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COMMUNICATIONS NEWS

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First Report Compiled by "Study Group on Next Generation IP-based Infrastructure"

In Japan, because of a rapid increase in the number of broadband users that causes sharp rise in the traffic on access networks, and development of advanced use of networks including e-governments, telemedicine and distance learning (tele-education), it is forecasted that traffic on backbone circuits (trunk networks) that support access networks would sharply increase.

Since February 3, 2004, MPHPT has been holding the "Study Group on Next Generation IP-based Infrastructure" (Chair: Dr. SAITO Tadao, Professor Emeritus, the University of Tokyo) in order to deliberate upon how the next generation IP-based infrastructure that could meet the sharp rise in traffic expected in the future should be constructed. Recently, the Study Group has compiled the first report.

This report suggests that traffic exchange on backbone circuits in Japan is extremely concentrated in Tokyo, and points out that it is important to continuously grasp comprehensive traffic information over backbone circuits under collaboration among industry, academia and the government. In addition, to cope with the sharp rise in the traffic expected in the future, this report proposes the following measures that strengthen the next generation IP-based infrastructures:

- i) Need for technological development and practical application for strengthening networks;
- ii) Need for efforts/technological development concerning traffic control and quality assurance; and
- iii) Need for verification, etc. of technological measures for distributing traffic.

MPHPT will, based on this report, implement necessary measures for R&D and verification experiments; and continue to consider a variety of problems,

etc. of constructing the next generation IP-based infrastructures.

Points of the Study Group Report Current status of IP-based infrastructures

1. Router, etc.

Concern about the situation that the traffic would become greater than the processing capacity of the router, etc. (a problem that would appear for the first time in Japan where broadband platforms are the most widespread in the world)

2. Fiber-optic cables for backbone circuits

- The ratio of dark fibers to the total fibers is maintained constantly at about 60%.
- Investment amounts have been declining since their peak in 1996. (Carriers are using existing fiber-optic cables laid before the widespread use of broadband platforms.)

3. Pattern of traffic generation

Traffic generated from particular users (peer-to-peer type file exchange) occupies large part of the total traffic on backbone circuits.

4. Traffic concentration in Tokyo

5. Fault chain

Fault chains occur due to errors of

routing information, etc.

When considering a traffic increase in the future;



Problems of IP-based infrastructures

1. Technological development and practical applications of ultrahigh-speed routers, etc. are not scheduled.
2. Fiber-optic cables are demanded to meet the widespread use of broadband services in the future.

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- 3-1. Depending upon modes of usage, flat rates are not fair.
- 3-2. Effectiveness of network use as a whole is not high.
- 3-3. Quality assurance among multiple providers is not offered.

4. Problems derived from traffic concentration in Tokyo

- i) Vulnerability against disaster, etc.
- ii) Overload on communications facilities in Tokyo
- iii) Communications delay in rural areas

5. Credibility of routing information is a problem.



In order to correct unbalanced situation;

Strengthening of IP-based infrastructures (the next-generation backbone circuits)

1. Development on photonic network technologies

2. Strengthening of fiber-optic cables for backbone circuits

- Development on photonic network technologies
- Utilization of non-commercial networks

3-1. Consideration of new charge systems

E.g., Collection of additional charges when traffic exceeds a given volume (measures to be taken by service providers)

3-2. Establishment of traffic engineering

It is appropriate to optimize efficiency of network use as a whole through control of traffic flow.

