

USING WINDOWS' "INTERNET CONNECTION SHARING"

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SUMMARY

Windows' "Internet Connectin Sharing" (ICS) is a virtual network router that is located inside any computer that is running "Windows XP" and higher. It allows you to attach a new/additional computer to your local area network by attaching it to an existing Internet-connected computer.



























Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher
- Step 1: Open the "Control Panel":

Control Panel

File Edit View Favorites Tools Help

Navigation and search tools: Back, Forward, Refresh, Search, Folders, Home, Stop, Back, and View options.

- | | | | | | | | |
|--|--|--|---|---|--|---|--|
| 
Accessibility Options | 
Add Hardware | 
Add or Remov... | 
Administrative Tools | 
Automatic Updates | 
Date and Time | 
Display | 
Folder Options |
| 
Fonts | 
Game Controllers | 
Internet Options | 
Keyboard | 
Mouse | 
Network Connections | 
Network Setup Wizard | 
Phone and Modem ... |
| 
Power Options | 
Printers and Faxes | 
Regional and Language ... | 
Scanners and Cameras | 
Scheduled Tasks | 
Security Center | 
Sounds and Audio Devices | 
Speech |
| 
System | 
Taskbar and Start Menu | 
User Accounts | 
Windows Firewall | 
Wireless Network Set... | | | |

Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Step 2: Open the "Network Connections" window/applet:



Network Connections



Netw...

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Organize ▾



Local Area Connection
Network

Intel(R) PRO/1000 MT Network Conn...

