formed, however, securing incentives for those specializing in infrastructure development that do not then engage in retail sale services themselves with investment in optical fiber, advanced networks, and improved safety/reliability is considered to be an issue.

Some cases in foreign countries exist in which the development of access networks involves separate companies. However, the background to that is the slow progress of optical fiber developments of private business operators, and the governments of those countries having to make efforts to hasten optical fiber development through establishing new companies and providing them with special roles. It should be noted, therefore, that the background differs from Japan in that NTT and other private business operators are making active progress in optical fiber developments.

b. Separation of investment and structural separation would also appear reasonable in facilitating service competition. After comprehensively evaluating the above points, however, the Joint Section Meeting at present considers immediately implementing "functional separation" of the sectors of NTT East and West that are in control of bottleneck facilities to be the most realistic and effective.

c. With regard to this, however, an optical access company plan (separating the access network sectors of NTT East and West through separation of investment in establishing an optical access company and systematically implementing optical network development/metal cable migration

over five years regardless of the demand) proposed by a telecommunications carrier is considered to be highly uncertain in its realization after considering the possibilities for establishing a business (amount of investment in optical fiber, maintenance fees for access networks, balance sheet, and securing construction capabilities, etc.) and the various issues concerning the above mentioned migration from metal cables to optical fiber.

(b) Functional separation, etc.

(Functional separation)

a. Functional separation being used would make establishing strict firewall measures in securing equal access to bottleneck facilities the sectors of NTT East and West and other business operators making an effort in other industries, including firewall regulations for financial institutions, a useful reference case.

b. In this case, however, the facilities to be subjected to strengthened firewalls would need greater clarification. There are roughly two options regarding the scope of telecommunications facilities which would be subjected to firewalls.
[1] Subjecting access networks (including hubs, etc.; hereinafter the same) only
[2] Subjecting currently defined Type 1 designated telecommunications facilities (access networks + relay networks)

c. With regard to these two options, considering that
[1] NGN of NTT East and West was established monolithically with and functions cooperatively with the bottleneck facility of subscription optical fiber, and
[2] regarding access networks and telecommunications facilities that are established monolithically with them collectively as bottleneck facilities is therefore considered appropriate,
make mainly discussing option [2] the most appropriate.

d. As concrete firewall measures discussing the establishment of strict information interruption measures through physically separating the sectors in control of bottleneck facilities and the sectors using those facilities while limiting access to information management systems, etc. and other systems in securing an appropriately competitive relationship, along with effective monitoring systems, would be considered appropriate.

(Coping with unified management with subsidiaries, etc.)

e. The current dominant regulation applies to NTT East and West. However, NTT East and West outsource their sales and maintenance, etc. businesses to subsidiaries in each prefectural region (prefectural subsidiaries). Unless regulations can appropriately cope with that business operation situation measures being used to secure equal use of bottleneck facilities, including the functional separation discussed here, may not be effective.

f. At present the current regulations for securing equal use of bottleneck facilities are not being observed in some cases, as in the case of the use of information for an unintended purpose by NTT West and its prefectural subsidiaries. If business is outsourced to a subsidiary, etc. the regulations imposed on NTT East and West do not apply and thus the regulations being avoided cannot actually be prevented.

g. Outsourcing to subsidiaries, etc. is carried out from the point of view of more efficient management of business, etc., and thus measures that impose any restrictions on financing or outsourcing can be considered to be inappropriate. From the point of view of the effectiveness of prohibited acts regulations, therefore, taking measures that obligate outsourced subsidiaries, etc. to observe the content of current regulations is thus considered appropriate.

(c) Ideal scope of business activities of NTT East and West

a. NTT East and West are positioned as special companies, and considering the transitional situation where the number of subscribers of fixed telephones is decreasing and that of IP telephones increasing, and in view of securing the role of telephone services being the minimum communication right of the people, maintaining that position to continue universally performing its duties of telephone services is considered appropriate.

b. The NTT Act provides for regional telecommunications business activities being the primary business scope of NTT East and West. At present NTT East and West can, subject to the authorization of the Minister for Internal Affairs and Communications, be involved in telecommunications business activities using facilities or technologies they maintain in order to operate, or their staff (so-called usage business; paragraph 5, Article 2 of the NTT Act), provided, however, it has been deemed that they do not interfere with the smooth implementation of their primary business activities or impair fair competition. FTTH using NGN, etc. and the inter-prefectural services of Hikari Denwa optical IP telephony service, etc. are examples of authorized operations.

