



PUBLIC WIFI CONNECTIVITY ISSUES WITH WINDOWS VISTA AND WINDOWS 7

Disclaimer: NLE Engineers have researched the peripheral Vista and Windows 7 client connectivity issues with various vendor wireless solutions, including Bluesocket, Aruba, Ruckus Wireless, Cisco, etc. The primary causes of connectivity issues with Vista and Windows 7 are centered in conditions related to how Windows stores the client profile information, and the interactions with the IP stack. The solutions presented here are given based on observation and testing, and may or may not resolve the specific connectivity issues for other clients.

SCOPE:

We often hear from customers that their wireless LAN clients have troubles associating to Access-Points with the Windows Vista and Windows 7. This is especially true for “Public Hot-Spot” type of wireless networks, where the client must be properly configured to accept these types of open networks during the first attempt to use that SSID, and when using vendor-based wireless client software, such as Intel’s Pro Wireless client. So, what’s going on?

SYMPTOMS:

The wireless access-points associate fine Windows XP based clients, and Apple MacBook/iPhone devices, but don’t allow the Windows Vista or Windows 7 to associate properly.

DIAGNOSTICS:

1. The first thing to do is to attempt to associate with some other type of client to the Access-Point. If any other type of client is able to associate with the Access-Point, then you can eliminate the Access-Point and supporting wireless network infrastructure as the cause. You immediately need to consider the source of the issue -- Windows Vista and Windows 7 (or Windows XP).
2. The first troubleshooting step to take is to verify that there is no pending Windows Updates, and/or try to disable Windows Automatic Updates temporarily. It has been observed on multiple occasions that some Windows Update requests seem to interfere with the wireless-client association process.
3. The second troubleshooting step is to verify that the latest driver and support software of the wireless network adapter is installed. If not, then try to connect to a wired connection to retrieve this software. Windows 7 laptops will often ship without the latest wireless client software, and this can create random symptoms, especially if you are trying to connect to an 802.11n radio with an outdated driver and support software.
 - a. If you are using the Intel Wireless adapter, then try to use this automated tool to obtain the latest wireless driver:
<http://www.intel.com/support/wireless/detect.htm>
4. If the above is verified and you are still having connectivity issues with a particular wireless network SSID, then delete the profile from the profile list and recreate. Often it has been observed that profiles

appear to be correct but do not properly associate until they are deleted and recreated (unknown bug).

The above steps will typically resolved most issues however, there could be other issues with the laptop that may require more advanced analysis. For example, Malware may be interfering with the internet browser, so that if the client is associating but not forwarding the requests properly, this usually indicates a problem with DNS requests or inaccessibility of the DNS server.

If you use the **IPCONFIG /all** command at the command prompt, you should be able to see the IP addresses of the DNS servers that are available for that client. At the command prompt you can verify that DNS is working by using the NSLOOKUP command and typing in the name of the web-host to verify that it can resolve to its IP address (such as, google.com, etc.).

Other Peripheral Issues related to Windows Vista/Windows 7 connectivity issues: (Advanced Topics)

5. If you are using the vendor supplied client, such as the Intel Pro Wireless Client, then verify that you can see the SSID that is being broadcast for that network. Now when you attempt to associate with the SSID, you may not see the important UAC (User Access Control) option screen, because it may be behind the Wireless Client screen:

Reason:

- **The Wireless client screen may be centered directly in front of the UAC configuration screen. You may not be able to see this screen.** (Figure 2)
- If you have UAC enabled on Windows, you will need to select the type of network that you attached to. Select "Public" for a public "hot-spot" WIFI environment, then (and only then) will you be able to correctly associate to the access-point. (See Figure 1 and Figure 2).



Figure 1 - Intel Pro Wireless Client

- You may not see or notice the “Set Network Location” screen behind the client.

