Consideration Agenda Concerning a Framework for Competition Rules to Address Progress in the Move to IP

December 21, 2005

The "Study Group on a Framework for Competition Rules to Address Progress in the Move to IP" *(chaired by Professor HAYASHI Toshihiko, the University of the Air and the Director of the Stanford Japan Center)* has decided to extract evaluation issues on future competition policy in the telecommunications business field in line with this agenda and realize, as far as possible, a concrete direction for the policy while maintaining a special focus on protecting the interests of users.[1] The report of this study group is scheduled to be finalized in September 2006.

1. Basic principles concerning competition policy to address progress in the move to IP

(1) Changes in competitive environments accompanying progress in the move to IP

(i) *A framework for analysis relating to changing business models in the age of broadband*

• The business models for the age of broadband do not remain within the framework of existing telecommunications businesses, and are being modularized in multiple layers (business areas), including the physical network layer, the communication-service layer, the platform layer, and the content/application layer. Business models in this era are expected to become more geared toward vertically integrated models, in which one or more players construct business models combining modularized businesses are constructed by combining one or more of these layers. For this reason, the Study

[1] This agenda was debated at the first meeting of this Study Group (October 2005) and a solicitation for public comments on the agenda was made in November. Twenty-two companies (including organizations and individuals) submitted comments. (The comments are available on the MIC Web site.) It should be noted that this agenda organizes the primary items to be investigated by the study group but does not preclude the study of any items that have not yet been specified. Furthermore, the study group at this time does not have any predictions concerning specific directions these examinations might take.

Group will explore a framework of future competition rules based on a layered competition model. (See the reference given at the end of this document.)

- It should be noted that the layered competition model is just for analyzing vertically integrated business models. There is no intention to restrict vertically integrated business models based on this concept.

(ii) *The migration process relating to an IP-based network deployment*

- The Study Group will study a framework of competition rules that are attuned to the gradual (chronological) changes in network architectures paralleling the advancement of IP developments. For example, the NTT Group announced its ongoing endeavors aimed at constructing next-generation networks in "Promoting NTT Group's Medium-Term Management Strategy" (November 2005). KDDI similarly announced its plan (September 2004) to convert its fixed-line telephone network to IP by the end of fiscal year 2007. Thus, while studying a framework of competition rules, the Study Group must keep in mind the directions and schedules of programs by the NTT Group and other telecoms to construct next-generation networks.

(2) Basic points of view on competition policy for the broadband market

(i) *The relationship between service-based competition and facility-based competition*

- Competition in the telecommunications business field can be categorized into two types; one is "*service-based competition*", where the market entry of other competitors is promoted by opening networks of carriers that own bottleneck facilities and the other is *"facility-based competition,"* where competitors construct their own facilities and offer services. The Study Group will consider a framework of competition rules while observing this relationship between *"service based competition"* and *"facility based competition"* as the market environment evolves in concert with progress in the move to IP.

(ii) *Assurance of "competitive neutrality" and "technological neutrality"*

- From the point of view of putting in place the environment for fair and effective competition and promoting competition in the telecommunications business field, a basic rule must be to ensure within competition rules a *"competitive neutrality"*

whereby a particular carrier has no special advantages or disadvantages. Similarly, competition rules must ensure *"technological neutrality"*; that is, no particular advantage or disadvantage is shown to any specific technology.

- The Study Group will study a framework of competition rules while assuring "competitive neutrality" and "technological neutrality" in the move to IP.

(iii) ***A framework for ensuring fair competition that addresses vertically-integrated business models***

- In addition to *"competitive neutrality"* and *"technological neutrality"* in each layer, competition rules must ensure fair competition between layers to respond to vertical integrated business models that transverse several layers. The Study Group will study a framework of competition rules with this perspective in mind. In this case, the Study Group will also study a framework of ensuring fair competition in the platform layer that are closely related to physical network & communication-service layers.

(iv) ***Protection of the interests of users***

- Although it is expected IP networks to be well entrenched by the start of the next decade, it is also expected number of users will still be dependent on PSTN at this time due to such factors as geographical environment. Thus, a framework of competition rules must be examined while accounting for the degree of consideration must be paid to this user segment as IP networks displace PSTN.

(v) ***Time frames for the consideration***

- Its studying of a framework of competition rules, the Study Group will divide policy issues during the IP transition period (assumed to continue until the early 2010s) with policy issues once IP matures (assumed to start from around the early 2010s).