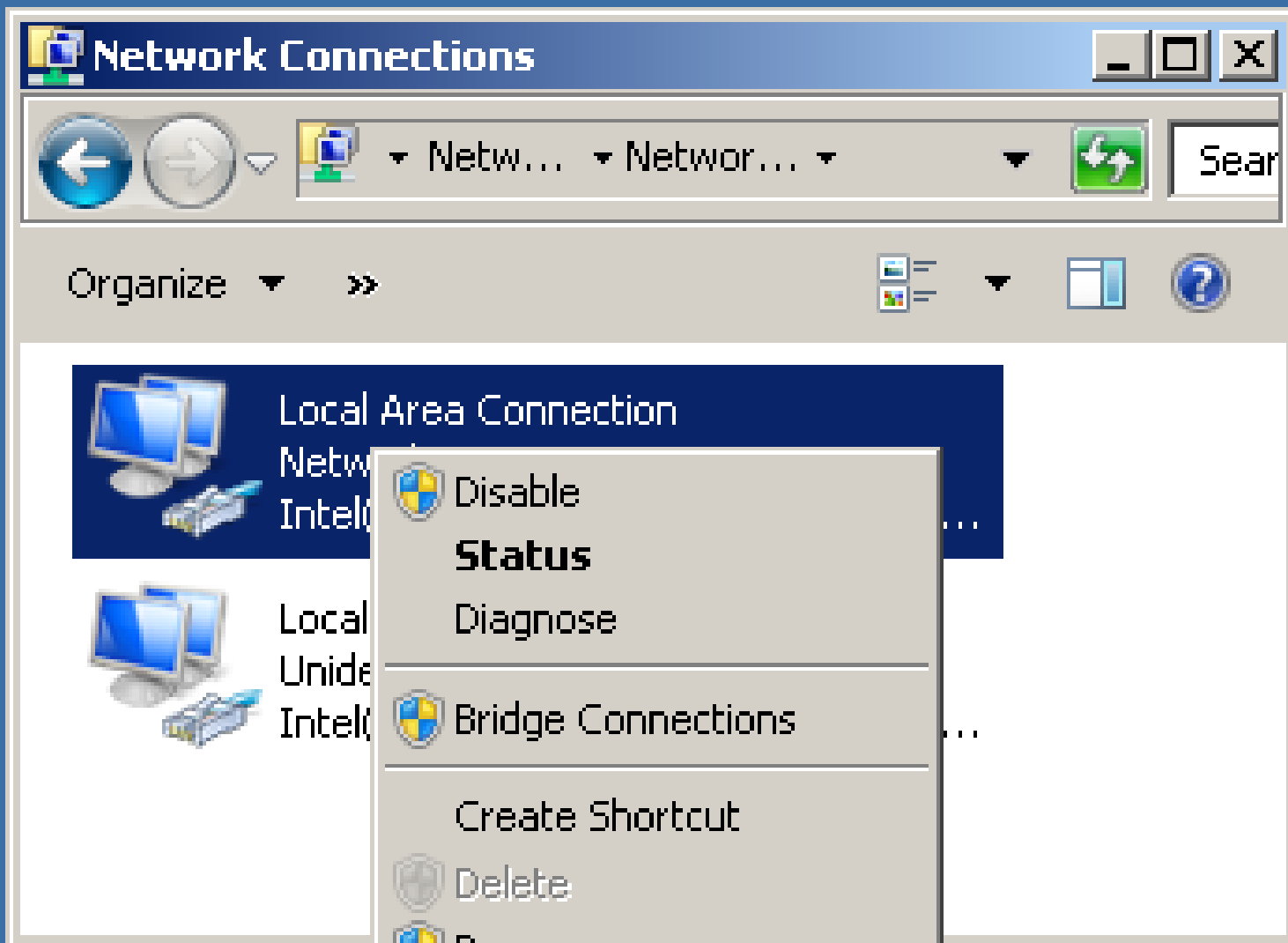


Local Area Connection 2
Identifying...

Intel(R) PRO/1000 MT Network Conn...

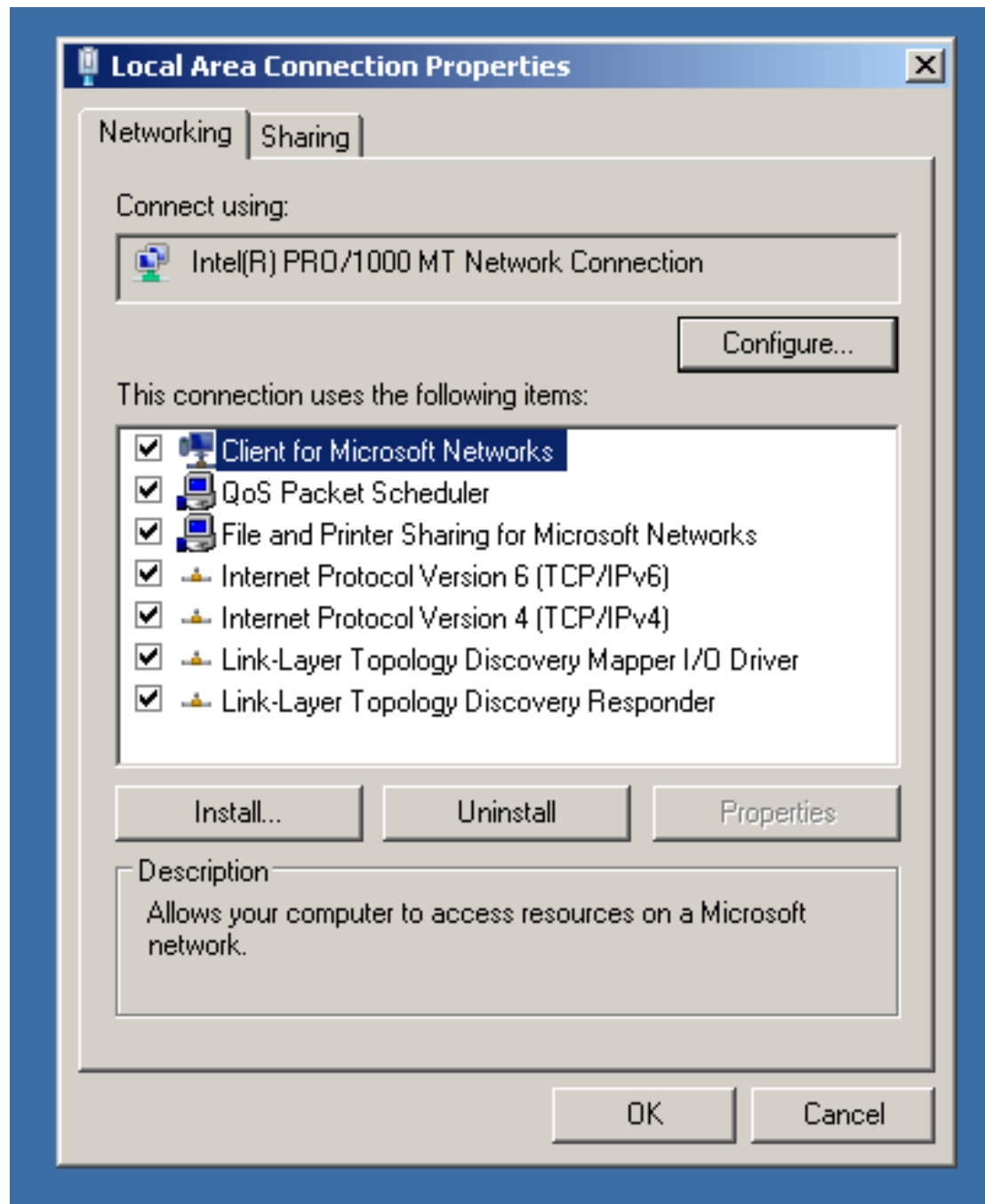
Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Step 3: Use the RIGHT mouse button to click on the network adapter that connects "upstream" to the Internet.
- Step 4: A pop-up, context menu will be displayed:



