

CHALLENGING THE MOBILE MULTIMEDIA FRONTIER OVER IMT-2000 NETWORK

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ABSTRACT

NTT DoCoMo is the company to "DO Communications over the MOBILE Network", and that has 36 million subscribers in April 2001. This presentation covers DoCoMo's multimedia services over IMT-2000, which is planned to be launched May 2001 for introductory service and October 2001 for commercial service with advanced media technologies especially of media coding. DoCoMo's IMT-2000 network (i.e., one of Japan's third generation mobile networks) allows us to have a faster transmission speed of 384Kbps. With the benefit of this broader bandwidth, mobile multimedia services are expected to run on top of the network. Mobile visual phones and media streaming on demand are typical applications, as well as enhanced "i-mode" services that provide us ability to access to internet contents written in compact HTML, and to exchange e-mails faster than ever. For such applications, we have newly developed coding technologies such as MPEG-4, and related system technologies. After introducing the applications for wireless video with its coding technologies, future challenges and directions beyond the IMT-2000 network are discussed.

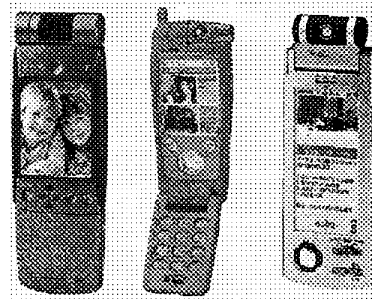


Fig. 2. Mobile Visual Phones.

Services & Technologies of IMT-2000

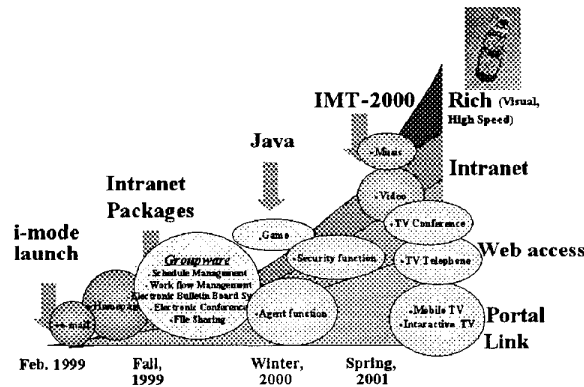


Fig. 1. Service Trends of Mobile Communication.

During the last four years, the total cellular customer based in Japan achieved a net growth of 10 million each year. As of April of 2001, the mobile phone subscription in Japan was 62 million. For the current numbers, see <http://www.tca.or.jp/index-e.html>. As for Internet, the number of "wired" Internet users in Japan was 18 million April 2001, while the mobile users were 35 million, of which 23 million are i-mode subscribers. According to the forecast by Japan's government, the number of Internet users in Japan is expected to reach 77 million by 2005, pushed by the increase in the number of mobile users accessing the Internet from a mobile device. To respond the mobile internet users' demand of high speed communication, we launch W-CDMA network (i.e., IMT-2000 network). As for subscriber projection, we estimate 6 million users to join the service by the end of March 2004. Fig. 1 summarizes service trends of mobile multimedia.

Visual phones shown in Fig. 2 is a typical application on the top of our IMT-2000 network. Those devices also allow millions of us browsing the Internet. MPEG-4 as a low bit rate video coding technology, compact HTML representation, and 3GPP's 3G-324M as a system technology have been developed for such visual communications. Thus we together with excellent engineers from the world have spent more than 6 years for the dawn of the new mobile era. The details follow in my presentation.