Japan

Latest ICT Strategies and Telecommunications Policy in Japan
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1. Latest ICT Strategies in Japan
ICT Competition Policies toward the 2020s

1. Creation of new businesses and services

(1) Ease SMP(Significant Market Power) regulation concerning collaboration with different business sectors
   - In order to accelerate collaboration with different business sectors, we partially ease regulation (*1) on NTT docomo, a dominant carrier in the mobile telecommunication market.

   (*1) Rules of prohibited act: rules to prohibit SMPs from giving unreasonable preferential treatment for certain telecommunications carriers, etc.

(2) Accelerate innovation by promoting uses of optical fiber infrastructure
   - Regarding wholesale service of optical access lines supplied by NTT East and West, dominant carriers in the fixed telecommunications market, we ensure fair competition ground while promoting the creation of a variety of services and the utilization of optical lines.

2. Ensuring fair competition

(1) Introducing rules on M&As etc.
   - We ensure fair competition in the mobile telecommunications market by introducing rules to check business grouping through M&As, etc. in response to the trend of the business grouping and oligopolization.

(2) Promote competition of mobile services
   - In order to promote competition of mobile telecommunications industries, making rules of leasing mobile telecommunication networks and promoting SIM unlocking are important. (*)

   ※SIM (Subscriber Identity Module) locking: Mobile operators allow their mobile phones to function only when their own SIM is inserted

3. Review and strengthen rules on consumer protection

   - We review and strengthen rules on consumer protection, such as introducing a rule for enabling consumers to cancel contracts without consent of an operator within a certain period after signing contracts.
(1) Current State

- The number of mobile ultra high-speed broadband subscribers was 66.51 million (approximately a two-fold increase in one year). (As of the end of September 2014)
- The amount of average monthly mobile data traffic was 783.9 Gbps (approximately a five-fold increase in three years). (As of September 2014)

(2) Future of radio wave use in Japan

| Qualitative and quantitative expansion of mobile communications | 4G and 5G mobile communication systems
| Promoting the use of high-definition images and incorporating them into telecommunications services | Spreading a variety of devices such as wearable devices
| Expansion of inter-device communications, (i.e., machine-to-machine (M2M) Internet-of-Things (IoT), without being human involvement | Spreading mobile viewing by using mobile devices
| Ensuring safety and security by making full use of wireless communications system | IoE Society where everything is connected through wireless network, including smart grids
| Realization of effective response in the public sector | Efficient Maintenance of aging social infrastructures by using M2M
| Increasing the wave use for purposes other than telecommunications | Surveillance and disaster management by utilizing quasi-zenith satellites and G-spatial applications.
| Utilization of radar, positioning, and sensor applications |

(3) Major mobile communications system since 2020

- Mobile phone: Commercialization of fifth-generation (5G) mobile communication systems is scheduled for 2020.
- Wireless LAN: Expansion of usable frequency bands (i.e., the 5 GHz band) and improvement of the Wi-Fi operating environment for 2020.
- Intelligent transport system (ITS): Implementation of an ITS that will enable an automated driving system.
Utilization of ICT

Enhancement and Regeneration of Rural Economy and Employment

- Ideas of venture businesses
- Big data
- Utilization of Cloud
- Data center
- ICT application
- ICT, including sensors
- Productivity improvement
- Local industries such as agriculture and forestry
- Energize local industry

Promotion of Migration to Rural Areas

- Relocating Companies
- Migration of human resources
- Migration of families
- ICT application
- Collaboration between remote locations
- Regional service improvements
- Comfortable workplace
- Convenient services
- Population growth
- Energy work style reform such as promoting telework
  Women’s active roles

Enhancement of regional infrastructure

- Cable TV, radio, broadband services as community-based ICT infrastructure
- Mobile environments indispensable to new work styles (smartphones and tablets)
- Disaster prevention system serving as the basis for safe and secure life
- E.g., Telemedicine
  Distance education
  Livelihood support
**Image of ICT Utilization for the Tokyo Olympics and Paralympics**

**Smart Immigration**
- Make it possible to charge IC card by credit/debit card before arriving Japan

**Smart movement**
- Delivering a variety of information using digital signage at airports, stations, etc.

**During the Olympics**
- Olympic games are aired live from the venues to share the excitement throughout Japan.

**During Stay**
- Communication through multilingual speech translation in taxis, shopping malls, and other areas.

**Grasping of position and traffic information**
- Make it possible to attain position information everywhere, and use it to grasp traffic condition and evacuation route.

