About the Special Issue on Multimedia Messaging

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The diversification of messaging methods

The rapid expansion of Internet and Intranet connections in the middle of the 1990s suggested the possibility of multimedia communications capable of handling images in addition to conventional message media based on voice communications. However, due to the limitations of media processing technology, network infrastructure bandwidth, terminal processing capacity, and the like, multimedia communications of those days were still restricted to applications based on dedicated equipment, such as teleconferencing, monitoring systems, and the like.

Nevertheless, the start of the 21st century is seeing progress in three key areas – increased network infrastructure speeds, rapid convergence of information and communications, and enhanced performance and functionality in devices (terminals) – which have combined to create a situation where massive expansion in the range of application of multimedia messaging is a real possibility.

The first of these key developments – faster network infrastructure – has led to the advent of broadband Internet connections, using xDSL, FTTH, wireless LAN or CATV technology, and helped to reduce communications costs, as well as bringing about a revolution in the way that networks are used, due to the growth in permanent connections. The second development, the convergence between information and communications, is being achieved on the basis of technological advances in IP telephony systems, for example, which allow data, voice information and images to be integrated on a single IP network. Through IP telephony, voice and data networks that were built separately in the past are being integrated into broadband IP networks, and technology is progressing from VoIP (Voice over IP) for combining voice traffic with data networks, to "Multimedia over IP" which includes images as well.

The third area concerns the developments made in device technology, in other words, the improved processing capacity of the terminals which handle messages, based on faster and more powerful CPUs and enhanced DSP technology. Due to these advances, we are seeing more and more terminals which are capable of processing multimedia messages, containing images as well as voice and data, in a single unit. Fig. 1 shows Nomura Research Institute's forecast for the number of broadband-connected households over coming years [1].

What is Multimedia Messaging?

In the past, each messaging media used its own device – voice signals were communicated by telephone, images, by fax, and video signals, by TV. Multimedia messaging, on the other hand, is the communications environment of the broadband Internet age, providing a link "from anywhere, to anyone or anywhere, at any time", regardless of differences in media, time, location or terminal. Familiar examples of this concept include the J-phone picture mail system which can be used to send and receive images using a miniature camera built into a mobile phone, or NTT DoCoMo's FOMA terminals.

The future of multimedia messaging

The word "ubiquitous", a Latin-derived term used to describe something that is "present everywhere, at the same time", is being applied increasingly to multimedia messaging. The expansion of address space through IPv6 opens up the possibility of person-to-computer and computer-to-computer communications, in addition to person-to-person communications. In other words, it allows scope for the concept of communications terminals to be expanded to include household electrical appliances, for example. With the spread of permanent connections, IPv6, and wireless technology, and further progress in device design, we can expect broadband Internet to continue making massive strides towards the age of "ubiquitous communications", in which communications are possible "at any time, from anywhere, by anyone or anything".

Our challenge

Based on our corporate vision of Oki Electric as a "Network Solution Provider", we have been developing products and solutions in line with our mission to supply network infrastructure for the broadband Internet age, and to create the three service "bridges" needed to link the coming "e-society" to that network infrastructure. One of these bridges is the "multimedia messaging

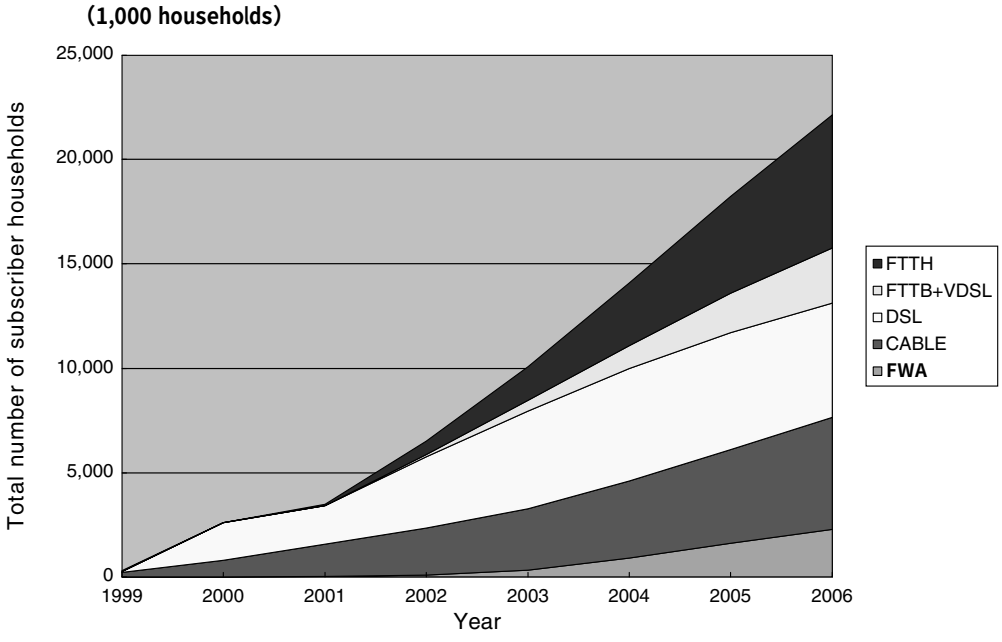

Fig. 1 Broadband subscriber forecast
(Source : IT Market Navigator 2006, Nomura Research Institute, Ltd.)

service bridge", and in this field, we have concentrated on CTI and VoIP technologies which form the basis for convergence between information and communications. In the future, we will be offering total solutions, encompassing network infrastructure, terminal equipment and other elements, to meet the coming age of "ubiquitous" multimedia messaging. ◆◆

References

1) IT Market Navigator 2006, 17th December 2001, Information and Communications Div., Corporate Communications Dept., Nomura Research Institute, Ltd.