Bluetooth Essay, Research Paper

Bluetooth History

Why does Bluetooth have the most industry buzz? “You have to appreciate the history of Bluetooth,” said David McCall,

senior applications engineer at chipmaker Cambridge Silicon Radio (CSR) in the UK. “The first thing about Bluetooth that the people at Ericsson talked about nearly five years ago was a marketing document. “They saw the global market for a low-power, short range wireless LAN solution, and Bluetooth’s technical documents grew from that marketing document. This is reflected in the applications included in the 13 Bluetooth profiles,” mostly for PC-centric devices.

“Ericsson quickly decided not to keep Bluetooth to themselves and not to charge a license fee,” he continued, “because they recognized from the start that having a large slice of a small pie was not as good as having a reasonable piece of a large pie that’s growing.”

Cahners In-Stat estimates there will be about 1.5 billion Bluetooth devices in the world by 2004. Already in the marketplace are 128 “Bluetooth-qualified” consumer electronics products with Bluetooth chipsets — laptops, PDAs, printers, cellphones, headsets, mp3 players, and other devices, Signaling Bluetooth’s reach into cable, Scientific-Atlanta agreed to support a Bluetooth PCMCIA smartcard with a slot in the advanced Explorer digital set-top boxes.

“If you look at Bluetooth development from the viewpoint of cable manufacturers,” said Joyce Putscher, director of consumer and converging markets and technology research for Cahners In-Stat Group, “the one prevailing interface is Ethernet. Cable modems have Ethernet ports. All you need do is extend that into the cable set top box, so you can access a home network from the modem or the box.”

“One of the features that makes Bluetooth technology attractive to a number of companies is that it is designed to be very low cost,” said wireless analyst Navin Sabharwal, VP of residential and networking technologies at Allied Business Intelligence. “When Bluetooth version 1.1 is finalized this year, its capabilities will become more robust, but cable applications are uncertain. Among the 13 Bluetooth application profiles, not one is specifically for cable home networking, but the wireline profile can be applied.”

Craddock described deliberations at Comcast. “We saw that Bluetooth, 802.11 and HomeRF all compete in the same [2.4 MHz] bandwidth, and we felt only 802 could really deliver the bandwidth and range we needed. We still feel that way, but Bluetooth will be in a lot of devices regardless of anything we do. To ignore it means we ignore all those devices, which we can’t do. So we will have a Bluetooth interface to talk with those devices.”

Risks and Benefits

Do health concerns about wireless cellphones apply to wireless home networks?

“I’ve not heard of health issues raised about it,” Kreig said. “If you take the power levels acceptable for cellular mobile phones and apply them to other exposures, radiation diminishes markedly with distance from the source, so I think one would find the exposures are rather less for home network with lower power levels. However, there is no litmus test on [RF] radiation.”

The lack of research to develop a litmus test is exactly what bothers some wireless critics, who fear the industry might one day be found liable for harming public health, treated in court akin to tobacco. This risk offputs cable operators. Shielded coax cables emit low EM fields, and laser-pulse fiber lines even less radiation. Why take a chance?

According to David Ethridge, director of product marketing for

Ericsson home communications, “Bluetooth offers many benefits for digital cable operators using a Bluetooth access point in the home.”

Options include household automation though the TV set, such as controlling the thermostat or security system. A Bluetooth link to a computer printer can deliver cable coupons and special promotions.

Interactive TV applications include using Bluetooth to sync up a set-top’s box with the channel preferences of a person walking into the room, picking up the persona’s identity from a PDA or cellphone. Or the Bluetooth network could alert the home subscriber (using any device) when a program about a pre-selected topic is scheduled, then ask if the show should it be recorded to the set-top hard disk.

“I can easily imagine cable operators proactively pushing Bluetooth services to their customers,” Ethridge said. “They don’t have to stop at selling cable modems and hard-wired home networks. When all the devices in the home can recognize each other with Bluetooth, think of the possibilities.”

“Some major cable players are looking into wireless,” said Putscher, “but it’s so early in the market that no one is ready to talk about it publicly yet.”

“The migration of a wireless cable interface from the cable modem to the cable box and then a home network terminal will not take place overnight,” she said. Look at how long it’s taken to put a cable modem into the set-top box. Cable modems were in only 18 percent of all the digital boxes in 1999, yet In-Stat projects that modems to be in 89 percent of the boxes by 2004.”

Putscher expects slower cable penetration for Bluetooth. “I’ve spoken with cable people who say they won’t be ready to make any Bluetooth announcements for at least six months. Talk to me then.”