2. A framework for future interconnection policy

(1) Basic points of view concerning interconnection policy

(i) ***Validation of existing interconnection rules in the telecommunications business field***

• Services in the telecommunications market are provided through interconnections of multiple networks. Each carrier fulfills its interconnection obligations from the viewpoint of developing a healthy market as a whole. Especially, an obligation to open networks has been fulfilled with regard to essential facilities (bottleneck facilities), so that competitors can use these facilities to develop their own businesses. The Study Group will reconfirm the effect these past interconnection rules have had on promoting such competition.

(ii) ***Flexible revisions of interconnection rules in line with changes in market competition***

• Interconnection rules must be constantly revised due to the necessity of ensuring end-to-end communications through interconnections even as networks move from PSTN to IP networks. Thus, the Study Group's study will assume ongoing flexible revisions (or a mechanism that makes this possible) to interconnection rules that correspond to changes in the makeup of competition in the market.

• The Study Group will base its study on a time frame (see 1 (2) v) as it expects the coexistence of PSTN and IP networks to continue for some time.

(iii) ***Market dominance in the vertically integrated business model and a framework of assuring fair competition***

• If the weight of vertically-integrated business models increases, the possibility emerges of companies abusing market dominance in a form that transverses layers. (For example, abusing dominance from physical network and communication-service network layers onto higher layers.) For this reason, the Study Group will study the potential of abusing market dominance and a framework of assuring fairness in competition.

(2) A framework of designated telecommunications facilities system

(i) ***A structure for a system of designated telecommunications facilities system***

• The current competition rules specify Type 1 designated telecommunications facilities (fixed-line) and Type 2 designated telecommunications facilities (mobile) and impose asymmetrical regulations that apply rules in accordance with each market's

characteristics. The Study Group will investigate this asymmetrical regulation approach that should be improved in the view of securing fair and effective competition.

- Specifically, the Study Group will study the following issues:
  (a) a framework of the designated telecommunications facilities system taking into consideration the provision of fixed-mobile convergence (FMC) services by carriers with Type 1 designated telecommunications facilities and carriers with Type 2 designated telecommunications facilities;
  (b) the validity of the current system that estimates the market share of subscriber lines, which is used in the specification of Type 1 designated telecommunications facilities, in each prefecture based on the total number of fiber and metal lines;
  (c) a framework of interconnection accounting that corresponds to changes in network architectures;
  (d) a framework of collocation and other rules that account for changes in network architectures; and
  (e) a framework of benchmarks used in the specification of Type 2 designated telecommunications facilities.

(ii) *The coverage of Type 1 designated telecommunications facilities*

- The Study Group will consider whether it is necessary to revise the coverage of Type 1 designated telecommunications facilities as the industry moves to IP networks — such as the transition in access lines from metal lines to fiber or the rise of FMC services — and, should revisions be necessary, what directions the revisions should take.
- More precisely, the Study Group will study, for instance, the potential of integrally linking its framework of the coverage of Type 1 designated telecommunications facilities with the method of determining market definitions and market dominance used in competition review (which have been conducted yearly since fiscal year 2003) while referring to examples in the EU and other jurisdictions.

(3) A framework for calculating interconnection charges

(i) *The framework for calculating PSTN interconnection charges*

• PSTN interconnection rates are calculated based on traffic volumes with a long-run incremental cost (LRIC) model. The Study Group will review whether this calculation method needs to be revised as IP networks become mainstream. Although the opinions collected from an solicitation for public comments on this issue indicate a wide variety of differences, the Study Group must still study what kind of new system (method) to be adopted it necessary.

(ii) ***A framework for a forward-looking cost method***

• It is allowed to take a forward-looking cost calculation method based on demand forecasts to calculate the base costs of interconnection rates in case telecommunications services are newly emerging and expected to get significant demand in the future. The Study Group will study if reviews for this method are required to keep up with the rapid changes in the market structure.

• Specifically, the Study Group will look at the following issues:

(a) The Study Group will verify the validity of interconnection rates for NTT East and West optical fiber (the calculation period of which is set to seven years from 2001 to 2007). During this study, the Study Group will give due consideration to the relationship of estimated values and actual values of revenue and cost used in the calculations of these interconnection rates, overall movement in the market environment — including trends in the fiber-to-the-home (FTTH) market, and the relationship with NTT's medium-term management strategy (which predicts 30 million subscribers to optical services in fiscal year 2010).

(b) The Study Group will study a framework (rules) to revising these interconnection rates if there are large discrepancies between the expected demands assumed in the interconnection-rate calculations and the actual demands.