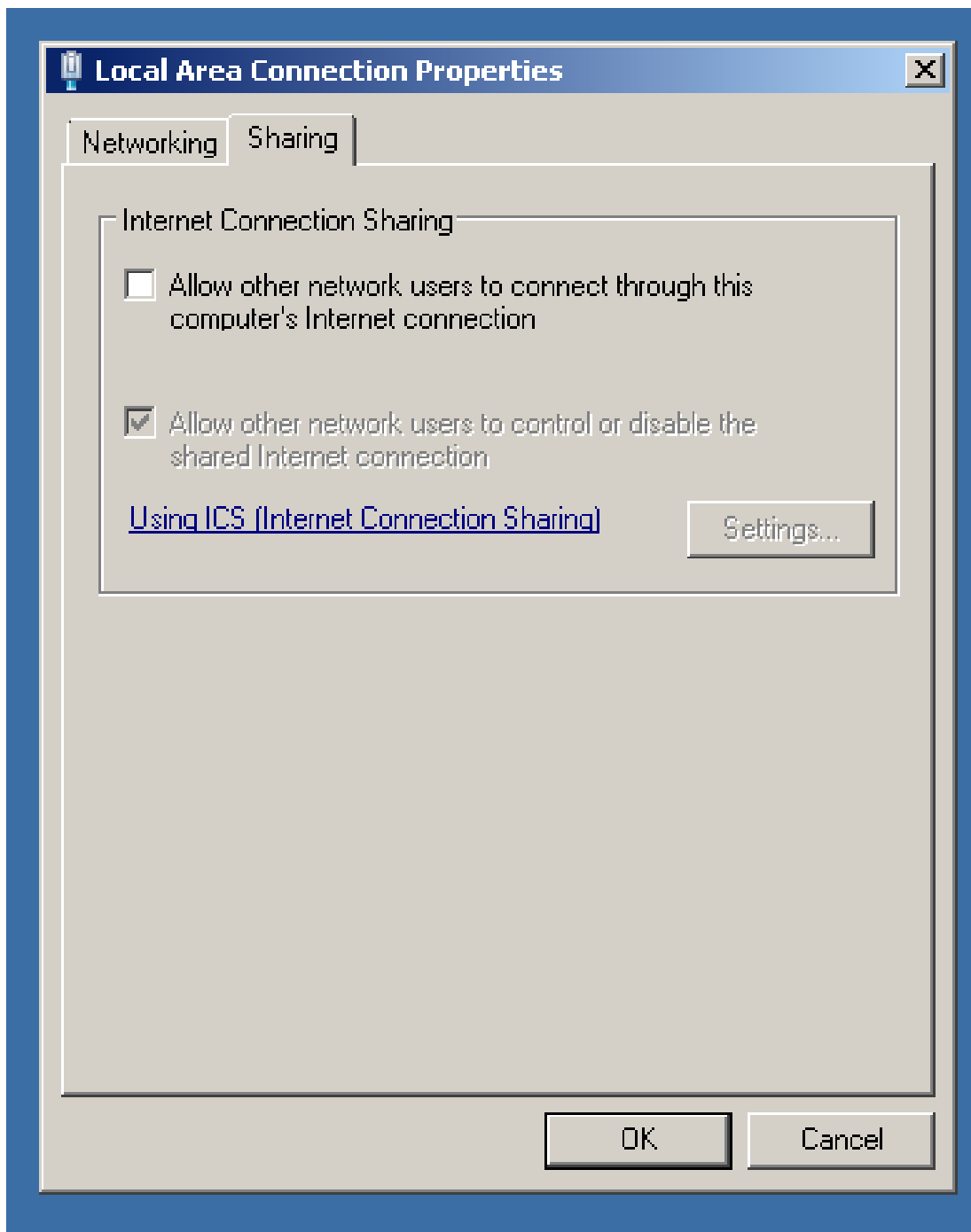
Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Step 5: Click on "Properties".
- Step 6: A "Properties" window will be displayed:



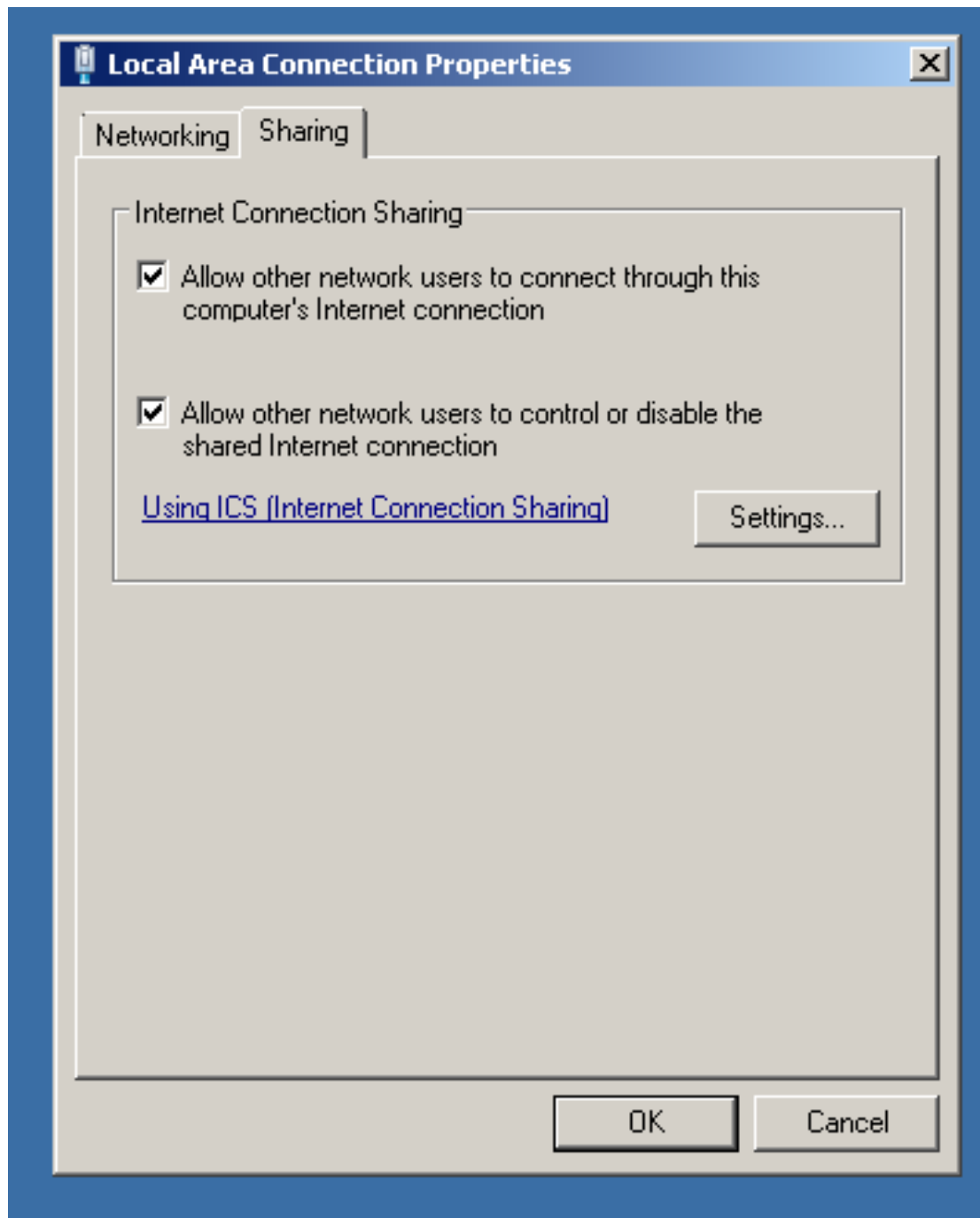
Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Step 7: Click on the "Sharing" tab in order to display it:



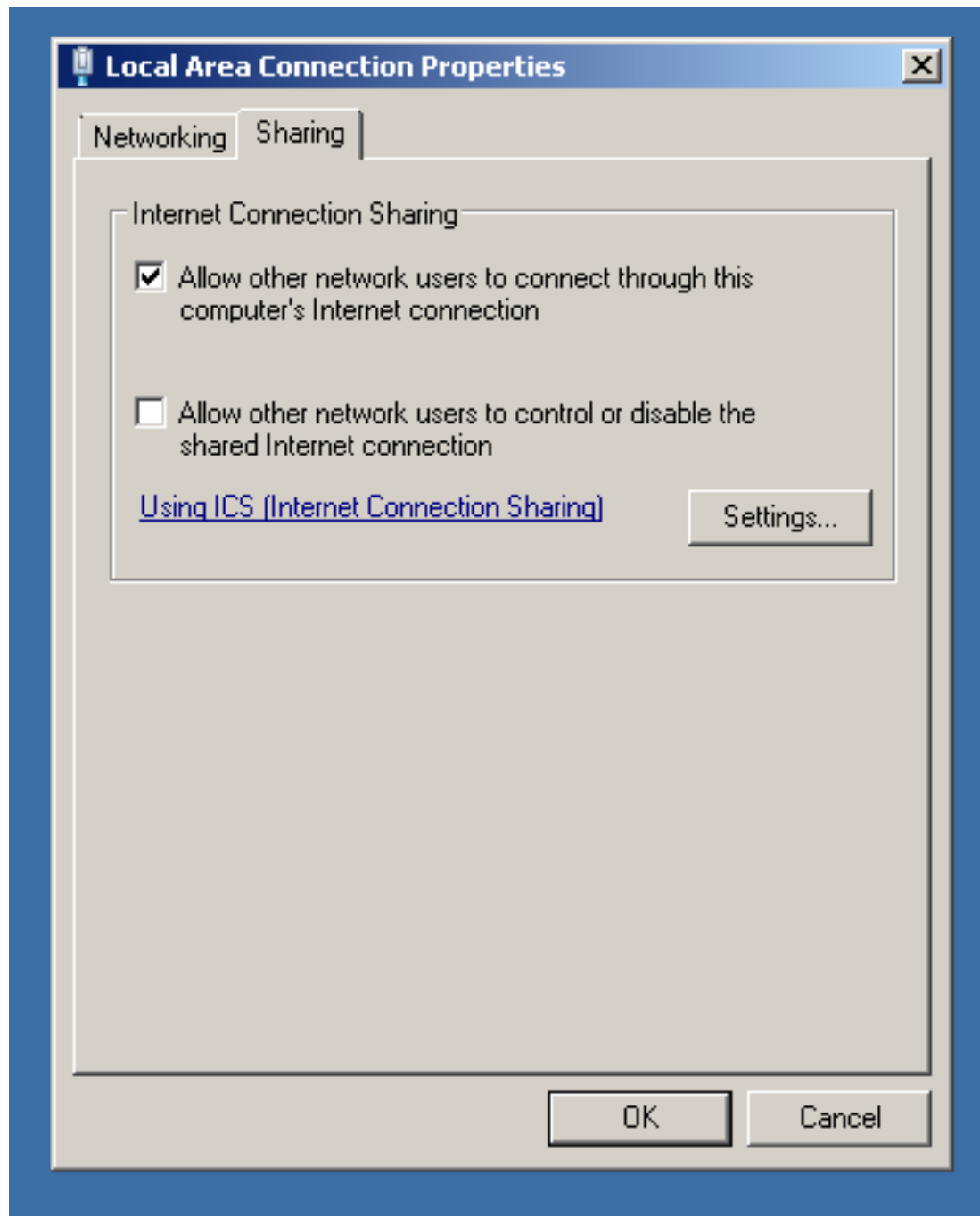
Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Step 8: Put a checkmark next to "Allow other network users to connect to this computer's Internet connection":