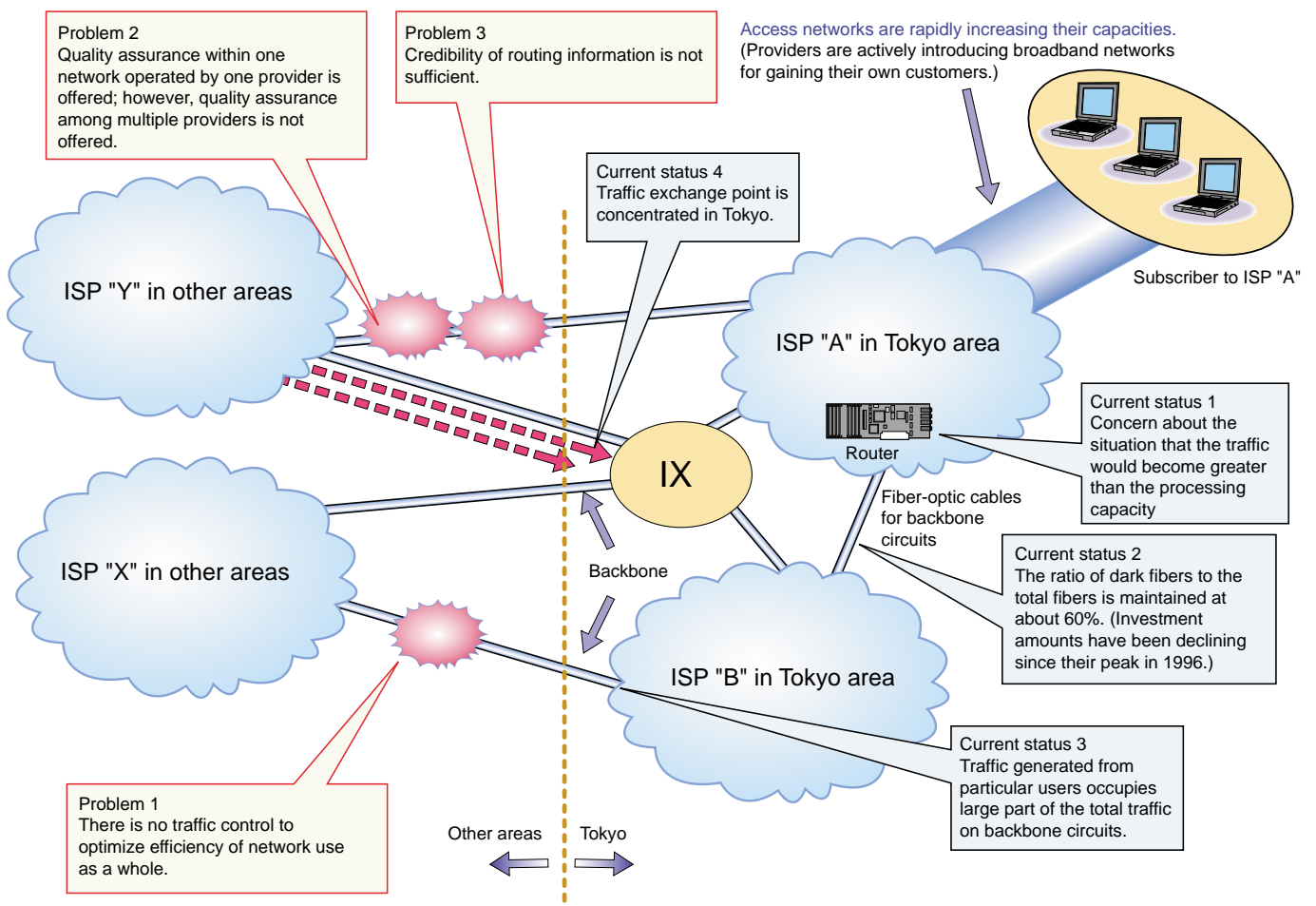
3-3. Development of quality assurance technologies among multiple providers

4. It is necessary to distribute traffic exchange point.

Development of backbone construction technologies to distribute traffic, etc.

5. It is essential to improve credibility of routing information.

Current status and problems of IP-based infrastructures in Japan



"Guidelines for Privacy Protection with Regard to RFID Tags" Compiled

On March 30, 2004, the "Study Group on Advanced Use of Electronic Tags in the Age of Ubiquitous Networks" of MPHPT compiled the "guidelines for privacy protection in the use of RFID tags in its approach to advanced RFID applications" (final report). On March 16, 2004, the Ministry of Economy, Trade and Industry (METI) developed the "guidelines to protect privacy concerning RFID tags."

Subsequently, MPHPT and METI have been conducting negotiations on development of common guidelines.

Recently, the two ministries reached a conclusion as the common "guidelines

for privacy protection with regard to RFID tags."

RFID tags consisting of IC chips and antennae are embedded in products, etc.; the tags are then used to record ID information, etc. of said products, etc.

Through the use of radio frequencies, RFID tags have unique features that enable to read information recorded in RFID tags from a distance. Thus, there are risks that attributes of personal belongings, ID numbers, etc. and, in cases where RFID tags contain personal information, the personal information would be read without consent and without being realized by the person concerned.

In response to such concern, the two ministries considered that it is vital to enable the society to smoothly accept RFID tags through implementation of appropriate measures from the viewpoint of protecting privacy of consumers. MPHPT and METI jointly compiled a basic concept within the scope of consensus among stakeholders, including service providers and consumer groups, subsequently developed the guidelines.

The two ministries will carry out awareness campaigns on the guidelines toward relevant organizations, consumers, etc.