**Display of travel guidance information**
- Realizing a service to provide useful information by linking with personal authentication information on visitors.

**4K and 8K live viewing**
- Olympic games are aired live from the venues to share the excitement throughout Japan.

**Information access anywhere in town**
- Providing access to the Internet utilizing a wireless LAN, etc.
The Study Group on Advancement of Broadcasting Services developed a roadmap (June 2013).

In response to the above, the Follow-up Meeting on 4K/8K Roadmap was organized in February 2014 to study the realization and acceleration of the plans in the roadmap, and presented an interim report in September 2014.

In order to continue promoting the dissemination of 4K and 8K broadcasting, the Follow-up Meeting will continue studying these issues.

(Note 1) IP-type broadcasting provided by cable TV operators shall be classified as cable TV broadcasting.

(Note 2) Wired general broadcasting other than cable TV broadcasting shall be classified as IPTV, etc.

(Note 3) Besides the unoccupied frequency band (BS band) as a transmission line available on completion of the Satellite Safety Net, new unoccupied bands may be available as a result of the left-hand circular polarization of 110° East CS broadcasting, international adjustments, and other possibilities in the future.
In 2006, the ITU standardized the specifications of ultra-high definition TV (commonly called Super Hi-vision in Japan), the display image quality of which is higher than conventional Hi-vision. The specifications cover two types of resolutions, i.e., 4K and 8K, where "K" stands for 1000. On the other hand, the conventional Hi-vision has a resolution of 2K.

The display image quality provided by a resolution of 4K is four times as high as that provided by current Hi-vision and expected to be used for TVs with a screen size of around 50 inches.

The display image quality provided by a resolution of 8K is 16 times as high as current Hi-vision and expected to be used for TVs with a screen size of around 100 inches.

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Display size (presumed)</th>
<th>Practical situation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2K</strong></td>
<td>32 inches</td>
<td>TV (HDTV broadcasting, e.g., digital terrestrial TV broadcasting)</td>
</tr>
<tr>
<td>4K</td>
<td>50 inches</td>
<td>Movie (Digital production and distribution)</td>
</tr>
<tr>
<td>8K</td>
<td>100 inches</td>
<td>Experimental stage</td>
</tr>
</tbody>
</table>

- 2K: About 2 million pixels
  \[
  1,920 \times 1,080 = 2,073,600
  \]

- 4K: About 8 million pixels
  \[
  3,840 \times 2,160 = 8,294,400
  \]

- 8K: About 33 million pixels
  \[
  7,680 \times 4,320 = 33,177,600
  \]
2. Telecommunication Policy in Japan
Trends of Telecommunications Business Policy in Japan

**Target**
- Promotion of competition by various operators
- Protection of users
- Prevention of accidents
- Development of ICT infrastructure, etc.

**Entry Regulations**
- Privatization of NTT ('85)
- Abolition of supply-demand adjustment provision ('98)
- Abolition of foreign investment regulations in principle ('98)
- Abolition of permission process ('04)

**Asymmetric Regulations**
- Unbundling regulation on NTT East and West ('97)
- Prohibited activity regulations for SMPs ('01)
- Interconnection regulation on major MNOs ('01)
- Functional separation of NTT East and West ('11)

**Protection of Users**
- Establishment of Technical Standards ('85)
- Consumer Protection ('2004)
- → Obligation to explain important matters, etc.

