

# Network

## (from IT to DeviceNet)



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Two events in history are called revolutions of the industry: the Industrial Revolution represented by hydraulic and steam engines in the latter half of the 18th century and the Information Technology(IT) revolution today. Even the invention of nuclear power energy and that of the computer have never been called revolutions.

What in the information technology deserves to be called a revolution? It is no exaggeration to say that one solution to that question is the network. The business of Sanyo Denki's divisions has securely entered the various flows of the network at different levels and in various areas.

### Networks and communications

If no network algorithms were used, connecting Sanyo Denki's approximately 1,200 network terminals, for example, would require about 70,000 lines. Personal computers (PCs), on the other hand, are connected by only two or three Ethernet lines. If that is all we need, it can be made a reality by telephony alone. Why? Because this network connects globally to one virtual space (such as websites) and is being intellectualized by various providers and other agents.

### Was 1991 the first year of networking?

That year, the then senator Gore announced the Superhighway scheme, a highly evolved version of the Internet. The scheme was accepted by all countries of the G7 in 1995 and is called the Global Information Infrastructure (GII). Many projects in multimedia, electronic libraries, medical care and other areas have been under way, with the work divided among the participant countries. " E-commerce, " ".com " and other terms are publicized by the mass media, causing heated competition for obtaining patents as Business Models.

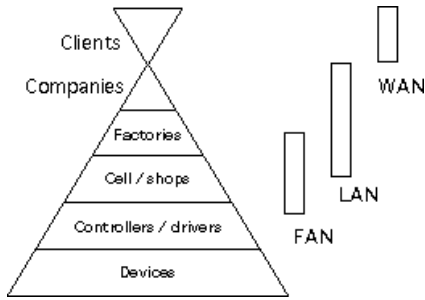
### PC, i-mode, and IEEE 1394

These three commodities are the three major elements of the network revolution. PC production this year totaled more than 12 million units in Japan and more than 10 million in China, showing no signs of ceasing to rise. Also spreading are PC uses combined with a network. Another major event is that of cellular phones with i-mode, which no one ever dreamed of. No one ever imagined such a compact phone would allow the user to browse from one website to another. Naturally, i-mode is spreading quickly from Japan to the rest of the world. Another thing to be noted is IEEE 1394 (Firewire, i-LINK), a superfast network that has spread considerably to PCs and games before the speedup of the Internet. IEEE 1394 is even mounted on PlayStation 2, waiting for the Internet to speed up.

### Wide Area Network, Local Area Network, and Field Area Network

Depending on the class using them, networks fall into three categories: WAN (Wide Area Network, such as the Internet), LAN (Local Area Network, such as Ethernet), and FAN (Field Area Network, such as DeviceNet and SERCOS). Like WAN, LAN have been turned into something like Intranets using a web server, thus becoming integrated. However, the world of FAN is divided into many types depending on the business involved. Those well known include Profibus, DeviceNet, CAN Open, and SERCOS.

Of these, DeviceNet, profibus and SERCOS are the areas where Sanyo Denki has the world's top-ranking expertise in the fields of PCs and servo drivers. The spread of the company's expertise in those areas to solution business in the semiconductor machines and general industrial machines manufacturing industry has been rising quickly, thus accumulating experiences.



### **Industrial network PCs, " SMS-10/30 "**

Sanyo Denki has been developing and selling industrial PCs having service lives of 10 to 15 years and taking full advantage of networks: Ethernet on the top, DeviceNet in the middle, and SERCOS at the bottom.

PC-base control system " S-MAC, " sound recognition systems, various simulators and other solution business have been provided through trial and error.

Sanyo Denki makes approaches in two aspects: the use of networks for servo and UPS products on the one hand and network solutions for control systems and power systems on the other.

Sanyo Denki will continue its efforts to make these technologies useful for its customers, affiliates, and many other people.

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