

Saved from common standards

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by Thomas W. Hazlett

[I]n wireless telephony the United States is lagging significantly behind Europe and Japan. The reason for European and Japanese dominance is a stunner: they've been helped by coherent government planning, which established clear wireless standards early on. The United States, in contrast, has been hindered by a chaotic free market.

David Ignatius, Washington Post (Nov. 21, 1999)

By the end of 2001, Western Europe boasted 74 per cent mobile phone penetration, Japan 54 per cent, the US just 45 per cent. The Europeans successfully mandated a hand-picked technology that guaranteed compatibility from country to country and achieved massive economies of scale. The Japanese alertly supported a national system that, building on domestic use, would come to dominate global adoptions - and consumer electronics. As the 1999 Washington Post article noted: "it's the Japanese who have the lead - thanks again to government standards Japanese regulators have boldly opted to build out a full 3G network, which will be ready by 2002."

Not quite. As 2002 draws to a close, government-mandated standards are not dominating emerging wireless markets. In fact, operators providing such technologies are coughing up blood, begging for time to delay next-generation deployments and grasping at schemes to opt out of the 3G standard mandated by regulators east and west, "W-CDMA."

Meanwhile, out of America's "chaotic free market" rides the solution. Qualcomm's CDMA technology is now incorporated even in rival 3G systems like W-CDMA. Moreover, the 3G platform it developed - CDMA2000 - is being deployed successfully in the US, Korea, Latin America and Japan. It is achieving far higher data speeds at far less cost, and with longer battery life, than W-CDMA, which was clumsily grafted onto GSM, the EC-mandated voice technology, to deliver high-speed data.

In Japan, the much-vaunted 3G roll-out by DoCoMo, using the government-favoured W-CDMA, has attracted just 135,000 subscribers. Meanwhile, over 2.3 million customers have flocked to the CDMA2000 technology offered by KDDI, DoCoMo's wireless rival, in its first six months. DoCoMo has been crippled by incompatible equipment: its handsets do not work with its network. The company twice had to recall thousands of subscriber units, and its reputation has suffered. The Economist writes: "Imposing W-CDMA as a single standard in 3G now looks like a big mistake."

The technology selection of European regulators was promoted by local favorites: Ericsson (Sweden), Nokia (Finland), Alcatel (France) and Siemens (Germany). They cobbled together a partnership, if not a technology. That is now becoming apparent in the marketplace. Most regulators are hanging tough, however, forcing operators to construct the architectures required in their licences. Protectionist pressures drove governments to impose the standard, and now mobilise to keep it.

The 3G technology mandated in Europe may or may not work. Its underlying GSM network does not upgrade to offer internet services like the data-friendly CDMA, developed by a relatively small, entrepreneurial San Diego firm. High-speed packets, which give GSM-based networks cramps, are mother's milk for CDMA.

It now seems obvious that a single standard is not even much of an advantage to customers. If Mary subscribes to a nationwide TDMA network, and her beau Joe subscribes to a nationwide CDMA network, are they sorry they cannot share each other's handsets? If they were, multi-mode phones could accommodate. In fact, what Joe and Mary want is competition between networks that talk to each other. "Incompatible" standards can deliver that.

The US has six national wireless nets: Verizon (CDMA), Cingular (TDMA/GSM), AT&T (TDMA), Sprint (CDMA), T-Mobile (GSM) and Nextel (iDEN/TDMA). They all communicate, and rivalry in service and technology drives performance. And when the stats are scratched, the US compares favourably to other nations, many of which pad subscriber counts. Actual usage of wireless phones (measured by minutes per month) in the US is twice the European level. That may result from lower prices. The Federal Communications Commission notes that in 2001 the average cost for a minute of wireless phone service was 16 cents in the US, 22 in Western Europe and 31 in Japan.

This US advantage would actually be larger if its regulatory policy had always been as disciplined and pro-consumer as it was in allowing competing standards for personal communications services (PCS). The FCC had previously set a mandatory analogue standard for cellular phones, for instance. This, one of the great technology mistakes of the twentieth century, was largely repealed in 1988 - after major market cellphone systems had been built with antiquated technology.

The FCC then took years to assign new PCS licences. While 13 OECD countries had digital wireless licences in 1992, the US only started its licensing in 1995. (Policy miscues in the PCS C Bloc keep this process yet unfinished. Long-term low-interest loans were extended to small business bidders in 1996. They overbid for licences, declared bankruptcy, and have kept the FCC from yanking their licences. A Supreme Court decision expected soon may finally resolve the matter, allowing service to commence.) Moreover, US regulators continue to allocate just 180 MHz of spectrum for wireless (cellular plus PCS) operators. The mean bandwidth used in Western Europe exceeds 300 MHz.

Letting the market choose wireless standards was a wise act of regulatory forbearance. How noble - and ultimately profitable - it was to resist temptation. As technology blogger Steven Den Beste smirks, "European centralisation turned out to be a competitive advantage - for the US." Allowing US radio spectrum to be fully utilised by the superior technology the competitive market promptly discovered would enable American consumers to fully enjoy the fruits of that gift.

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