(iii) ***Other considerations***

• The Study Group will study the following issues in addition to those given above:

(a) The Study Group will study a framework of the current calculation system used after determining traffic volumes for interconnection rates calculated with historical cost methods.

(b) The Study Group will look at the effectiveness of the "Stack Test", the technique for validating the relationship between NTT East and West interconnection rates and user rates.

(4) A framework of Fair Competition Assurance Requirements in the Designated Telecommunications Facilities System

(i) *A framework of "anti-competitive practices regulations" associated with the designated telecommunications facilities system*

• As part of the designated telecommunications facilities system, the current scheme defines *designated telecommunications carriers having special relations with dominant carriers* and imposes *"anti-competitive practices regulations"* (such as prohibition of undue discriminatory treatment and other acts). The Study Group will examine a framework of the system of such *"anti-competitive practices regulations"* that correspond to the market integration accompanying IP migration.[2]

(ii) *A framework of fair competition requirements on the NTT Group*

• The Study Group will investigate the current relevance and effectiveness of requirements (guarantee measures) for the assurance of fair competition among NTT Group companies (and between NTT Group companies and competing carriers) that have been stipulated in association with the division in July 1992 of the mobile communications business (now the business of the NTT DoCoMo companies) from

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[2] The law designates the subsidiaries or affiliates of telecoms having Type 1 designated telecommunications facilities (that is, NTT East and West) as "telecommunications carriers having special relations" (currently NTT Communications) and prohibits people from serving as officers concurrently in both companies as well as discriminatory treatment of other telecoms in comparison with telecommunications carriers having special relations. (Article 31 paragraphs (1) and (2), Telecommunications Business Law)

Furthermore, the law applies anti-competitive practice regulations on telecoms with Type 1 designated telecommunications facilities (that is, NTT East and West) as well as on telecoms with Type 2 designated telecommunications facilities specially designated by the Minister for Internal Affairs and Communications (currently NTT DoCoMo) that have more than 25 percent of the market share (on a profit basis). (Article 30 Paragraph (3), Telecommunications Business Law)

The anti-competitive practice regulations prohibit three particular acts: (a) the use of information gained from other carriers through an interconnection business in applications other than the interconnection business (such as sales activities, etc.); (b) undue favoritism (or undue negative bias) toward specific carriers; and (c) undue restrictions on or interference with the businesses of other carriers (including carriers listed in Article 164 of the Telecommunications Business Law) or manufacturers or venders of telecommunication equipment.

the pre-reorganization NTT, the reorganization of NTT in July 1999, and the approval of NTT East and West business activities (Article 2 Paragraph 5 of the NTT Law).[3]

(5) Responding to the diversification of interconnection forms

(i) ***Reviewing interconnection forms that address the move to IP***

• As IP migration gains momentum, the percentage of peering and transit interconnections may rise. (Peering: the mutual exchange among ISPs of traffic destined for a partner ISP. Transit: relaying traffic from another ISP over the entire Internet.) The Study Group will look at a framework of competition rules satisfying the perspectives of assuring end-to-end interconnectivity, maintaining service quality, and assuring fair competition while not overlooking the characteristics of the market.

(ii) ***A Framework for promoting new MVNO entrants***

• Competition in the mobile market is expected to intensify with the entry of three new carriers (approved in November 2005) and the obligation on mobile telecoms to assure number portability starting from November 2006. The Study Group will examine a framework to consumer protection and the establishment of a fair competitive environment in regard to mobile virtual network operators (MVNO) from the view of encouraging further competition in the mobile market. The Study Group will weigh this issue based on the outcome of the ongoing MIC study[4] on policy responses to MVNOs.

(6) A Framework for Establishing an Environment for Next-Generation Network Construction

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[3] Conditions have been attached to ensure fair competition between NTT Group companies and other competing carriers at the division of the mobile communications business (now NTT DoCoMo) from the former NTT (first divided into a single company in July 1992 and later divided regionally in July 1993), in the basic policy on the reorganization of NTT (December 1997), in the "Fair Competition Guidelines for Approval of Business Expansion by NTT East and West" (December 2001), and in business activity approvals based on these guidelines.

[4] MIC began soliciting information and comments from related businesses on MVNOs in December 2005 in its announcement of an "Solicitation for Public Comments on Changes to the Mobile Phone Business Environment and Future Policy Responses." The Ministry plans to compile and publicize the results of a study on ideas about the interpretation and operation of the Telecommunications Business Law with respect to MVNOs in the summer of 2006.

