WIRELESS COMPUTING WITH BLUETOOTH & WI-FI

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Abstract

This paper will cover few of the parts required for latest Wireless Technology in the field of Information Science as well as IT. Thanks to the work of the Specially Interested Group, a number of countries have opened the 2.4 GHz ISM band for Bluetooth technology and other wireless standards. Among other things achieved in 2004; contributed to changes of FCC Part 15.247 and ETSI EN 300 328 which cleared the path for adaptive frequency hopping and enhanced data rate in large areas of the world including the USA & Canada, Australia & New Zealand, essentially all countries in Europe, and many countries in South East Asia. Bluetooth wireless technology uses the 2.4 GHz ISM band, which is available and unlicensed in most countries. Members and staff collaborate to keep a current knowledge base of the regulatory prerequisites for Bluetooth enabled devices worldwide.

Keywords : Wireless Computing, Bluetooth Technology, Wi-Fi Technology, Wireless Networking

1. Introduction

Wireless computing is a big name for a bunch of small gadgets, portable devices, and wireless technologies that enable you to polish your PowerPoint presentation about volcanoes while flying over Mount St. Helens, or to e-mail your attorney an update to your will from the back seat of a careening taxicab. Like any area of technology, mobile computing has its ever-changing standards, buzzwords, and acronyms designed to utterly confound you.

The basic difference between Bluetooth and Wi-Fi is both wireless networking standards that provide connectivity via radio waves. The main difference: Bluetooth's primary use is to replace cables, while Wi-Fi is largely used to provide wireless, high-speed access to the Internet or a local area network.

2. Bluetooth

Bluetooth is a low-power, short-range (30 feet) networking specification with moderately fast transmission speeds of 800 kilobits per second. Bluetooth provides a wireless, point-to-point, "personal area network" for PDAs, notebooks, printers, mobile phones, audio components, and other devices. The wireless technology can be used anywhere you have two or more devices that are Bluetooth enabled. For example, you could send files from a notebook to a printer without having to physically connect the two devices with a cable.

A few notebooks, such as the IBM ThinkPad T30, now include built-in Bluetooth connectivity. And $129 will buy you a Bluetooth card for expansion-slot Palm PDAs, allowing you to connect to printers, notebooks, mobile phones, and other devices without cables.

Despite the promises of Bluetooth, however, hardware makers have been slow to incorporate it into their products. Some experts believe it could be eight years before Bluetooth is commonly used. They attribute the technology's lagging adoption rate to poor usability and confusion about what Bluetooth is and does.

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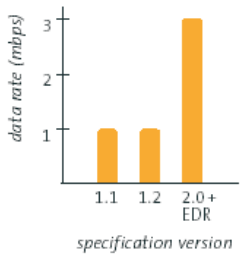
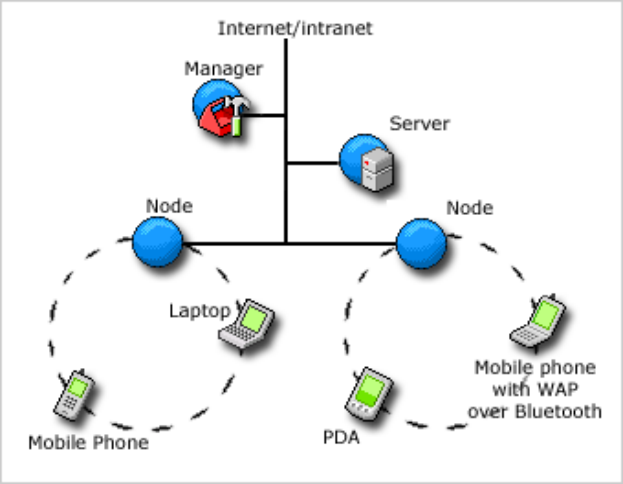
THE 2.0 + EDR SPECIFICATION





3. Wi-Fi

Short for Wireless Fidelity; Wi-Fi is a user-friendly name for devices that have been certified by the Wireless Ethernet Compatibility Alliance to conform to the industry-standard wireless networking specification IEEE 802.11b. Wi-Fi began appearing in products in late 1998. The standard currently provides access to Ethernet networks such as a corporate LAN or the Internet at super-fast speeds of up to 11 megabits per second.

