IEEE P802.11

Wireless LANs

Data Rate Requirement

Date: March 5, 1992

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Attached is a presentation suggesting the need for the 802.11 standard to support data rates as low as 100 Kbps.

Should the 802.11 standard support 100 Kbps?

- ○ Relation to T1P1 data rates
- ○ Size, cost, and near term market penetration
- ○ Applications requirements
- ○ Traditional 802 rates
- ○ Future markets
- ○ Disadvantages of 100 Kbps

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Relation to T1P1 data rates

- ○ At present data requirements for T1P1 are in the formative stage
- ○ At best they will go up to 64 Kbps
- ○ They will more likely to be in the 10 Kbps range for some time to come

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Size, cost, and market penetration

○ One of 802.11's objectives is to fit in credit size packaging (PCMCIA standard)

○ One part of 802.11's cost objectives is to meet very low cost targets

○ A significant near term section of the market will be interested in the low cost and/or small size implementation

○ If 802.11 does not support this market

- Another standard will be needed

- Or, many proprietary implementations will emerge

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Office applications that can be supported by 100 Kbps

○ File access/sharing
○ File transfer
➡ ○ Terminal emulation
➡ ○ Data entry
➡ ○ Transaction processing
➡ ○ Database access
➡ ○ Printer/facsimile sharing
➡ ○ Electronic mail
○ Collaborative computing
○ Image manipulation
➡ ○ Environmental control
○ CAD/CAM
○ Distributed computation
○ Real time voice
○ Real time video

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Traditional 802.11 rates

- O 1-20 Mbps was historically chosen for wired networks
- O Wireless environment has limited bandwidth
- O Need smaller data rates to support more simultaneous users in limited bandwidth

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Future markets

- O The number of "little" computers of different sizes will increase dramatically
    - Hundreds per room!
- O "Specialized elements of hardware and software, connected by wires, radio waves and ifrared, will be so ubiquitous that no one will notice their presence." Mark Weiser, Xerox PARC
- O These little computers
    - Don't need more than 100 Kbps to perform their functions
    - Can't support more than 100 Kbps because size, power drain, and cost

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Disadvantages of 100 Kbps

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