



Information Technology Services - ITS Minnesota

Configuration for Wireless for FY04 CCE HP/Compaq nc6000:

The following information provides steps on how to enable the Wireless technology that is available on the 2004 HP/Compaq NC6000 laptops.

Remember: Access to USDA locations will require a VPN account. Contact your ITS staff to request a VPN account.

Remember: It is important to disable the wireless connection on the Laptops when using them on a plane. For the HP Laptop, you can simply turn off the antenna.

Policy Regarding use of Wireless Access

Wireless communications can be used when a user is in need of data communications support on their Laptop, when away from the office. This could occur in Hotel/Motels, Airports, Wireless Hotspots, Libraries, Bookstores, or at home, etc.

1 Enable Wireless Adapter (one time setup by ITS staff)

1. Log in with an “**Administrative**” account.
2. Right click on [**My Network Places**], then click on [**Properties**].
3. In the “LAN or High-Speed Internet” section, right click on [**Wireless Network Connection**], then click on [**Enable**]. Once enabled, the Status will change from “Disabled” to “Wireless connection unavailable”.

2 Configuring the TCP/IP Properties (one time setup by ITS staff)

1. As **Administrator**, right click on [**Wireless Network Connection**], and then click on [**Properties**].
2. In the “This connection uses the following items:” section, click on [**Internet Protocol (TCP/IP)**], then click on [**Properties**].
3. Under the “General” tab, select [**Obtain an IP address automatically**], if not already selected.
4. Click on the radio button in front of [**Obtain DNS server address automatically**].
 *It has been found if you input a Preferred and Alternate DNS server IP Address for the CCE domain, then you are not able to do any web browsing without a VPN connection. In other words, you have to bring the VPN connection up first and then you are able to perform web browsing.*
5. Click on [**OK**].

3 Wireless Connection Antenna.

The HP NC6000 Laptop has a button that allows a user to turn on and off the wireless antenna. This allows the wireless adapter to always be enabled and the connection controlled by the antenna.

For the wireless connection to work, you must first press on the “Antenna” button at the top of the keyboard. This is the center button of the three with the (())). This will turn on a blue light on the bottom left hand corner of the laptop which shows the wireless connection antenna has been activated.

When you are finished with using the Wireless connection, press the antenna button again so that the blue light is turned off and the wireless antenna is deactivated. When you return to the office, make sure the blue light is off as this may cause network connection problems.

Remember: It is important to turn off the antenna when using the laptop on a plane.

4 Use of Wireless Devices on Planes

From an article by Elizabeth O. Cooper entitled “How to Welcome Wireless Devices in the Friendly Skies: Electrical and Computer Engineering Professor Studies How Wireless Computers Interfere With Airplane Communication Systems”:

While cell phones, wireless local area networks and other portable electronic devices (PEDs) have improved travelers’ accessibility and productivity, they can also inadvertently cause electromagnetic interference to aircraft navigation and communication radio systems, thereby potentially endangering all on board. According to Linda Vahala, associate professor of electrical and computer engineering at Old Dominion, PEDs may emit electromagnetic waves, with their signals detected by the various radio receiver antennas installed on the airplane. Electromagnetic waves, in certain frequency windows can interfere with the GPS position detailing the plane’s position and direction, as well as its VHF system used for communication

“Phones, computers and other electronic devices must be turned off within 10,000 feet of the ground,” Vahala notes. “Wireless cards inside a computer or personal electronic device can interfere with antennas on the plane.”

Note: There is research being done to find a way to be able to provide wireless service on planes. It is anticipated that there would be a fee for the service. Until this option becomes available, you must turn off the antenna or disable the wireless connection when using your laptop when flying.

5 Wireless Communications Helpful Hints

5.1 VPN Software for Secure Connection

When using wireless communications or direct high speed access in non USDA locations, there are valid concerns on the security of the connection. USDA has Virtual Private Network (VPN) software that must be used in order to access any USDA location, such as Exchange mail, network drives to the CCE Computers, etc. when using the wireless connection. The VPN software provides a secure tunnel (connection) so when accessing these systems we have reduced the Security risk.

