

A Strategy to Pull Out Front on the Information Highway

By Hamano Takayoshi

Inspired by the U.S. "information superhighway" scheme proposed by the Clinton-Gore administration, the idea of establishing a fiber-optic information network throughout the country has been gaining support in Japan. The Telecommunications Council, which has been studying the scheme for about a year, is scheduled to report to the Ministry of Posts and Telecommunications (MPT) by May.

I would like to discuss how Japan's information highway should incorporate the materials employed by the committee, an opinion poll surveying specialists, and other documents exploring the possible economic effects of multimedia, all of which were published in January.

As is well known, multimedia refers to digitization of all sorts of information, such as audio, images, and data through computer control to be handled in the same manner. And with installa-

tion of a fiber-optic cable network, totally new kinds of services become available.

For example, we can send information in a second, or enjoy two-way communications through a fiber-optic network. It is possible to use several different media at one time or process several sorts of information and images simultaneously on one screen. Broadcasts and communications will merge together,

making it possible to select tens of channels each of which offers a highly elaborate image.

Using this information network is expected to generate tremendous demand, not just for entertainment industries like television games connected with images, but in broad fields including education, medical treatment, marketing, electronic newspapers, publishing and other industries.

The ambitious scheme held by the Clinton-Gore administration is for the U.S. to be the first country in the world to have the entire nation covered with fiber-optic network information highways, which are expected to become the basis of the U.S. economic development in the 21st century, similar to the

interstate highway network throughout the nation in the past.

The Clinton administration made this scheme a focal point in its election campaign, setting a target for completion in the year 2015. Real projects are yet to start, but since last autumn there have been active moves in anticipation of the coming multimedia era.

The Bell Atlantic Corp., a major local telephone company, has acquired TCI, the largest cable television (CATV) company in the U.S., for a record price. (At the time of publication, it was announced that this acquisition had been suspended. However, it is true that this kind of inter-industry M&A and tie-up are actively conducted.) So far, the U.S. is taking the lead in this field and Japan and European states have been following.



Belleza Japan, Inc. (Meguro-ku, Tokyo) operates membership clubs for beauty and culture courses. Its headquarters and 70 outlets nationwide are linked by digital circuits, and the company holds courses simultaneously across the country employing a videotel television conference system. In the future, the firm plans to install and make extensive use of terminals in members' homes.

In the slow lane

The November 21, 1993 issue of *The New York Times*, in an article entitled "Now It's Japan's Turn To Play Catch-Up," had some useful comparisons between the U.S. and Japan over dissemination of information industries. For example, the dissemination ratio for business-use personal computers is 9.9 units per 100 employees in Japan versus 41.7 units in the U.S.

Also, the number of commercial-use data bases is 900 in Japan and 3,900 in the U.S. In both cases, Japan's figures fall short of even a quarter of that of the United States. As for CATVs, only 2.7% of all households in Japan subscribe to cable, while 60% do so in the U.S.

Although word processors have recently become widespread in Japan, many people still do not write directly through keyboards. The cultural trend that handwriting is the norm could be preventing Japan from quick dissemination of higher information technology. The article also pointed out tight government regulations as a reason hindering the spread of CATVs.

National government approvals, of which there are more than 10,000 in Japan, and the excess of overall regulations have become a big social issue. The Advisory Group for Economic Restructuring (the Hiraiwa Committee), the prime minister's private advisory panel, submitted a strong request for deregulation last December.

Also, the Ministry of Posts and Telecommunications' policy has shifted toward relaxing regulations on operating districts for CATVs with the understanding that CATV's coaxial cable networks potentially allow for quick integration of each household to the expected fiber-optic network.

Japan's telecom, NTT, privatized in 1985, announced that it will launch a multimedia test service using a fiber-optic network for selected households next year. The plan includes video-on-demand experiments, anticipating the spread of CATVs. The system offers the flexibility to watch from the beginning a program already in progress, with

options to view other information data on the image screen, or to watch several images on the same screen.

Without attractive new software services such as these, it might be difficult to disseminate CATVs in Japan. In this regard, the government is also planning an experiment for mixing broadcasts and communications through a fiber-optic network in 300 households in the Kansai area this year.

Surpassing the automobile industry?

Although currently trailing behind the U.S. in the information superhighway marathon, Japan believes the race has only just begun and, with the goal in the next century, the real fights have yet to start. How, then, will an information network comparable to the U.S. be built?

To date, NTT has played a central role in promoting Japan's fibre-optic network installation with some 70,000 kilometers of trunk lines being completed. However, the most difficult part is yet to come and NTT estimates the cost at more than ¥40 trillion (\$360 billion) to set up branch networks as well as to enhance the capacity of existing trunk lines to 2.4 to 10 gigabit (one gigabit is capable of sending one year's worth of newspaper information in a second). The question is who is to take up this task and how is this to be done.

According to an opinion poll submitted to the Telecommunications Council in January surveying 369 experts and heads of local governments, as well as companies throughout Japan, more than half called for completion of a nationwide fiber-optic network before 2015, the year the U.S. network is scheduled to be completed. The MPT responded by setting a target date of the year 2010, when Japan's population is expected to peak and when one-fifth of the population will be over 65 years of age.

Opinions were divided as to whether



Although high-definition terminals have been installed in train stations and shopping centers in an effort to promote subscriptions, CATV has yet to catch on.

Japan should follow the German-French approach, where the construction of fiber-optic networks is publicly carried out and service parts left to competition, or the British-American approach, where construction of networks are also left to competition. It seems likely that the former approach will be adopted in the countryside and the latter in the cities.

According to MPT estimates, new information industries resulting from the completion of the nationwide fiber-optic network in 2010 would have a ¥123 trillion (\$1.12 trillion) market and generate 2.4 million jobs. One of Japan's major industries, automobiles, currently accounts for 4.59% of all domestic production. Compared to this, the estimated multimedia market would account for 5.73% of the domestic total, surpassing the automobile.

Responding to the national information highway scheme, domestic industries, especially electrical machinery and game software makers, have started to move toward multimedia. Some have begun to think of the year 1994 as being the first of the multimedia era. This could encourage corporate managers and change the defensive mentality which has been formed during the prolonged recession.

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