Wi-Fi connections can be made up to about 300 feet away from a “hot spot” (slang for a Wi-Fi networking node). When your notebook or PDA has a Wi-Fi networking card or built-in chip, you can surf the Internet at broadband speeds wirelessly. Wi-Fi networking nodes are proliferating globally; many Starbucks locations, for instance, offer access to Wi-Fi hot spots for a fee.

Many notebooks today have IEEE 802.11b built-in; those that don’t can be adapted via Wi-Fi connectivity PC Cards. Wi-Fi is also the basis for some home networking products, allowing you to share high-speed Internet connections without cabling. Late last year, products featuring a newer wireless networking specification, IEEE 802.11a (called Wi-Fi5 by WECA), debuted. This standard provides transmission

speeds of up to 54 mbps. Wireless networking is expected to grow in popularity as a practical, flexible way to replace some LANs. With wireless networking, for instance, workers can carry their notebooks from cubicle to conference room and stay connected to the corporate network.

4. Application areas

Bluetooth Wireless Technology is the result of a dream: a dream of people being able to communicate with one another any time, any place.

Today we are all able to create environments in which it is possible to find, send and receive information via mobile phones and PDAs, and this constantly opens up new possibilities. Ericsson opens the door to these possibilities through research in, and development of, wireless solutions.

Bluetooth Wireless Technology is a low cost and low power technology, which enables wireless communication between different types of mobile devices. The technology ensures fast and secure communication, and Bluetooth makes new value-adding applications possible in areas where information is exchanged.

Many Bluetooth devices are available on the market today, and Ovum expects 557 million Bluetooth-enabled devices to be on the market by 2006. More than 300 million of these will be mobile phones and PDAs.

5. Notebooks

Gateway recently launched its 400 series of notebooks which features 2-GHz Intel Pentium 4 desktop processors. Gateway is just the latest computer maker to use desktop processors in its notebooks. For instance, Dell Computer recently updated its SmartStep portables with desktop Pentium 4 chips. The Gateway 400 models range from $1499 to $1799, depending on configuration.

Wi-Fi networking nodes, or hot spots, are proliferating around the globe. But how do you find them? One useful resource is 80211hotspots.com, which lets you browse among 1400 Wi-Fi nodes in the United States and Canada. You can search by city, state, or country but not, unfortunately, by Zip code.

On long flights, you get a choice: Keep working on your notebook, or put it away and yield the seatback tray to an airline meal. But given the quality of in-flight food, is the trade-off worth it for airborne workaholics?

Before you fly, get a peek at what's cooking at AirlineMeals.net Billing itself as "the world's first site dedicated to nothing but airline food," this endlessly entertaining site is full of pictures taken by passengers of the meals they've been expected to consume. The images are grouped by airline and rated, in the spirit of Zagat's. You might be surprised: Many of the meals look almost appetizing.

6. Handhelds

Palm recently reduced prices on nearly all of its handhelds. The M500's move from $299 to $199 was the biggest tumble, followed by the M105's fall from $149 to $99. The I705 now costs $399, down from $449. A rebate further reduces the I705's sticker to $299, provided you sign up for Palm. Net's Executive Unlimited Annual Plan ($35 monthly) and keeps the service for at least 90 days. The rebate expires October 31. Keep in mind, though, that Palm is widely expected to unveil new models in September. Check out the current prices at Palm's Web site and shop for the best price at the PCWorld.com Product Finder News: Utility Squeezes out More Palm.

7. Memory

Even with 16MB, power users can run low on memory on a Palm OS device. You can increase the memory with expansion cards on some Palm OS handhelds, but now you've got an alternative. FlyZip XR is a new utility that allows you to compress and decompress applications and their corresponding data files.

8. Hand Spring Treo 270

Handspring's Palm OS-based Treo 270 is a well-designed PDA/phone/Internet access device with a bright passive-matrix color screen (which can be unreadable in bright sunlight). The device is bulky and wide, but its flip-up cover rests comfortably against your face. The 270 sells for $499, plus service plan costs. Unlike most PDAs today, it's not expandable.

9. Conclusion

The future does not exist in the physical world; it exists only in our thoughts and dreams. Behind every technological breakthrough lies a dream. Behind every product lies a dream. With such dreams, we create our reality through hard work.

Dreams laid the foundations of the information society we are all part of today: dreams of providing access for all of us to relevant information whenever needed. And in recent years, we have taken a great stride forward into the wireless society, which opens up even more possibilities.

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