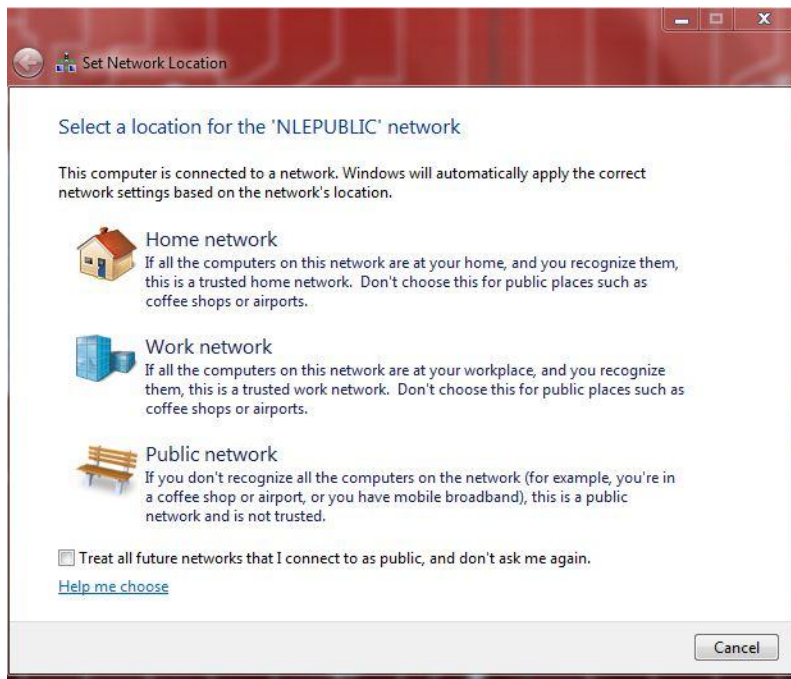


Figure 2 - UAC for Network Connection Type

- Note that at the bottom of the screen you can turn-off this required configuration box by selecting the check-box that says:
 - o “Test all future networks that I connect to as public, and don’t ask again.”

Now verify that the wireless is able to associate by looking at your network connections screen:

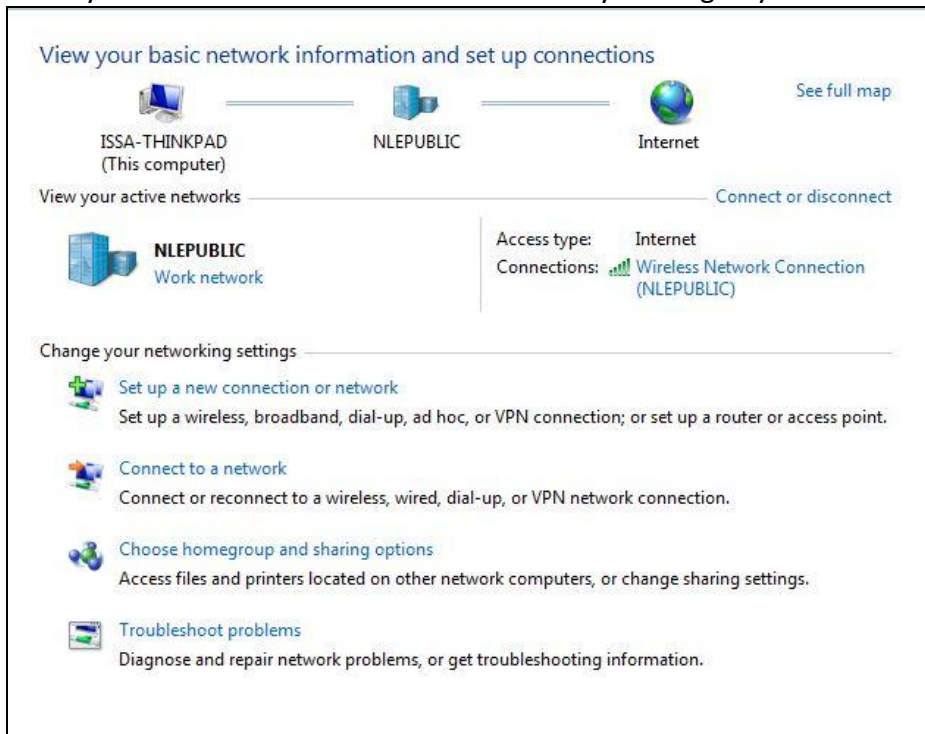


Figure 3 - Verify Correct Network Type

6. Additional Security Settings that may interfere with public access to a WIFI hot-spot:
If the computer is a member of a corporate domain, it may have restrictions associated with that domain using group policies and similar client control software. Check with your network administrator to verify that you can use your laptop in public WIFI areas.

If your laptop is a member of a corporate domain, and you are attempting to configure the WIFI connection as a "Home Network" setting, you also may be confronted with this screen:

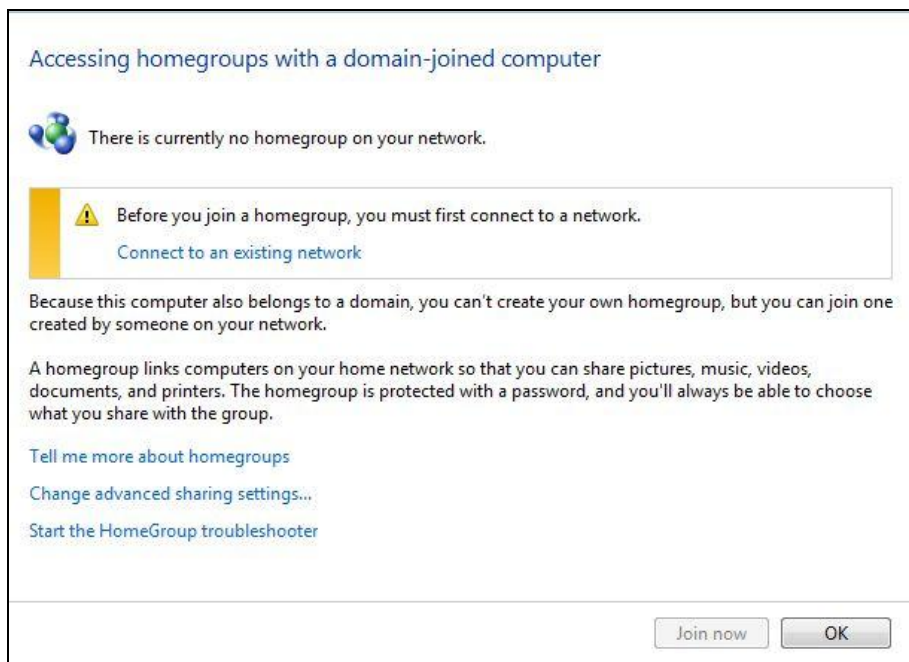


Figure 4 - Select Public WIFI as "Public" Network – not as a Home Network.

7. IPV6 versus IPV4

It has been observed that on some older network interface driver sets, that you may experience intermittent issues with connectivity when using Windows Vista and Windows 7, due to the IPV6 client that is enabled by default.

If you have confirmed the settings above, and are still having WIFI connectivity problems, you may want to disable the IPV6 client for the Wireless network adapter (Figure 5). But by un-selecting the IPV6 check-box in the wireless adapter settings, this **DOES NOT** disable IPV6 support.

To disable IPV6 features, you need to edit the registry. See the following TechNet article for more information.

<http://technet.microsoft.com/en-us/library/bb878057.aspx>

It has been observed that by disabling IPV6 support (via the registry), that some wireless connectivity issues have been resolved. Again, it is advised to try to find the latest driver set for the wireless adapter first.

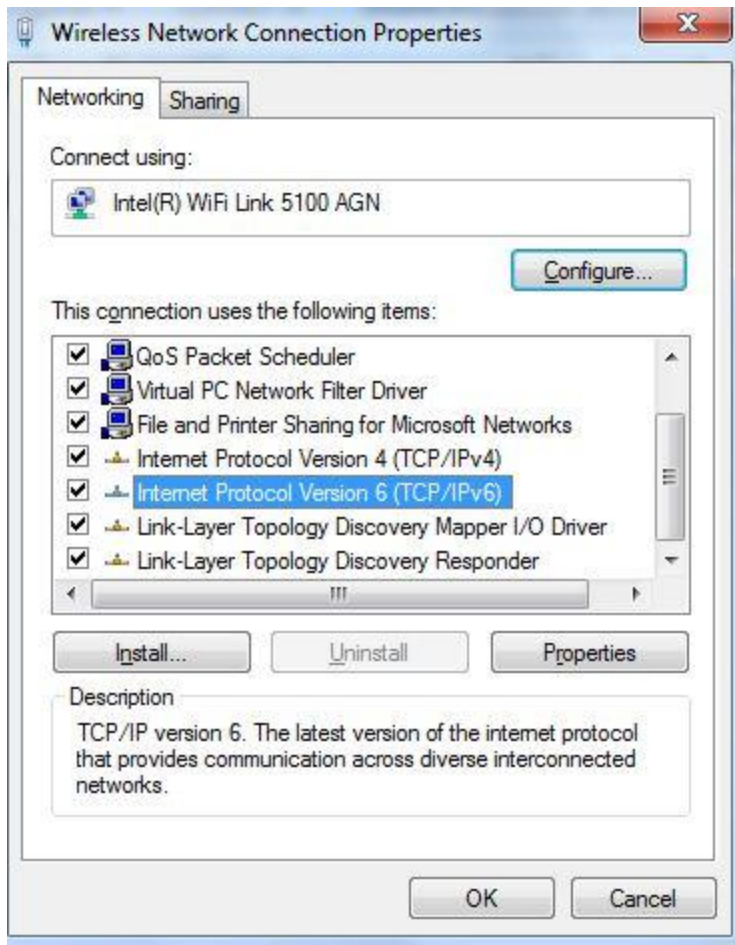


Figure 5 – IPV6