

Education Ad-hoc Group

First Report

At the July 10, 1991 meeting of P802.11, several ad-hoc groups were formed to study the specific requirements of certain "vocational groups." The "Education" group was among the groups formed, and represents the requirements for wireless local area networking in the area of education. Bill Stevens was nominated as the chairperson for this group. At this time, no other members of the group have been identified.

In the interest of time, and limited "collaboration" possible in that time, this document focuses on a brief outline of the use of computing technology in educational environments, and does not attempt to engage in study of the technical requirements of each application. Further study between now and the next meeting will be pursued.

Chairperson Contact Information

The chairperson may be contacted via the following methods:

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Collaboration Between Meetings

The chairperson will initiate activity to establish an electronic bulletin board forum. It is most likely that this will be done as a component of the P802.11 electronic bulletin board, which is being established by Dave Leeson. Persons having special needs or suggestions for creating an optimum electronic forum should contact Bill Stevens or Dave Leeson at the earliest opportunity.

Application Categories

The following major application categories in the education sector are recognized:

- Classroom networking.

This category is the most clearly obvious application for wireless networking. A number of educational institutions are using personal computers in classroom situations. The behavior of classroom wireless networks can be expected to be highly similar to that for existing wired classroom networks. One specific characteristic of classroom networks, however, which distinguishes them from other network environments is the occasional occurrence of very high demand, due to simultaneous downloading of application software or data to an entire classroom of computers. This "non-statistical" behavior is known to lead to excessive delays, substantially beyond the "typical" network behavior.

- Extended campus mobility.

It is envisioned that highly portable personal computers will become commonplace (some would say mandatory) as an aid to the educational activities in upper levels of

K-12 education, and definitely in institutions of higher learning. Information resources on educational campuses (e.g. libraries, databases) will be readily accessible via wireless networks, using portable computers.

In addition to information access, electronic mail services will be especially valuable, permitting such activities as, for example, "extended office" for consultation among faculty and students.

- Field study - including real-time collaboration.

As the capabilities and portability of personal computers expand into powerful "slate" or "handheld" form factors, the use of the portable computer as an information aid in "field study" environments will accelerate. A portable computer with wireless connectivity can serve a multitude of purposes. For instance, in a "field trip" scenario, the portable computer could link to a mobile database (in a vehicle located nearby), providing the student with access to relevant background information. Students could use the communications capabilities to share and collaborate with other students participating in the same or similar activities nearby. And, with suitable "sensory input" capabilities (e.g. attached still/video cameras, microphones, etc.) the portable computer can function as a logging device, allowing the student to collect data for later analysis and presentation. Transfer of substantial quantities of such gathered data could represent a requirement for high-performance bulk data transfer and possibly multi-media information transfer (e.g. voice, video).

Classroom Networking