

IPv6-based Broadband Network Solutions



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BY the end of last year, the increasing number of worldwide Internet users had reached the 500 million mark, especially surpassing 20 million in broadband Internet connection services. In addition, in Japan — which leads the world in cell phone-to-Internet connections — more than 50 million people had signed up to access the Internet through their cell phones.

The explosive worldwide growth of the Internet means that not only personal computers but cell phones, PDAs, and other kinds of data terminals can be connected to the network, a fundamentally new reality called to as the ubiquitous information society where anyone can communicate with anyone else, anywhere, and at any time.

Internet Protocol Version 6, commonly known as IPv6, is a critical core technology for realizing the ubiquitous information society. Based on the current IPv4 protocol, IPv6 is a greatly enhanced and extended next-generation Internet protocol. IPv6 can provide a practically unlimited number of IP addresses, so all sorts of intelligent home appliances and other equipment can be allocated their own addresses, thus supporting end-to-end always-on communications.

Especially important in the IPv6 technology are the enhanced security features and advanced traffic control capabilities. By leveraging IPv6, we can deploy broadband networks that are well suited to a social infrastructure that is safe, stable, and that supports far more advanced functions and capabilities than

traditional networks. This will open the way for a new information society with practically unlimited potential for further growth and development.

Very much in the vanguard of early work on IPv6, Hitachi has been closely involved in standardization activities from the outset, and has made valuable contributions in proposing, verifying, and disseminating IPv6-related standards. Hitachi has also been in the forefront of early development and deployment of IPv6-ready products and solutions including the world's first commercial implementation of a router with IPv4/IPv6 conversion capabilities.

The articles in this special issue give a broad overview of Hitachi initiatives and achievements relating to IPv6 and broadband networks — touching on everything from hardware to software and specific solutions — and suggest a vision of where we think these developments of IPv6 and broadband networks are headed over the future.

We can be certain that IPv6 will play a critically important role in the ubiquitous information society that is now beginning to unfold as a core technology of the emerging social infrastructure.

As a Best Solutions Partner of clients around the globe, Hitachi is committed to the development and deployment of IPv6-based broadband networks and equally committed making contributions in realizing the ubiquitous information society by leveraging those capabilities.