**Revision of Telecommunication Policy for 2020** (2015~)
- Revision of Competition Policy
- Revision of Consumer Policy
- Additional measures for accident prevention (2014)
Growth in Japan’s Telecom Market

※ Based on account settlement materials of each company.
**Current Status of Broadband Spread in Japan**

**Area Coverage**

- **Ultra High-Speed Broadband *1**
  - 99.9% (98.7%)

- **Broadband *2**
  - 100.0% (99.9%)

  Inside (): only fixed broadband

**Rate of Subscription**

- **Fixed Broadband *3**
  - 65.2%

- **Fixed Ultra-High-Speed Broadband *4**
  - 51.1%

- **Mobile Ultra High-Speed Broadband *5**
  - 42.6%

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*1 FTTH, CATV Internet, FWA, BWA (only services whose download speeds are over 30Mbps, other than FTTH)
*2 FTTH, DSL, CATV Internet, FWA, Satellite Broadband, BWA, 3.5G Mobile Broadband
*3 FTTH, DSL, CATV Internet, FWA, BWA (only Local WiMAX)
*4 FTTH, CATV Internet (only services whose download speeds are over 30Mbps)
*5 3.9G Mobile Broadband, BWA (other than Local WiMAX)

Source: MIC
Telecommunications Service Subscribers in Japan

Population: approx. 127 million
Households: approx. 56 million (Jan. 1, 2014)

Mobile Phone (including PHS system)
Fixed Telephone
Fixed Broadband Access
DSL + CATV + FTTH + FWA
IP Phone
LTE

Source: MIC
Overview of the Telecommunication Market in Japan

**Fixed Market**

- **NTT-East / NTT-West**
  - FTTH Market Share **70%** (based on the number of Subscriptions)
  - (Prohibited Activity Regulations are applied.)
  - ※2 Because NTT East & West have essential facilities for competitors’ business operations (Ex. Subscriber Circuit), the current law imposes unbundling obligations on NTT East & West.
  - ※3 Prohibited Activity Regulations on NTT East & West:
    ① Prohibit use or provision of information on interconnection of competitors for other purposes.
    ② Prohibit unreasonable preferential treatment.
    ③ Prohibit unreasonable disciplines and intervention.

- **KDDI**
  - FTTH Market Share **12.5%** (based on the number of Subscriptions)

- **CATV**
  - FTTH Market Share **2.9%** (based on the number of Subscriptions)

- **Affiliates of Power Companies**
  - FTTH Market Share **8.8%** (based on the number of Subscriptions)

**Mobile Market**

- **NTT DoCoMo**
  - Mobile Market Share **42.4%**
  - (Prohibited Activity Regulations are applied.)
  - ※3 Prohibited Activity Regulations on NTT DoCoMo:
    ① Prohibit use or provision of connection-related information for other purposes.
    ② Prohibit unreasonable preferential treatment.
    ③ Prohibit unreasonable disciplines and intervention.

- **KDDI Group**
  - (Mobile Market Share **28.6%**)

- **SoftBank Group**
  - (Mobile Market Share **29.0%**)

※1 Shares Owned by the Government: 33.3%

※2 Because NTT East & West have essential facilities for competitors’ business operations (Ex. Subscriber Circuit), the current law imposes unbundling obligations on NTT East & West.

※3 Prohibited Activity Regulations on NTT East & West:
  ① Prohibit use or provision of information on interconnection of competitors for other purposes.
  ② Prohibit unreasonable preferential treatment.
  ③ Prohibit unreasonable disciplines and intervention.

※4 NTT-East & NTT-West started wholesale service of FTTH from Feb. 2015.