c. It has been pointed out that this usage business system nullifies the original purpose of the NTT Act and that the scope of the business activities of NTT East and West does indeed need to

be limited. Enabling an active response to globalization, IP development, and broadband development, etc. and facilitating dissemination of broadband through ICT utilization makes reviewing the systems/rules required in rapidly responding to changes in the market environment and consumers' needs, including adding new menus to NGN services, etc., while still securing further fair competition through functional separation and unified management with subsidiaries, etc., within a range that does not interfere securement of fair competition reasonable to a certain extent.

d. Review of the two company systems of NTT East and West could well be considered in the future if further competition between business operators is facilitated and concerns over fair competition environment eliminated. Integration of NTT East and West at this point, however, could have a negative impact on competition and the market. Continuing the current two company systems of NTT East and West is therefore considered appropriate.

(5) Ideal universal services

a. With regard to universal services, the NTT Act obligates the NTT holding company and NTT East and West to ensure a stable provision of the nationwide telephone services that are indispensable in the lives of people. The provision of universal services has conventionally been secured through making compensation for any losses in regions that are not profitable using profits from regions that are. However, the provision of universal services with the cost being borne by NTT East and West only is becoming difficult due to increased competition in the local communications market (in regions that are making a profit, especially metropolitan areas, etc.). The partial amendment of the Business Act, etc. that took place in in 2001 therefore established a framework for securing universal services which was based on a fund, with the first subsidies being paid from the fund in 2006 in accordance with the system.

b. In a basic direction compiled by the Task Force in May of this year the recommendation was made that a "review of the universal service system over the transitional period of realizing the "New Broadband Super Highway (*Hikari no Michi*)"" be made on the necessity of changing the subjects of universal services to "subscriber telephones" or "optical IP telephones at an equivalent price level as subscriber telephones" in accelerating the migration from metal access to optical access.

In addition, as part of the "creation of new universal services in the era of the "New Broadband Super Highway (*Hikari no Michi*)" the Task Force pointed out that "broadband access" could be provided as universal services with a national consensus in the era of the "New Broadband Super Highway (*Hikari no Michi*)", and thus recommended the necessity of including "broadband access" as a subject of universal services and providing support through funding as

required in maintaining the situation where all households can use broadband at a low price.

c. In consideration of this the Ministry of Internal Affairs and Communications then requested advice from the Information and Communications Council on the ideal universal service system for the transitional period until broadband services become available nationwide in July this year, with the Council planning to submit a report in December this year.

(a) Ideal universal service system in the transitional period

a. A recommendation was made in the report (draft) published in October of this year, being based on the idea that "telephones" should continue to be a subject of universal services during the transitional period, that the scope of optical IP telephones being included as a subject of universal services should be optical telephones at a basic charge that does not significantly exceed the basic charge of subscriber telephones for houses, particularly in light of the three basic requirements (capable of being use anywhere without ant regional disparity (availability), services that are indispensable in the lives of the people (essentiality), and should be provided at a price anyone can afford (affordability)), and that no compensation should have to be made for the cost of the said optical IP telephones (maintenance costs for subscriber telephones will continue be compensated) for the time being.

b. Review of the system is expected to enable any double investment in metal cables and optical fiber to be avoided and to contribute to promotion of the "New Broadband Super Highway (*Hikari no Michi*)" Plan. And although at present provision of optical IP telephones meeting the above requirements is limited to certain regions, optical IP telephones that will be a subject of universal services can be expected to be more widely available in the future. Reviewing the scope of the subjects of universal services in an appropriate and timely manner after taking into consideration the status of service provision and optical IP telephones, etc. user trends is therefore considered appropriate, as recommended in the report (draft).

