
Opening Remarks

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In opening this AT10 Researchers' Meeting, I would like to briefly discuss the most urgent issue of the emerging network economy in Japan, that is, the issue of developing a broadband network, which is now a hot topic for discussion here.

Japan's e-commerce business was launched in October 1994. The first e-commerce shops were Yamada-ya, a Japanese noodle shop, and JFTD, a florist delivery service. The number of [cyber shops increased rapidly](#) since then, and topped 27,000 by the middle of 2000. Although the number of suppliers increased rapidly, the market failed to grow in proportion.

Total sales of [Japan's B2C e-commerce in 1999](#) amounted to ¥350 billion, or approximately US\$3.5 billion. In the same year, the United States figure was US\$34 billion, which means that the e-commerce market in Japan was only about one-tenth the size of that in the United States. In Japan, the industry is there, but the market is not.

Even so, e-commerce had been developing smoothly thanks to the uniquely Japanese "convenience store Internet" and the rapid spread of "i-mode" cellular phone Internet access. But the free-fall of dot.com companies' share prices on the NASDAQ threw cold water on e-commerce in Japan. There was even speculation that the crash of e-business share prices in March and April of 2000 might cause Japan's e-commerce to shrink.

Under these circumstances, the government of Prime Minister Mori has taken quick steps to promote the ["IT Revolution" in Japan](#). It created the IT Strategy Council on July 7 last year and adopted a Basic IT Strategy in November. The Basic IT Act, based on this strategy, was enacted in the same month. After the turn of the year, an IT Strategy Headquarters was created in the Cabinet Office on January 6. On January 26, exactly one week ago, the government announced its e-Japan Strategy with the announced goal "to make Japan the world's most advanced IT nation within five years."

As concrete steps to reach this goal, the government aims to enable 10 million households to connect to ultra high-speed (30-100Mbps) access networks and 30 million households to connect to high-speed access networks at affordable rates.

While the government has announced these ambitious goals, it has not made clear in concrete terms what kind of network economy Japan will have by 2005. Meanwhile, in December, Nomura Research Institute published a book describing its concept of a ["Ubiquitous Network"](#).

The use of IT (information technology) in business and society started with mainframe computers. The history of the use of computer in Japanese companies dates from 1955 when Nomura Securities company placed an order with Univac of the United States. Toward the end of the 1980s, the client server system emerged as a [revolutionary IT paradigm](#) in which a system based on less expensive personal computers and workstations replaced the existing mainframe-based system. This was indeed a revolutionary change in the world of IT, but a similar change in the IT paradigm has been taking place from the mid-1990s toward the early 21st century. The new Web Computing paradigm is that each server, personal computer, and mobile personal computer is connected to the Internet so that one can reach any of these terminals through a Web browser. At present, different systems based on this paradigm are being developed around the world.

The evolution of the IT paradigm will continue. Advanced research organizations have come up with various conceptions of the future IT paradigm. For example, people at Massachusetts Institute of Technology's Media Lab are working on such projects as paper computers, wearable computers, and a smart room. SFC of Keio University is working on such projects as Internet-connected Cars. Because all these different machines will be connected to networks, this future IT paradigm may be called the [Exotic Network](#). However, it is difficult to assume that the Web Computing will evolve into the Exotic Network overnight. I believe there will be an interim IT paradigm.

NR's Ubiquitous Network is that interim IT paradigm. It is not confined to personal computers or

mobile personal computers, but not quite so advanced as wearable computers. The information equipment of the [Ubiquitous Network](#) will consist primarily of equipment designed to act as information terminals. For example, cellular phones, car navigation systems, set-top boxes, video game machines, personal digital assistants (PDAs), multimedia kiosks, vending machines, and even information appliances will be connected to broadband networks. The broadband networks consist of not only asymmetric digital subscriber lines (ADSLs) but also third-generation cellular phones, CATV Internet, fixed wireless access (FWA), and optical fiber.

The Ubiquitous Network is a world in which various appliances will be [connected](#) borderlessly on multi-modal broadband networks and where content can be used seamlessly and in a portable manner.

The social system that is closest to realizing such a world of broadband networks is neither the United States nor Germany. It is not Japan, either. In my view, based on the penetration of ADSL, CATV Internet, optical fiber and other broadband networks, the society that is closest to such a world at this point is the Republic of Korea.

With respect to ADSL, which is attracting much attention at the moment, the Republic of Korea has the highest [penetration rate](#), with two million subscribers. The United States leads in CATV Internet penetration, with 2.2 million households compared to over one million households in the Republic of Korea. Adding the penetration rates for ADSL and CATV Internet together, the United States leads with these broadband networks reaching 4.3 million households compared to 3.03 million in the Republic of Korea and 640,000 in Japan. But, on a per capita basis, the Republic of Korea is overwhelmingly at the top of broadband network penetration.

Under these circumstances, the Japanese government is actively trying to accelerate the penetration of broadband networks with the e-Japan initiative. The [latest estimates](#) by the Department of Posts and Telecommunications show that by 2005, nearly 10 million Japanese households will have fiber-to-the-home (FTTH) and 25 million households will have access to high-speed access networks.

Although I do not have the numbers on hand, per capita penetration in Singapore and Hong Kong could also be high. I am looking forward to hearing from the participants in this AT10 researchers' meeting about the situation in their respective countries.

Aside from these developments, I am aware of the deepening digital divide among the Asian countries and also within Japan. I am also aware that unless this problem is solved in a reasonable manner, market integration, which is the theme of this meeting, will not make progress. Our proposed Ubiquitous Network has the potential to overcome many of the limitations of e-business and transform it into U-business, I mean Ubiquitous Business. I believe that the Ubiquitous Network is well suited to the economic structures and cultural climates of the Asian nations. For Japan, in particular, I believe it would be the key factor for the revitalization of Japanese economy.

Let us give very serious thought to the issue of "The Emerging Network Economy and East Asian Market Integration" for Asia as well as for Japan.