When accessing the Internet or a network outside of USDA it is extremely important that the CCE computer that you are using stays current with the Microsoft Patches and Virus Definition Updates.

5.2 Wireless Connections

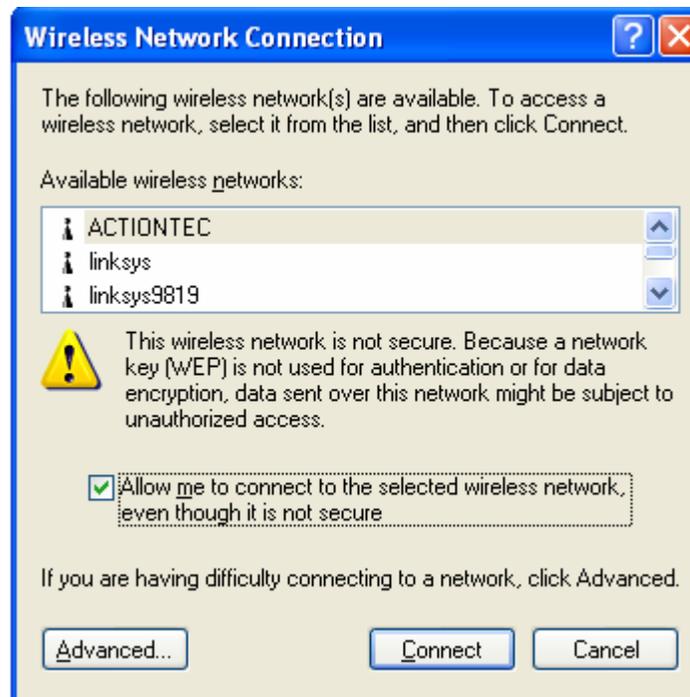
The following is an example of the information bubble that may pop up in the task bar giving you a status of the Wireless Network Connection. If you are in your office and did not turn off the wireless connection you may periodically get the information bubble.



The following information text box is an example when the connection is present. You are presented the text box when you move your mouse over the connection icon in the task bar.

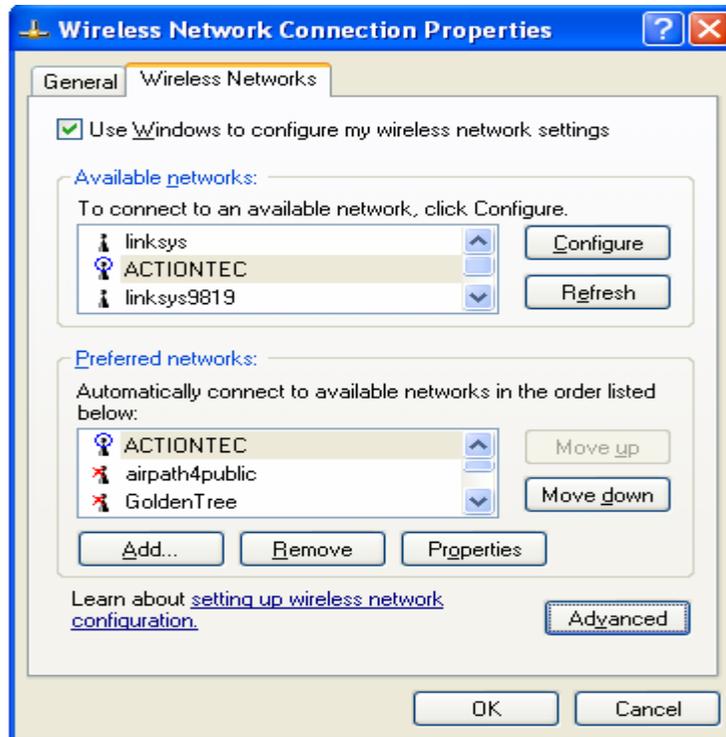


To view available wireless connections, right click on the **Wireless Network Connection Icon** in the lower right area of the task bar. Select, [**View Available Wireless Connections**]. You will then receive the Wireless Network Connection status window. In the following example there are several wireless networks available. With some wireless networks you have to click on the “Allow me to connect to the selected wireless network even though it is not secure” checkbox and then click on [**Connect**].