- NTT, KDDI, and other carriers have commenced concrete projects to construct next-generation networks. The Information and Communications Council began discussions in November 2005 on the revision of technical standards to reflect the move to IP networks. The Next-Generation IP Network Promotion Forum, established in December 2005 and consisting of members from related telecom carriers and venders, has begun examining technical issues involved in the interconnection of IP networks among telecoms.
- As the move to IP networks including access networks quickens, assurance is required, over and above these technical issues, of smooth interconnections between the IP networks owned by NTT East and West, the core telecom carriers, and other carriers. Thus, the Study Group will investigate, from the standpoint of competition policy, a framework establishing an environment that assures interconnectivity in response to next-generation networks.

3. A framework for future tariff policy

(1) Basic points of view concerning tariff policy

(i) ***Validation of previous tariff policies in the telecommunications business field***

- Tariff policies for the telecom market have been developed to assure that rate levels are appropriate and based on costs from the standpoint of protecting consumer interests. Recently, there has also been a widespread relaxing of regulations. The Study Group will review whether these past tariff policies have realized their objectives of promoting competition and protecting consumer interests.

(ii) ***Issues that are deemed to require revision (or maintenance) based on the changes in market environment***

- With progress in the move to IP and diversification of business models, it is expected that the charging systems for broadband services have also become diversified. Therefore, the Study Group will study a framework of tariff policies that address changes in the market environment.

(2) A framework for price cap regulations

(i) ***Validation of price-cap regulations***

• Among the operations of designated telecommunications services (services that are provided using bottleneck facilities, without adequate services being provided in exchange by competitors), the telecommunications services with socially importance are regulated as designated telecommunications services, and price cap regulations for users are currently applied to these services. The Study Group will reconfirm whether this system has functioned effectively.

(ii) ***The need for revision of price cap regulations***

• Should it be necessary to revise the price-cap regulations or the application scope of the regulations (including the basket approach) with progress in the move to IP, the Study Group will examine exactly which areas need to be revised. It should be noted that the Study Group will base its investigation on the results of the Study Group on the Operation of Price Caps Regulations,[5] which is proceeding separately at MIC.

(3) Approach to new tariff policy

(i) ***The need for a tariff policy that addresses diversification of business models***

• In response to diversification of business models in the broadband market, the charging system is also becoming diversified. A wide variety of systems includes (a) bundle-type menus that include several telecommunications services, (b) charging menus that combine telecommunications services with other services on the assumption of vertically-integrated business models, (c) the best-effort type menus that reflects possible maximum transmission speeds. The Study Group will examine what policy responses are needed to ensure fair competition and protect consumers as rate options diversify in concert with business model diversification.

(ii) ***Other policy issues to be considered***

[5] The Study Group on the Management of Price Caps (under the Director-General of the Telecommunications Bureau) was established in November 2005. This study group is examining basic concepts that should be considered when calculating the x value (the estimated productivity growth rate) needed to set the new standard tariff index to be applied beginning in October 2006. The study group is slated to compile its findings around March 2006.

• Under the current Telecommunications Business Law (amended in April 2004), regulations on fees for telecommunication services have, in principle, been de-tariffed. However, the Study Group will look at what policies are conceivable should it become necessary to strengthen market-monitoring functions from the viewpoint of ensuring fair competition and protecting consumers.

4. Other Policy Issues

(1) A Framework to Cost-Sharing to Enhance Communication Networks

• As all manner of rich-content material is distributed over IP networks, gaps among users in content accessibility may widen. The Study Group will study, from the standpoint of assuring fair cost-sharing among users, what cost-sharing approach should be adopted to ensure improving the capacity of communications networks in response to the accelerating demand growth for communication services.

(2) Other consideration issues related to competition policies

• Apart from the issues above, the Study Group will examine other competition policy issues that may be required, including:

(a) a framework to promoting competition in the terminal layer (including a framework of ensuring openness with other layers);

(b) strengthening mechanisms for resolving disputes between carriers;

(c) enhancement of consumer protection policies (including the universal service policy, which is designed to ensure the provision of universal telecommunications services with affordable price to all parts of the country); and

(d) a framework to ensuring the international compliance of competition rules.

Here, the Study Group will study competition policy keeping in mind that the globalization of a broadband market will be accelerated more in the future.

Layered Competition Model and Vertically Integrated Business Model

The layered competition model is a framework for analysis of various business models. It can consist of various business models such as one individual company providing several layers as bundles, or several players bringing together the business resources each of them excels at to provide a joint service. Furthermore, platform layers could include functions such as authentication and changing functions, content delivery business, and copyright management.