(b) Ideal universal system after realization of the "New Broadband Super Highway (Hikari no Michi)" Plan

a. The universal service system is used in maintaining the provision of appropriate, fair, and stable services nationwide. At present, when broadband is not yet available nationwide, immediately including "broadband access" as a subject of universal services is considered to be too early.

b. Once the use of broadband services significantly increases, however, the current universal

service system that mainly takes telephones into consideration will need to be drastically reviewed.

c. These various efforts in realizing the "New Broadband Super Highway (*Hikari no Michi*)" Plan are expected to be capable of accelerating optical fiber and IP developments, and the Ministry of Internal Affairs and Communications will therefore need to make efforts in reviewing the systems in an appropriate and timely manner in coping with rapid changes taking place in the market environment. The universal service system, in particular, involves a policy that can have a large impact on general public users, and therefore is expected to be discussed with the national consensus of and attention constantly paid to the point of view of the general public.

(6) Response to future changes in the market environment

a. Environmental changes have been constantly taking place in the telecommunications market in recent years that include [1] a reduced difference between the fixed communications market and mobile telecommunications market, [2] the development of upper layer markets through dissemination and advancement of the internet and introduction of NGN, etc., and [3] progress made in optical access networks and IP relay networks while metal cables and PSTN still coexist.

b. The current dominant regulation legally delimits a boundary between the two markets of the fixed communications market and mobile communications market, and determines market dominance with attention paid to the share of bottleneck facilities in principle in providing for the introduction of regulations. In consideration of environmental changes in markets, however, whether to revise the framework of the current dominant regulation or not needs to be discussed.

With regard to this point a regulation that take into consideration comprehensive market dominance, similar to those introduced in the EU (so-called SMP (Significant Market Power) regulation), would have the advantage of enabling flexible imposition of regulations according to the situation after determining market dominance with attention also paid to factors other than bottleneck facilities, although it has been pointed out that it would be less predictable, when compared to the current system that clearly defines by law the subjects and content of the regulation, which is due to the subjects and content of the regulations significantly differing depending on how the market boundaries are delimited. The introduction of any such regulation would be expected to require drastic review of all the pertinent regulations, including the bottleneck regulation, thus making discussion essential.

c. With regard to this point, some opinions requesting the introduction of a regulation that pays attention to comprehensive market dominance were expressed at a hearing of the relevant business operators, etc. Examining concrete example cases assumed at present reveals, however,

many of them to be requesting a response to unified management of subsidiaries, etc. These cases therefore need to be responded to first.

d. In view of enabling consistent discussions to take place on more appropriate regulation, continuing to discuss a SMP regulation in consideration of future environmental changes in the information and communications markets, including mobile markets and upper layer markets, is considered appropriate.

Section 2 Future Verification

The above measures on competition rules, including the ideal position of NTT, were deemed to be the most effective at present for use in realizing the "New Broadband Super Highway (*Hikari no Michi*)" Plan by around 2015 while also facilitating competition and securing technological neutrality. In order to appropriately respond to future environmental changes, however, verifying their effectiveness/appropriateness by making consistent verification of the status with the regulations being observed, competition in the markets, and implementation of the "New Broadband Super Highway (*Hikari no Michi*)" plan through a competition safe guard system and competition evaluation system, etc. and then reviewing them in an appropriate and timely manner is considered appropriate.

Chapter 4 Promotion of ICT Utilization through Regulatory Reform, etc.

Affluent content, including being publically utilized in the areas of medical, education, and government, etc., is important in improving the usage rate of broadband, and hence the following measures can be expected to be promoted alongside the above mentioned measures for competition rules.

(1) Review of systems/regulations obstructing ICT utilization, etc.

a. Facilitating ICT utilization in all sectors, including medical, education, and government, etc., makes the identification of any systems/regulations obstructing ICT utilization and then drastically reviewing them appropriate. For this reason, at present, reviews have been mainly conducted by the Strategic Headquarters for the Promotion of an Advanced Information and Communications Network Society.

b. In addition, public institutions playing a leading role is important in facilitating further dissemination of broadband. Developing an ultra-high-speed broadband infrastructure using local base facilities, including local governments (public offices), schools, and hospitals, and then creating local broadband demand through its active utilization is therefore important. Relevant business operators are also expected to introduce dissemination measures in terms of the price and services made available, including setting a broadband price for educational institutions, etc., and make the effort to develop easier-to-use broadband terminal devices from the point of view of expanding the groups of users of broadband.

