Study Group on Communications Terminals in IP Era Draft Summary of Minutes (3rd Meeting)

1. Date:

Tuesday, February 6, 2007, 10 a.m. to noon

2. Location

Special Conference Room 4, 4th floor, Mita Kaigisho (Conference Hall)

3. Attendees (Last names in Japanese alphabetical order; honorifics omitted)

(1) Members

Hitoshi Aida (Chair); Mutsuya Asano; Ryuichi Inagaki; Masashi Oshima; Takemitsu Kunio (alt.: Naoki Sato); Mikio Goto; Hiroshi Kondo; Yoshiyuki Sukemune; Nobuko Takahashi; Yoshiyuki Takeda; Miwako Doi; Takashi Hanazawa (Alt: Hiroshi Hamada); Susumu Hirano (Acting Chair); Hiroshi Fujiwara; Akira Maeda (alt.: Takahiro Fujishiro); Yuichi Matsushima (alt.: Tatsuya Yamazaki); Makoto Miwa; Akira Murakami; Suguru Yamaguchi; Toshio Yamada; Tetsuya Yuge; Makoto Yokozawa; Fumio Watanabe

(2) Ministry of Internal Affairs and Communications

Mori, Director-General of the Telecommunications Bureau; Sakurai, Director-General of the Telecommunications Business Department; Naito, Deputy Director of the Telecommunications Consumer Policy Division; Watanabe, Director of the Telecommunication Systems Division; Nakamura, Deputy Director of the Telecommunication Systems Division

4. Agenda

(1) Presentations

(2) Others

5. Outline of proceedings

[Presentations]

○ Presentations by members

- Yuge (member): “Terminals from the Viewpoint of Users and the Network”
- Miwa (member): “Future Potential for Development and Possibilities for Communications Terminal Usage”
- Asano (member): “ICT Convergence and IP Terminals”

○ Main comments of members in the question and answer session are as follows.

- As a future vision of terminals from the perspective of interconnectivity, multi-carriers, and multi-vendors, there will be a goal of achieving seamless transparency. Since there are some stages of seamlessness, design corresponding to its depth will be desirable.
- The easiest way to achieve seamlessness is manual switching to reconnect to a usable network whenever necessary within the range reached by the carrier's radio wave. In the next stage, terminals have a function for automatic switching by searching for an optimum connection. Then, in the third stage, modular connection enables simultaneous use of multiple carriers in an optimum form. With the research and development of multi-homing technology, which enables external connection using multiple routes, it may be possible to use broadband and WiMAX by switching from one to the other.
- It will be technologically feasible to use services of multiple carriers by bundling them. In the present status, however, there will be only few people willing to perform it by paying the expense to own multiple transmitters and receivers. While the use of multi-homing technology may be one of the future directions, it will not be commercialized at present.

- Are terminals defined as machines and/or devices people consciously use? The situation will vary depending on whether or not to include the ones that people use unconsciously.
- To define terminals, it is taken for granted in many cases at present to imagine that they are used by people. There are also machine-to-machine communications, such as those between a server and vending machines. In these types of communications, dedicated terminals have conventionally existed and they can be used by specifying the use range and applications to some extent. Therefore, separate discussions will have to be made for these. If such dedicated terminals are created based on a downloadable architecture, however, they will be able to be used commonly with terminals used by people.

- Depending on the configuration of the network, the concept of terminals will vary. Discussions should be conducted by clearly distinguishing between the terminals in both the case where the suppliers design and establish a controlled network and the case where an ad hoc network forms independently and provides services. The NGN is said to be a supplier-oriented controlled network. However, some people may provide services through the use of an ad hoc network.
- In future discussions, the definition of services will be necessary. In the case of services over the Internet, if they were configured and provided by the participants, they were called services regardless of their form. On the other hand, mobile phone terminals are service-oriented package media, and suppliers have created the configurations for such as the use of applications. Since the concept of services and the configuration of the business model could

be related to the concept of terminals, it is important to know what kinds of services are assumed to conduct discussions.

- In the discussion on Web 2.0, we must be clearly aware of the definition of suppliers and services. Whether Web 2.0 can be established in the supplier-controlled market is questionable.
- Issues of setting the market, such as the definition of suppliers and services, lead to the issue of how to establish the issue of responsibilities. In the ubiquitous network society, suppliers must ensure the function, but in such a case, the difficulty of ensuring the connection will be an issue. As for the present concept of responsibility, since individual carriers apply the production mechanism based on cost calculations concerning development to market, which means that they accept the responsibility within their respective costs for development, production, and provision, they do not accept the responsibility for ensuring the functionality. Therefore, there is a gap between the challenge from the market and the understanding of responsibility on the manufacturing side.

