As networking becomes increasingly complicated and expensive, so does the decision-making process. The decision to go wireless can be even more complicated. This presentation will discuss Ohio State’s current status, connectivity problems, planned solutions, and describe the network and its capabilities.
Wireless Networking at Ohio State University

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Current Status
We now have 10 point-to-point wireless links running ethernet from the campus to outlying off-campus buildings where it is not practical to provide fiber connections. We are seriously considering adding a Metricom wireless network for use by end users.

Current Campus Connectivity Problems
Like most campuses, we have no wireless connectivity for portable computers, the dial-in telephone modems are overloaded, the open student computing labs are overloaded, and the computing budget and staff are decreasing.

Planned Solutions
The dial-in modem pool is being increased to 672, and its usage is being rationed. Part of the pool will allow only 30-minute connections, and the rest is unlimited. We are also planning to install a Metricom wireless network, to provide at least some assistance in relieving future overloads and provide better user service. It must be clearly understood that a wireless network is only a supplement to a good wired network; it cannot be used alone since it cannot have sufficient speed or capacity.

Why Metricom?
You could design and install your own wireless network, by purchasing wireless equipment from a number of vendors in the field. This could provide greater speed than what Metricom offers, but no University has fully done this as yet. The cost of such a network would be comparable to a wired network, both initially and ongoing. Metricom is alone today in providing a different alternative. They will install the entire network at no cost and then charge the end user for using it. This is a classical outsourcing situation.

What does the network look like?
Metricom installs antennas and radios on rooftops or streetlight poles throughout the campus and all surrounding university areas, such as fraternities, sororities, apartments, etc. Users buy or rent a small radio modem which functions exactly like a dial-in modem. No special software is required. The user may use any software which supports a PPP connection over a dial line. Any kind of user computer may be used. The wireless network functions transparently, allowing all usual Internet functions such as telnet, FTP, WWW etc.

Metricom Wireless Network Capabilities
About 30 kilobits/sec connection to campus wired network. We have measured this doing FTP between two portables, in a point-to-point mode. Connects all portables anywhere on and near the campus. Connects desktop computers in unwired dorms. Connects desktop computers in off-campus housing areas.
Connects portables in and near your home.
If you live miles from the campus, you can do this with two radio modems in your home. One connects to your telephone, the other to your portable out on the patio.

Connects portables while traveling away from campus.
All Metricom campus networks throughout the country are connected together via Metricom’s private Internet. Hence you can access your home campus while visiting any other site where a Metricom network is installed.

Connects computers via private networks. Any computers within radio range can communicate directly with one another, without using the campus wired network.

Costs

_Metricom:_
Installation, monitoring, maintenance, and expansion of the network as needed.
End-User support, via 800 number, Email and on-line BBS.

_University:_
Electrical outlets and electricity, connections to the wired campus network, and the staff time to work with Metricom in planning.

_End-User:_
$245 one-time and $20/month. Free Summer vacation. You own the radio.
OR
$45 one-time and $30/month. Free Summer vacation. You rent it.

_Campus Computer Store:_
Earns $45 commission on each sale.

For Further Information -
Many campuses are now installing Metricom networks. Some of the early ones are Stanford, Austin, UC Santa Cruz, Oregon, Oregon State, Miami, Indiana, Illinois, Clemson. There is a discussion list where current and prospective users compare notes, and the archives of all past comments are available. To subscribe, send email to:

listserver@lists.acs.ohio-state.edu
Leave the subject blank.
In the text, say ONLY this:
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You will then receive introductory information, instructions on retrieving past postings, and all future postings.