Clicking on the [**Advanced**] button provides you the “Wireless Network Connection Properties” window.

There are several areas of the following status window that is helpful in managing the wireless connections.



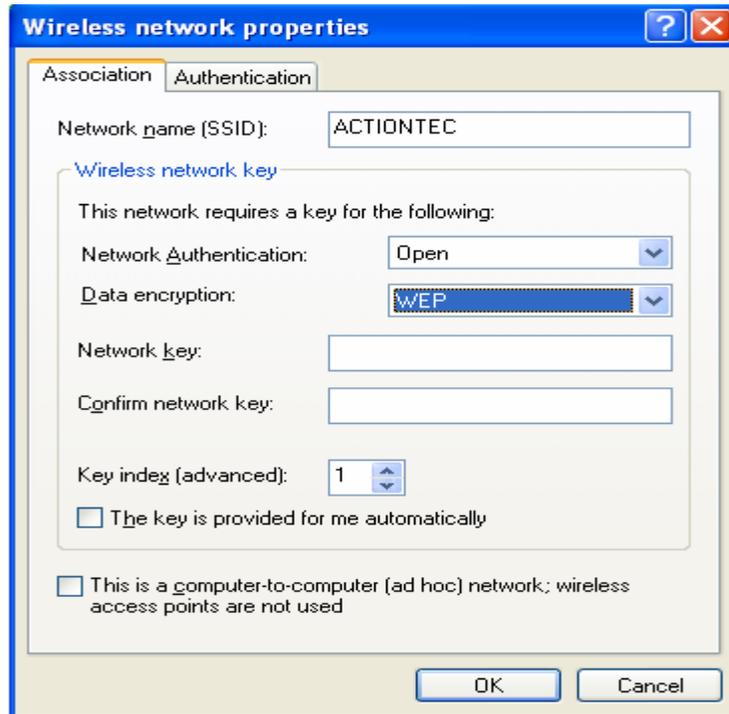
Available Networks: Shows you what current wireless networks that might be available.

Preferred Networks: This provides information on connections that may have been available in the past. If you are in a location where you are picking up more than one connection in the Available Networks section, and you need to restrict the system from not connecting to one of the connections, you can **highlight the connection** and select [**Remove**] and the connection will become unavailable. You can also change order of the preferred choices.

There is an option when setting up a Wireless Network to configure the router or gateway to require a special access code to allow a computer with a wireless adapter to have access to the network. If you are in a location where this is required, you will have to configure the connection. As shown in the above screen, you would highlight the connection as found in the “Available Networks” area and then you would click on [**Configure**].

For example, on home wireless networks you can configure the router or gateway to allow only systems to access the wireless via a security code that you configure in the router or gateway. This is where the configuration option above comes into play so that you can keep your home system secure from the neighbors having access to your wireless connection, but yet allow the CCE computer to access the network as well.

If a router or gateway is configured for a specific network key, you would, in most cases change the [**Data encryption**] to **WEP** and then input the [**Network Key**] and [**Confirm Network Key**] based on the configuration in the router or gateway.



5.3 Accessing Wireless Networks in Hotels

Some hotels when you access their wireless connection or you use their high speed internet service require you to open Internet Explorer and answer a few questions before you are allowed to use the network connection.

5.4 Costs Associated with Usage of Wireless

It is important to understand that some locations that provide wireless connectivity charge for the access. Many Hotels offer this service at no cost, but many Airports charge a fee to use the service. When charges are required, you will receive some type of a billing screen when you access Internet Explorer. You will not be charged, nor will you get the service until you make payment arrangements. You must check with your supervisor on the policy for your office on paying for these services.

Note: Many local libraries are now offering free wireless connections.