- When introducing motor vehicles, which are the strongest package media of Japan, into the world, the concept of "ad hocness" is always questioned. Similarly, with the market beyond the NGN in view, the business model of the ad hoc network and the packaging capability will also have to be considered.
- A motor vehicle, the whole of which is a terminal, is an information system that collects information and informs the driver of it. However, since safety cannot be secured by the information obtained by the vehicle alone, obtaining information from outside is required. It will be the role of a motor vehicle, which is a terminal, to collect the information required by the users and secure the interface to communicate it to the driver. However, there are the following two issues.

  (1) How can the network, ASPs, content providers, and others supporting this information system collaborate with each other in order for motor vehicles to be connected to the outside?

  (2) Can the responsibility for the reliability of content be clarified?

  In order to think of the concept of terminals, it will be necessary to focus on what kind of role terminals and the network can play in the mechanism of how users can select the content they want.

- Whether the network is planar or controlled will involve the issue of responsibility. If the parties take responsibility for the respective parts they have designed, as in the concept of the controlled network, there will be limitations in the planar and ad hoc network.

  It is expected that the society where various services are provided will be achieved by accepting planar and ad hoc factors in the allocation of responsibilities, therefore judgment will

be made after calculation of costs related to the external economy in the case of the development and/or investment by manufacturers. Is the current development based on the investment plan assuming an external economy?

- Like the conventional manufacturing, the present investment plan is based on the calculation of the return on investment in the bottom-up system. As for the interoperability, issues and difficulties are being identified, but technologically solving the risk of external diseconomy by our own company is our goal. As for the issue of responsibility, however, the conventional logic is consistently applied.

- Services provided by the ad hoc network are subject to our study. However, it is yet unknown what kinds of services will be available. We will have to begin with studying the framework for providing services on the NGN. In this process, other forms, such as direct communications between terminals without using the network, will be studied.

- Future terminals will be able to be used freely beyond the scope assumed by terminal manufacturers by the users downloading functions from the network. If various functions become downloadable, manufacturers will have to take it for granted that they cannot control the method of use by the users.
- To make rules for the sharing of responsibility, the process of determining rules must be clarified for users. However, it will be difficult to reflect users' opinions due to difficulties in imagining the issues of and responsibility for something that is not used now.
- In the presentation on the sharing of responsibility, the scope of user self-responsibility and the allocation of responsibilities among service providers were argued. Since the scenario related to the safety system is an issue of exposing lives to danger, it should be considered as a scenario on a different level from that of content and entertainment. There are cases where they are together as a system of the network and other cases where they are not. Depending on the respective conditions, it is desirable that the scope of user self-responsibility and the scope of responsibility of the manufacturers and providers be appropriately set. If the responsibility is rigorously and uniformly placed, the party accepting responsibility will become unprofitable and an appropriate business model will not be feasible.
- Since the role is significantly different among three types of infrastructures, public infrastructure, business infrastructure, and entertainment infrastructure, the scopes of responsibility among them will also differ.
- As for the responsibility of users and a plural number of vendors, since users can sue all the vendors as joint responsible parties if the vendors are identified, an argument on the allocation of responsibility is nothing but on the sharing of responsibility among the vendors. The

allocation of responsibility is therefore not a significant issue in the relationship with end-users.

- The increase in the window size due to the revision of the OS for terminals was pointed out as the cause of the increased traffic. Is there any symptom that the traffic pattern changes because of the sale of Windows Vista?
- There is no specific effect of Windows Vista on traffic now. As for the effect of the window sizes, there are some complaints that the throughput has not improved despite the introduction of high speed lines.

- In the IP terminal configuration concept, is there a prospect in the future vision that home electronics and appliances will be changed to be on an open platform?
- In home electronics and appliances, with TVs as their core products, there is a trend to let them be intelligent to some extent and connect them to various services and networks. If this policy is widely accepted in the entire industry, an open platform will be an eventual result.

- Is there a specific image of a specific policy to ensure interoperability and connectivity?
- To develop open standards, everyone concerned should participate and an environment where people can impartially exchange opinions is required. There are currently a number of activities to develop open standards. This is based on the background that it takes time to finally develop international standards.
- The concept of user certification differs between the Internet and the telephone. In the contract of use, the certification is for each line for the fixed telephone and for each unit for the mobile phone, and there are no limitations as to who uses them. On the other hand, various services on the Internet are managed for each user by using a user ID and a password. What will the terminal certification and the user certification consist of in the case of integration with Wi-Fi and others in the future?
- There will be more cases that use a variety of different services and networks in the future, including FMC as a typical case. To achieve good operability and security at the same time, it will be a good method if users can accomplish certification procedures with an individual as a key without being aware of it.
- If a base station can be established without requiring a license as in the case of a wireless LAN, certification that enables the terminals themselves to confirm the safety of the network will also become important. Conventionally, only service providers have certified users, but users can be considered to certify the network in the future.
- In some cases of current mobile phones, the network is certified.

- The time will come when users can freely combine component services and use their terminals as they like. In such cases, it will become an issue to ensure continuity so that, even if applications and/ or service providers change the content, users who have used services in combination can continue to use them.

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