NDSU Wireless

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Wireless Security

Acronyms

• WEP = Wired Equivalent Privacy
• WPA = Wi-Fi Protected Access
WEP is broken

• WEP really means Won’t Even Protect
WPA is just WEP warmed over

• WPA really means Won’t Even Protect
WPA2 = 802.11i

• WPA2 is fundamentally different than WPA
• WPA2 provides real security
• Macintoshes with Airport Extreme cards and Mac OS X 10.4 (Tiger) support WPA2
• Windows cards less than 1 year old may support WPA2, depends on the card.
Wireless at NDSU

• NDSU SSID - No Authentication, web access only

• NDSU SSID Plus VPN client - Authentication, encryption and full network access for devices that do not support WPA2,

• NDSU Secure SSID - Authentication, encryption and full network access for devices that support WPA2
www.ndsu.edu/wireless

- NDSU’s information page for the wireless network.
WPA2 Demo

• WPA2 has been tested but the Windows Installer and Windows and Macintosh documentation are not finished yet.

• Watch for the official announcement when WPA2 is available and then go to www.ndsu.edu/wireless for the installer and documentation.
What an Access Point looks like

- Cisco AireSpace Access Points
Questions we're frequently asked include:

• What equipment do I need to connect?

• What's 802.11b, 802.11a, and 802.11g - and why should I care?

• What's a VPN client, and why do I need one?

• What's the difference between Speed, Signal Strength, and Connection Status?

• How can I see a Status: of "Connected ", and a good "Speed" indicated, but still see "Low" or "No Signal" strength, and what happens then?

• How do I get my computer to connect to an access point?
What equipment do I need to connect?

- You need a device that supports Wi-Fi.
- Most commonly a laptop with a Wi-Fi card, either internal or in the PCCard slot (Internal has better antenna)
- External Wi-Fi support devices are available that connect via USB
- Also PDAs etc can support Wi-Fi
What's 802.11b, 802.11a, and 802.11g - and why should I care?

- **802.11b** - older standard, up to 11 Mbps
- **802.11g** - newer standard, up to 54 Mbps, same frequency as 802.11b, 2.4 GHz
- **802.11a** - newer standard, up to 54 Mbps, different frequency, 5.8 GHz, more channels
What's a VPN client, and why do I need one?

- VPN stands for Virtual Private Network
- If your wireless card does not support WPA2 you need the VPN to encrypt your data that travels through the air and to enable anything other than Web browsing.
- If your wireless card supports WPA2 you do not need a VPN client.
What's the difference between Speed, Signal Strength, and Connection Status?

• Signal Strength - Indicates how strong a radio signal your client is receiving from the Access Point

• Connection Status - Terms may vary between OSs, may indicate if the client is “associated” with an Access Point, may also indicate if User Authentication has succeeded or not.

• Speed - indicates the Mbps negotiated between the Client and the Access Point, speed will reduce as Signal Strength declines.
How can I see a Status: of "Connected ", and a good "Speed" indicated, but still see "Low" or "No Signal" strength, and what happens then?

• “Low” or “No Signal” strength indicates that you might loose your connection and at any moment and no longer be “Connected”.

• Usually the Client and Access Point will negotiate a lower speed if the Signal Strength is low. But if the client sets a high minimum speed the speed may not be lowered. Or could be a buggy utility, some cards use a vendor specific utility to manage the wireless card instead of the built-in Windows utility, especially on Windows 2000, Windows 98 etc.
How do I get my computer to connect to an access point?

• In the Windows Control Panel open Network Connections, right-click on “Wireless Network Connection” and select “View Available Wireless Networks”, then select “NDSU”

• If the Wireless network icon appears in the task bar you can right click there also
Questions?

• Wireless web page and map