Share Windows XP Guest Internet Connection with OS X Host HOWTO

Sometime Users may find themselves in a position that they need to share the Windows XP Guest Virtual Machine's Internet Connection with the Mac OS X Host and this document will show one of the ways it can be accomplished.

Requirements

OS X 10.4.9 or Higher
VMware Fusion 1.0 or Higher
Microsoft Windows XP SP2 VMware Fusion Virtual Machine
Internet Connectivity from within the XP Guest Virtual Machine.
Active* Network Connection in OS X Host.

* This does not mean an existing active connection to the Internet on the Host as if this were the case then this document would not be necessary. This means that there must be an Active Link Status on either the OS X Built-in Ethernet or AirPort.

On a PC Notebook I use to use a RJ-45 Loopback Adapter to establish an Active Link Status for VMware Workstation however on my MacBook Pro this approach did not work and if a LAN was not present, then how to establish a active link status with just the MacBook Pro became the question and the answer was quite simple. Use the AirPort to create a Computer-to-Computer Network.

If your computer is not connected to a Local Area Network or a Network Device that by being connected provides Active Link Status and your Mac computer has an AirPort then this is very simple.

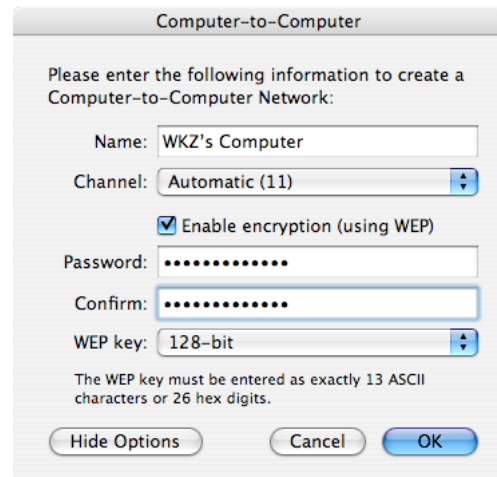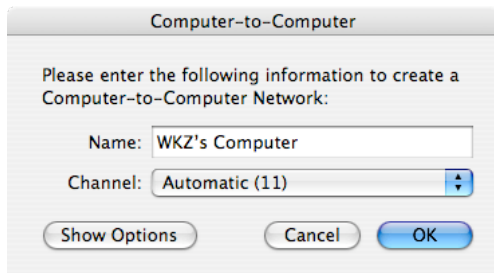Step 1: Establish Active Link Status on the Mac OS X Host.

> Note: If a RJ-45 Loopback Adapter works for you or if your computer is already connected to a network device such as a switch, hub, router or external WiFi network and none of which are providing Internet access this will also provide the active link status for VMware Fusion Virtual Network's Bridged Mode to function as needed to accomplish this task and you may proceed to Step 2.

Using the AirPort establish a Computer-to-Computer Network

Click the AirPort 📶 icon on the Menu bar and select Create Network...

> Note: If the AirPort 📶 icon is not on the Menu bar then you can add it by clicking > System Preferences... > Internet & Network > Network and check the "Show AirPort status in menu bar" check box.

The Computer-to-Computer dialog box will appear and then click the Show Options button to choose between 40-bit and 128-bit WEP Encryption. Although not absolutely necessary none-the-less it is a good security measure and is highly recommended even if all Sharing Services are turned off and the Firewall is turned on. Security in Layers is always a good Protocol!

With a Computer-to-Computer Network established the AirPort icon on the Menu bar will show as:

Mac OS X Host Active Link Status has now been established.

Step 2: Configure Windows XP VM Guest's Network

The VM must have a Network Adapter that is set to Bridged.

By default the VM's Network is set to NAT so be sure to change it to Bridged before you start the Virtual Machine. Although it can be changed while running it requires extra steps for the virtual hardware to properly communicate with the Host if the change is made while running.

The Virtual Machines Settings Network Sheet should look like this.
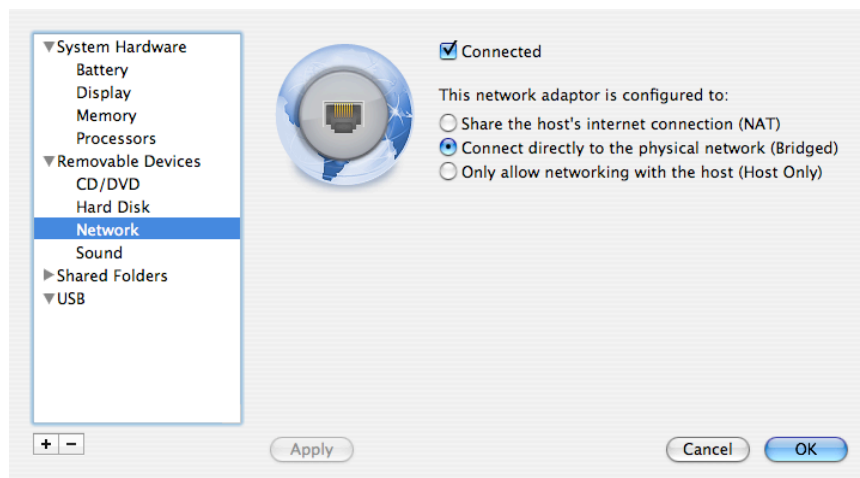
The sheet above is reachable via VMware Fusion menu bar > Virtual Machine > Settings

In the following example the Windows XP Virtual Machine's Internet Connectivity will be provided by way of the Belkin 54g WiFi USB Network

Adapter however any Device that Internet Connection Sharing can be enabled on should work with these simple basic directions.