(2) Realizing safe/secure usage environment, improved digital literacy

a. Improving the broadband usage rate requires the realization of an environment in which consumers can use broadband services, including the internet, in a safe and secure manner.

The Ministry of Internal Affairs and Communications to date has made efforts through taking measures against illegal/harmful information on the internet, against unsolicited mails, and to secure the benefit of users of telecommunication services, etc. Continuing those efforts and further strengthening them while also taking measures to secure both the protection of personal information and information utilization, etc. is considered appropriate in preventing consumers from any new problems and coping with the dissemination of broadband.

b. In addition, enabling everyone to freely use a variety of services/applications as their own decision/recognition is important in drastically improving broadband usage. Taking measures toward improved digital literacy, including providing education on digital literacy according to

age group, etc. from children through to the elderly and persons with disabilities, is therefore considered appropriate.

“Section Meeting for Review of Previous Competition Policy” and “Section Meeting Studying Support for Environmental Change in the Telecommunications Market”

1. Members

“Section Meeting for Review of Previous Competition Policy”

(**: Chairperson, *: Vice chairperson)

**	Kurokawa, Kazuyoshi	Professor, Graduate School of Regional Policy Design, Hosei University
*	Aida, Hitoshi	Professor, Graduate School of Engineering, Tokyo University
	Katsuma, Kazuyo	Economic analyst; Visiting Professor, Chuo Graduate School of Strategic Management
	Kishi, Hiroyuki	Professor, Graduate School of Media Design, Keio University
	Kita, Shunichi	Senior consultant, Nomura Research Institute, Ltd.
	Nakajima, Atsushi	Senior managing executive officer, chief economist, Mizuho Research Institute Ltd.
	Funada, Masayuki	Professor, College of Law and Politics, Rikkyo University
	Machida, Tetsu	Economic journalist

“Section Meeting Studying Support for Environmental Change in the Telecommunications Market” (**: Chairperson, *: Vice chairperson)

**	Yamauchi, Hirotaka	Professor, Graduate School of Commerce and Management, Hitotsubashi University
	Tokuda, Hideyuki	Chairperson, Graduate School of Media Design, Keio University
	Kashino, Makio	Executive Manager, Human and Information Science Laboratory, Communication Science Laboratories, Nippon Telegraph and Telephone Corporation
	Kokuryo, Jiro	Dean of the Faculty of Policy Management, Keio University
	Sasaki, Toshinao	Freelance journalist
	Shinozaki, Akihiko	Professor, Graduate School of Economics, Kyushu University
	Fujiwara, Hiroshi	President, Internet Research Institute, Inc.
	Yoshikawa, Naohiro	Principal, A.T. Kearney, Inc.

"New Broadband Super Highway (*Hikari no Michi*)" WG (**: Chief)

**	Yamauchi, Hirotaka	Professor, Graduate School of Commerce and Management, Hitotsubashi University
	Aida, Hitoshi	Professor, Graduate School of Engineering, Tokyo University
	Kita, Shunichi	Senior Consultant, Nomura Research Institute, Ltd.
	Shinozaki, Akihiko	Professor, Graduate School of Economics, Kyushu University
	Nakamura, Ichiya	Professor, Graduate School of Media Design, Keio University
	Funada, Masayuki	Professor, College of Law and Politics, Rikkyo University
	Yoshikawa, Naohiro	Principal, A.T. Kearney, Inc.

2. Meeting history (after compiling basic direction)

"Section Meeting for Review of Previous Competition Policy" **"Section Meeting Studying Support for Environmental Change in the Telecommunications Market" (related to the "New Broadband Super Highway (*Hikari no Michi*)")**	**"New Broadband Super Highway (*Hikari no Michi*)" WG**
12th Meeting (July 20)	
	1st Meeting (July 23)
	2nd Meeting (August 18)
	3rd Meeting (August 23)
13th Meeting (August 31)	
	4th Meeting (September 14)
	5th Meeting (September 24)
14th Meeting (October 7)	
	6th Meeting (October 4)
	7th Meeting (October 8)
	8th Meeting (October 14)
	9th Meeting (October 20)
15th Meeting (October 26)	
16th Meeting (November 9)	
	10th Meeting (November 12)
	11th Meeting (November 18)
17th Meeting (November 22)	
	12th Meeting (November 29)
18th Meeting (November 30)	