



AT&T's GSM Move Could Ignite U.S. Market

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A bombshell hit the North American cellular markets recently: AT&T Wireless Services in the U.S. and Rogers in Canada announced their plans to deploy GSM cellular technology in North America this year. Previously, AT&T Wireless and Rogers planned on a data technology called Enhanced Data Rates for Global Evolution (EDGE), but this was an upgrade to their existing digital networks, not the deployment of an entirely new GSM network. GSM, or Global System for Mobile Communications, is the dominant cellular technology in the world today, with some 400 million subscribers in more than 150 countries. However, it has only seen limited use in the U.S., and until now the largest operator of GSM was VoiceStream, with some 3 million subscribers - small compared to, say, Verizon's 26 million subscribers. But with two major operators now choosing this technology for North America, GSM is thrust into the mainstream with tremendous consequences for the global competitive landscape.

GOODBYE TO TDMA

GSM, a second-generation cellular technology, is a latecomer to the U.S. because it was developed in Europe, and the U.S. had its own digital standards: American National Standards Institute (ANSI) 136 Time Division Multiple Access (TDMA) used by AT&T Wireless Services and Cingular in the U.S. and Rogers in Canada, and ANSI-95 Code Division Multiple Access (CDMA) used by Alltel, Sprint PCS, and Verizon. The first major consequence of AT&T adopting GSM is the certain demise of TDMA. It may stick around for some time in legacy networks, but don't expect any enhancements or further deployment. Another consequence is that worldwide cellular technology now falls into two distinct camps: GSM and CDMA, along with their third-generation (3G) versions, Wideband CDMA (WCDMA) for GSM and CDMA2000 for CDMA.

Not only will AT&T and Rogers proceed with WCDMA in the future, but all other TDMA operators are likely to follow suit. Will GSM/WCDMA prevail over CDMA/CDMA2000? Possibly, but only if enough countries choose WCDMA as their 3G technology, isolating CDMA2000 to a handful of countries. However with China, Japan, and South Korea all deploying CDMA2000 (as well as WCDMA), this scenario is unlikely. In Europe, though, only WCDMA will be deployed.

MORE ROAMING, SOONER DATA SERVICES

Greater GSM deployment in North America also has more immediate consequences. For one, users with GSM handsets will have better roaming options, being able to take their phones almost anywhere in the world, subject to roaming agreements. And most important of all, GSM will accelerate availability of wireless data options for users. The previous TDMA/EDGE packet data service would not have been broadly available until 2003, and could still ultimately be deployed.

But by deploying GSM, AT&T and Rogers can join VoiceStream in deploying General Packet Radio Service (GPRS) with download speeds of around 50Kbps.

VoiceStream is in the process of turning on GPRS right now, and AT&T and Rogers will follow suit in some areas by 2001 and on a broad basis by 2002. GPRS will help carriers match the capabilities planned by CDMA carriers in a technology called 1X expected in late 2001 that promises data speeds of about 130Kbps to 144Kbps, though actual rates will probably be somewhat lower.

This new competition in the wireless-data arena will prove a huge benefit to users and will finally move us away from the pokey speeds of today's networks. It will also result in all kinds of new devices, such as PDAs with GPRS or 1X built in, PC Card modems, messaging devices with new high- speed data capabilities, and so on.

There are questions, of course, about how quickly these new GSM carriers will be able to deploy an entirely new network. Carriers will deal with huge complications in managing multiple technologies, and massive investments will be required. But those are all details, and the endgame is clear: fierce global competition based on two clear standards.

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