In the XP Guest VM under Network Connections there will be two devices.
   (Start > Control Panel > Network and Internet Connections > Network Connections)

1. Local Area Connection - VMware Accelerated AMD PCNet Adapter

2. Wireless Network Connection - Belkin 54g Wireless USB Network Adapter

The settings for both adapters IP Address, Subnet Mask, Gateway and DNS Servers in this example are initially set to the XP default of DHCP and no manual changes to these settings are necessary as the required changes to the VMware Accelerated AMD PCNet Adapter will occur automatically when ICS is enabled on the Belkin 54g Wireless USB Network Adapter.


View after enabling ICS

Right-click the Belkin 54g Wireless USB Network Adapter and select Properties. Click the Advanced tab. On the Wireless Network Connections Properties dialog box check the "Allow other network users to connect through this computer's Internet connection" check box in the Internet Connection Sharing frame then click OK.
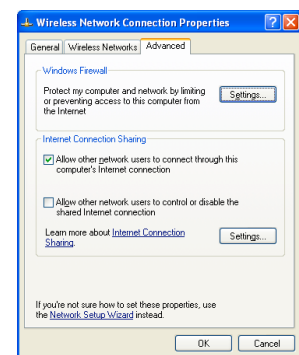
The basic configuration changes have now been made and in theory all should be working now however in practice there always seems to be a glitch or two to test ones patience. Typically at this point if there is a glitch, assuming all settings and changes were made correctly, it is with the Host not yet having a valid IP Address, Subnet Mask, Gateway, etc and I've found that the easiest solution to this is to simply Disable and then Enable the Local Area Connection - VMware Accelerated AMD PCNet Adapter. Right-click the Adapter and select Disable. Wait for it to show Disabled then right-click and select Enable. This should now allow the AirPort to receive valid configuration information via ICS's DHCP Server. Although if it does not then you may have no choice but to reboot the Virtual Machine.
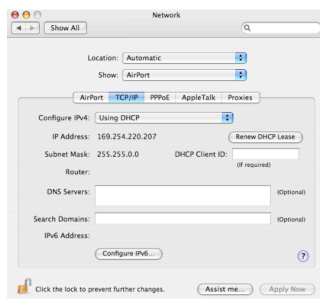
Before Disable/Enable NIC in Windows

Note: When you are done with the Computer-to-Computer Network click the ⬚ icon and select Disconnect from current network and now your AirPort will function the way it was before establishing the Computer-to-Computer Network when needed to access normal WiFi Nets.
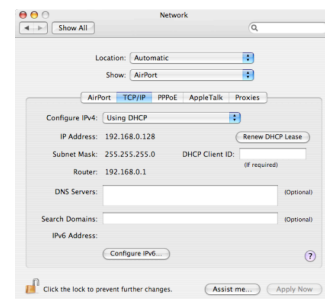
After Disable/Enable NIC in Windows

That's about it... its really just that simple! You should now be able to utilize the Windows XP Guest VM's Internet Connection by the Mac OS X Host.

Note: I was able to do this just as simply and easily as it shows in the directions and this was with the Firewall enabled on the Network Connections in Windows XP as well as on the Mac OS X Host. This was also done with Stealth Mode Enabled on the Firewall and no Services shared on the Host too.

Now I did this from the perspective of the highest level of security that was available through the UI without any additional 3rd Party Tools to show that the pipe can be made nice and tight to protect the Host however it also works with appropriate Services running and or exclusions set in the Firewalls depending on ones needs. With this in mind it you are running 3rd Party Tools that have an impact on Network Connectivity you must take this into account when configuring your system to work in this manner. If that means **temporarily** disabling Firewalls to validate all basic setting are correct then don't forget to re-enable them. Remember security in layers is your friend! Especially when using as Windows System as a Gateway to the Internet.

Synopsis

With Internet Connection Sharing enabled on the Belkin 54g WiFi USB Network Adapter Internet Connection Sharing makes the necessary changes to and handles configuring the VMware Accelerated AMD PCNet Adapter to enable ICS's DHCP to provide Network Settings to the Host's AirPort via VMware Fusion's Virtual Network. No manual settings should be needed or made on either the VMware Accelerated AMD PCNet Adapter or the Mac OS X Host's AirPort. I found it you manually configure the AirPort, even with valid settings, it can fail to properly communicate back to the VMware Accelerated AMD PCNet Adapter. I would therefore suggest if allowing ICS to handle everything automatically does not work then you have something else obstructing or not properly configured to allow for proper network connectivity to occur through ICS.

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