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**Provision of Networks**

- FTTH Market Share **78%**
- Based on the number of lines owned

- FTTH Market Share **70%**
- Based on the number of Subscriptions

- FTTH Market Share **78%**
- Based on the number of lines owned

- FTTH Market Share **70%**
- Based on the number of Subscriptions
Market Share of Telecommunications Service in Japan

Share by Number of subscribers

**IP Telephone**
- NTT East/West
- NTT Communications
  - Approx. 56%
- SoftBank Group
- KDDI, etc.

**Fixed Broadband**
- NTT East/West
  - Approx. 54%
- SoftBank Group
- KDDI, etc.

**Mobile**
- SoftBank Group
  - Approx. 29%
- NTT DoCoMo
  - Approx. 42%
- KDDI (au)
  - Approx. 29%

**FTTH**
- Affiliates of Power Companies
- KDDI
- ARTERIA, etc.
- NTT East/West
  - Approx. 70%

Source: MIC

Share by Infrastructure

*Share of main telecom carriers

**All cables**
- NTT East/West
  - Approx. 84%

**Optical fiber**
- NTT East/West
  - Approx. 78%

Source: MIC

(As of end Mar. 2015)

Share by Number of subscribers

**IP Telephone**
- NTT East/West
- NTT Communications
  - Approx. 56%
- SoftBank Group
- KDDI, etc.

**Fixed Broadband**
- NTT East/West
  - Approx. 54%
- SoftBank Group
- KDDI, etc.

**Mobile**
- SoftBank Group
  - Approx. 29%
- NTT DoCoMo
  - Approx. 42%
- KDDI (au)
  - Approx. 29%

**FTTH**
- Affiliates of Power Companies
- KDDI
- ARTERIA, etc.
- NTT East/West
  - Approx. 70%

Source: MIC

(As of end Mar. 2014)
Promotion of Fair Competition

◆ In order to ease prohibited activity regulations on SMPs;
  • Deregulating the *ex-ante* rule of prohibiting SMPs from treating "specific companies" unfairly. Consequently, SMPs are only preliminarily prohibited from prioritizing their "subsidiaries" unfairly.
  • Abolishing the provision prohibits mobile carriers from unreasonably disciplining and intervening to manufactures, etc.

⇒ Accelerating innovation by collaborations with other industries

◆ In order to strengthen interconnection rules on major MNOs;
  • Introducing the rule of unbundling network elements as specified by the Ordinance of the Ministry of Internal Affairs and Communications (MIC).
  • Introducing the calculation procedure of interconnection fee for MVNOs as specified by the ordinance of MIC.

⇒ Promoting competition by encouraging new entries of MVNOs

※ These rules are currently provided by guidelines.
Revision of Telecommunications Business Act

◆ In order to address the launch of FTTH wholesale services (NTT-East & NTT-West started from Feb. 2015);
  
  ・ Requiring major FTTH wholesale providers to follow the rule of notifying main conditions of terms regarded as the wholesale services.
  ・ Publication of the selected information from notified documents.

⇒ Ensuring fair competition in the wholesale market

◆ Ensuring stable provision of services in oligopoly following the consolidation in the telecommunications market;
  
  ・ Requiring major operators the renewal of registrations following M&A involving major operators.
  ・ Upon renewal, MIC examines financial conditions and impact on competition of these major operators.

⇒ Developing and spreading ICT infrastructure furthermore by preventing major operators from influencing fair competition negatively
Protection of Users

◆ Introduction of rules on delivery of documents and early cancellation of contract
  • Obligating telecommunications carrier to deliver a document that clarifies details of a contract concerning designated telecommunications services.
  • Enabling users to cancel service contract* without consent by telecommunications carrier for 8 days after receiving the above document, etc.

* The scope of this right is limited to services designated by the MIC. Mobile terminals, etc. are not included in this scope.

◆ Prohibition of misrepresentation and failure to disclose facts
  • Prohibiting telecommunications carrier and sales agency from misrepresenting and intentionally failing to disclose facts with respect to material information about the service contract that would affect the decision of users.
◆ Prohibition of continuing to solicit a customer
  ▪ Prohibiting telecommunications carrier and sales agency to continue to solicit a customer to conclude a contract despite the customer having manifested an intention that indicates an unwillingness to conclude such a contract after being solicited.

◆ Telecommunications carrier’s obligation to guide sales agencies
  ▪ Obligating telecommunications carrier to provide guidance to sales agencies and take other measures necessary for ensuring proper and secure conducting entrusted business.