IEEE P802.11

Wireless LANs
Draft remarks

REMARKS OF VICTOR HAYES

Mr. Chairman and Members of the Commission:

Thank you for this opportunity to address the Commission on issues of Personal Communications Services.

My name is Vic Hayes. I am the Chairman of the IEEE[1] P802.11 Standards Working Group for Wireless Local Area Networks.

While IEEE Project 802 recognizes that Personal Communication Services could be categorized /for Metropolitan and on-premises applications and also into connection-oriented telephony application and packetized applications for computer data,/into many applications, the IEEE Project 802 charter today is to address the needs for high speed on-premises Personal Communications Services for computer data, further referred to as Wireless local area networks. {make a footnote of the categorization and keep the part why we are there.}

Wireless local area networks are primarily departmental, but will be as small as a few users collaborating on a common project.[2] They will be commonplace in providing desktop data communication services

[1] @description of IEEE@

[2] Some applications of a project group could be the sharing of a high quality printer, the exchange of text, drawings or recorded speech among a work meeting, the receipt or transmission of electronic mail.

where mobility is required or wiring is unavailable, and as complex as complete control of a large factory with robots and guided vehicles.

This definition applies to user Stations on privately controlled premises that would provide wireless Stations and infrastructure in the same way as other business assets.

Personal data communications service is a service providing multi-megabit per second data communications between applications running on fixed and portable computing equipment. The service complements existing wired computer LAN standards by removing the tether of wire and opens the potential for new markets, applications and services.

The demand for wireless mobile data communications is projected to be 2.8 million units shipped in the US by 1995. Of these, 1.1 million units are projected to be wireless local area network connections resulting in a total installed base of over 2.4 million wireless LAN devices[3].

The IEEE Project 802 working group developing a wireless standard consists of marketing and technical experts from most major computer, computer component and network equipment suppliers, governmental and non-governmental user organizations and research institutes.

The value of IEEE P802 LAN Standards is exemplified by the worldwide success of the current family of IEEE local data communications standards serving over 30 million personal computers representing over 80% of the domestic and international market for these products[4]. <footnote >

[3] Source: International Data Corp (IDC), 1990 and Market Intelligence Research Company, 1990

[4] Source: IDC

SPECTRUM REQUIREMENTS

As it has been stated previously[5], IEEE P802 continues to believe that 70-140 MHz should be made available to PCS for computer data. This frequency space is vital to provide wireless local area network systems, each having a performance equivalent to wired LANs typically operating at data rates of 10 million bits per second and above. We agree with the Commission that this allocation should be in the 1.8 to 2.2 GHz band.

Wireless Local Area Networks, comprising many cooperating, autonomous users, only operate efficiently when a high data rate is available. They share the radio channel by dividing their transmission into many small data packets of brief duration. IEEE P802 is chartered to develop mechanisms to efficiently share a common medium.

Because radio Local Area Networks have a restricted geographical scope, comparatively little transmission power is required. A consistent low transmitted power enables geographical reuse of LAN radio frequencies. Given the necessity for high capacity LANs operating in high density areas such as schools, universities, office buildings, factories, airports, shopping centers and convention centers, it is imperative to provide sufficient spectrum. Thus the Commission should be prepared to allocate from 70 to 140 MHz to PCS for Computer data.

IEEE Project 802 has an 11 year history of successfully developing voluntary standards for achieving interoperability among communicating products designed and sold by many different manufacturers. Most of its standards are adopted by the International Standards Organization and support users worldwide in their local area networking needs on copper and fiber-optic cabling.

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5 IEEE Reply Comments, GEN Docket No. 90-314

IEEE P802 recommends that the FCC adopt the method of voluntary standardization to remove the burden of rulemaking for the collective use of radio channels. The FCC thus merely has to deal with regulating prevention of interference with existing services.

REGULATORY ISSUES ON LICENSING

IEEE 802.11 will be a standard for computer users and their suppliers, which does not use or require licensed service providers.

REGULATORY ISSUES ON PRIVACY

The provision for privacy and security in wireless LANs is inherent in the 802 architecture which already provides for security by encryption of the content delivered between end stations. When coupled with further security controls that prevent unauthorized access to users application programs and data, PCS for computer data can be made as secure as existing private data networks.