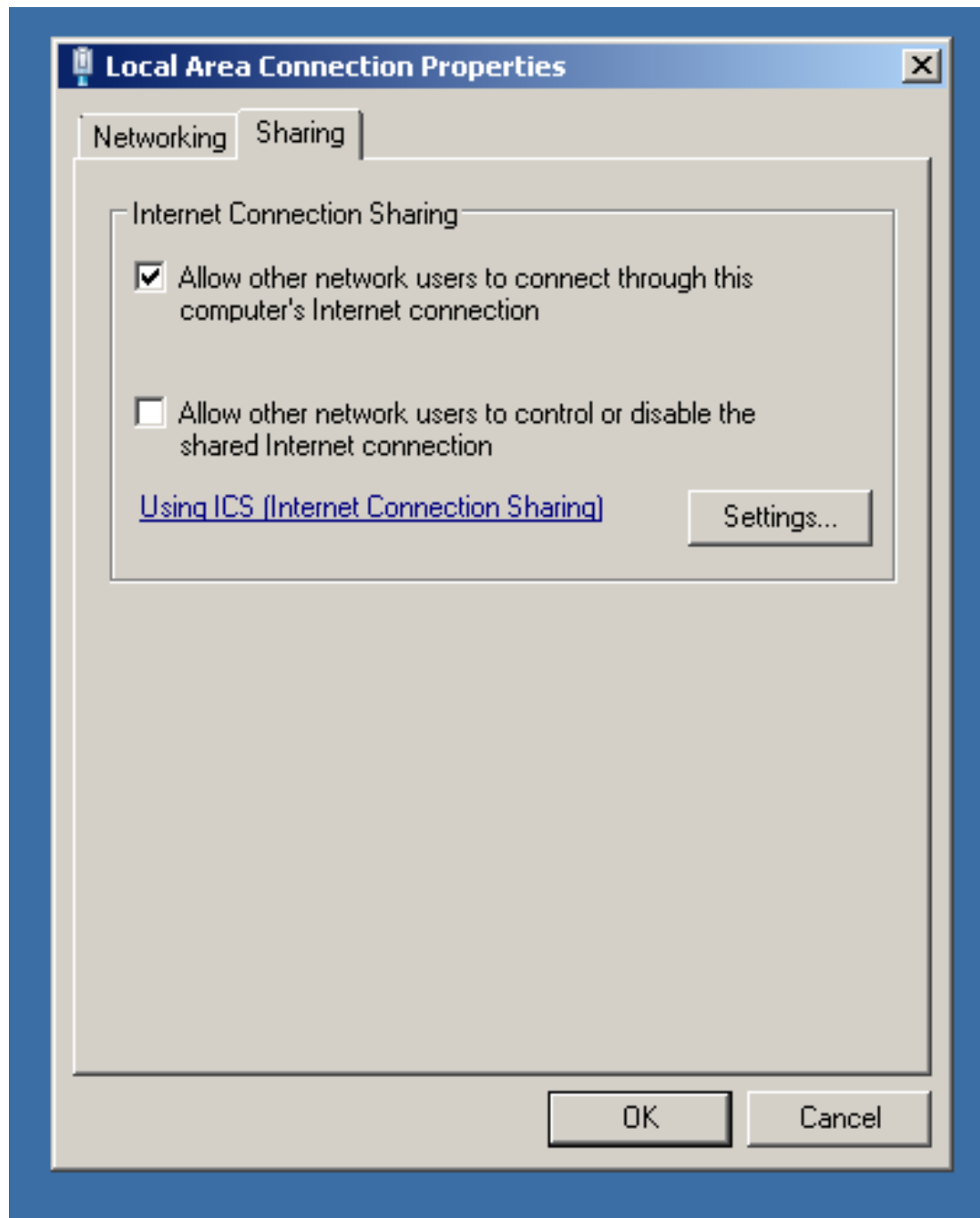
Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Step 9: Remove the checkmark from "Allow other Internet users to control or disable this computer's Internet connection:



Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Step 10: Click on the "OK" button.
- Step 11: The "Properties" box will disappear.



Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- Windows' virtual "Internet Connection Sharing" router does not show up as a separate device in the "Network Connections" window:

Network Connections



Netw...

Networ...



S

Organize ▾



Local Area Connection
Network

Intel(R) PRO/1000 MT Network Conn...

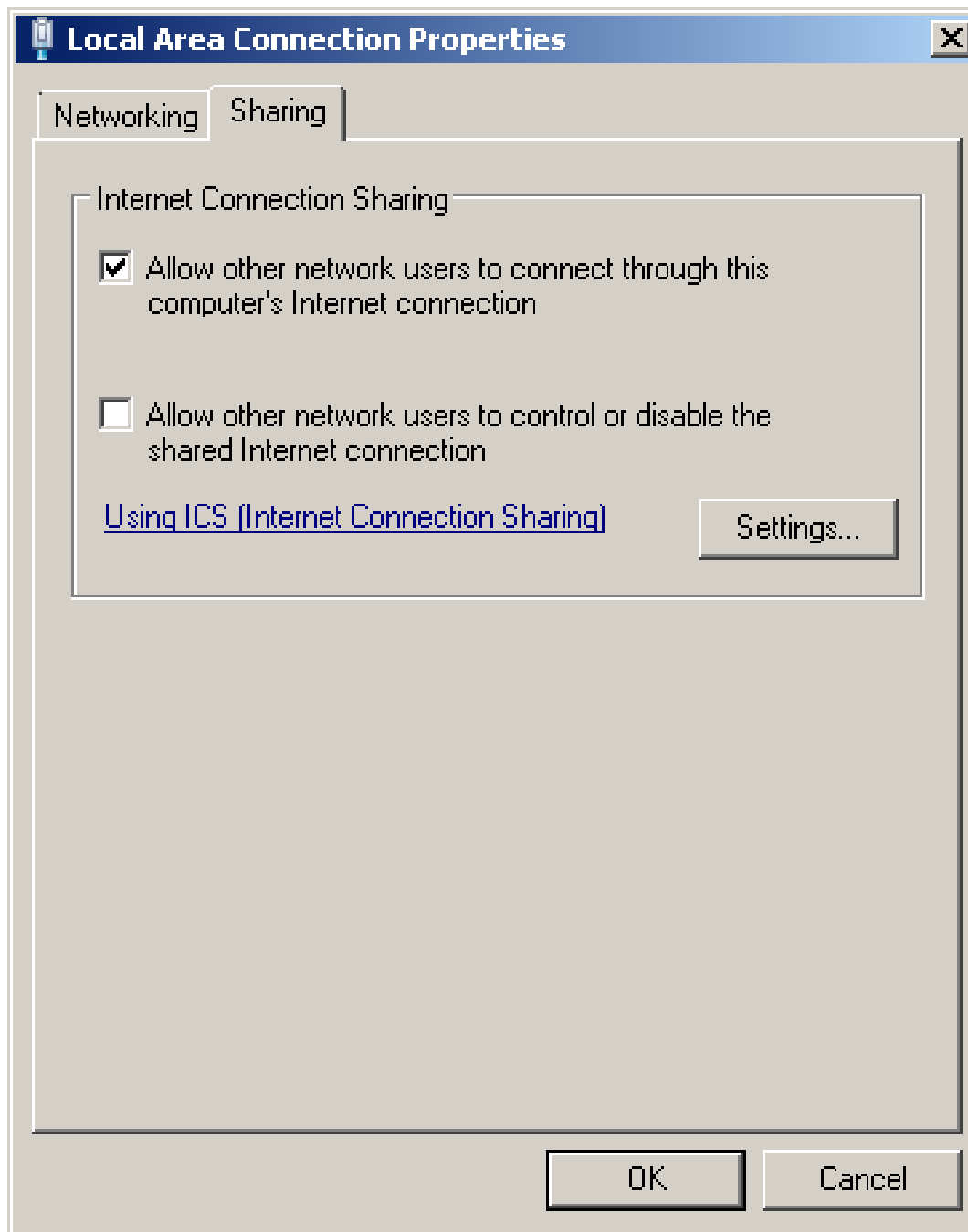


Local Area Connection 2
Unidentified network

Intel(R) PRO/1000 MT Network Conn...

Windows' ICS Router

- Steps for installing and using a virtual ICS Router in "Windows XP" and higher (continued)
- The only evidence that you have for the existence of an active, virtual ICS router is in the "Sharing" tab of the "Properties" windows of the upstream network adapter:



**Hardware View of a
single, Internet-
connected "Windows
XP", "Windows Vista",
or "Windows 7"
computer**



"Windows 7" Computer

Upstream to the real Internet



**A new
"Windows"
computer
shows up.**

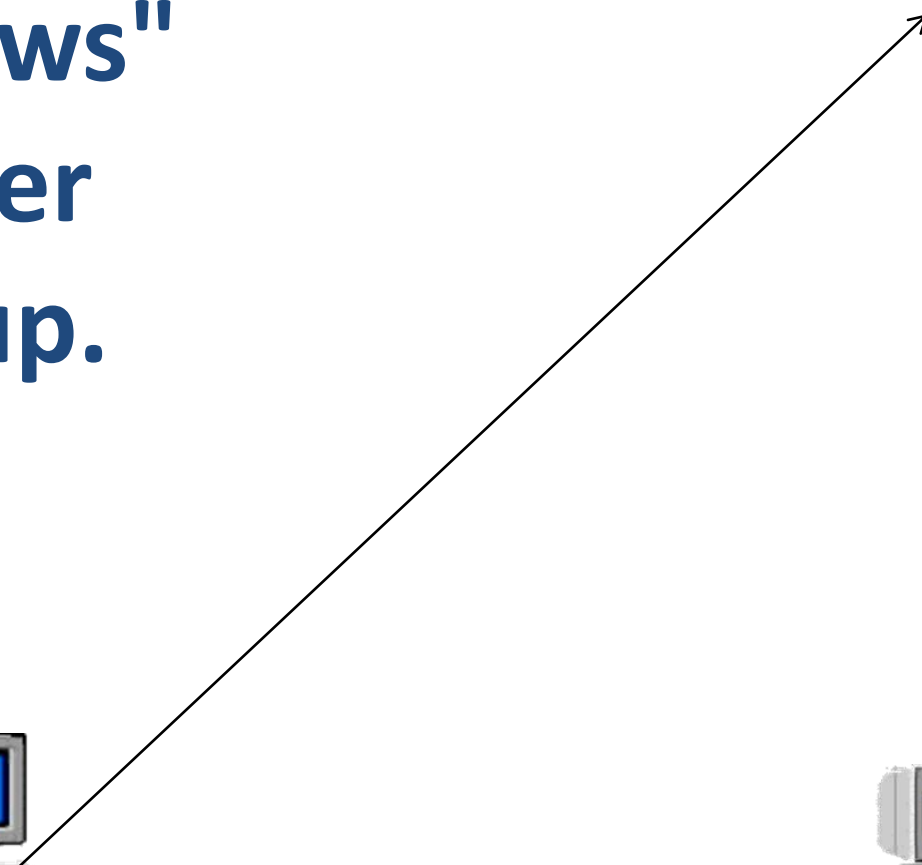
Upstream to the real Internet



"Windows 7" Computer

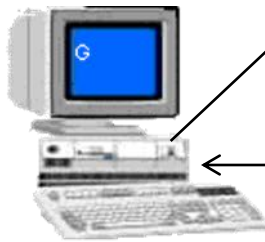


"Windows XP" Computer



**You wish to connect
the new computer
to the original
computer in order
to give the new
computer access to
the Internet**

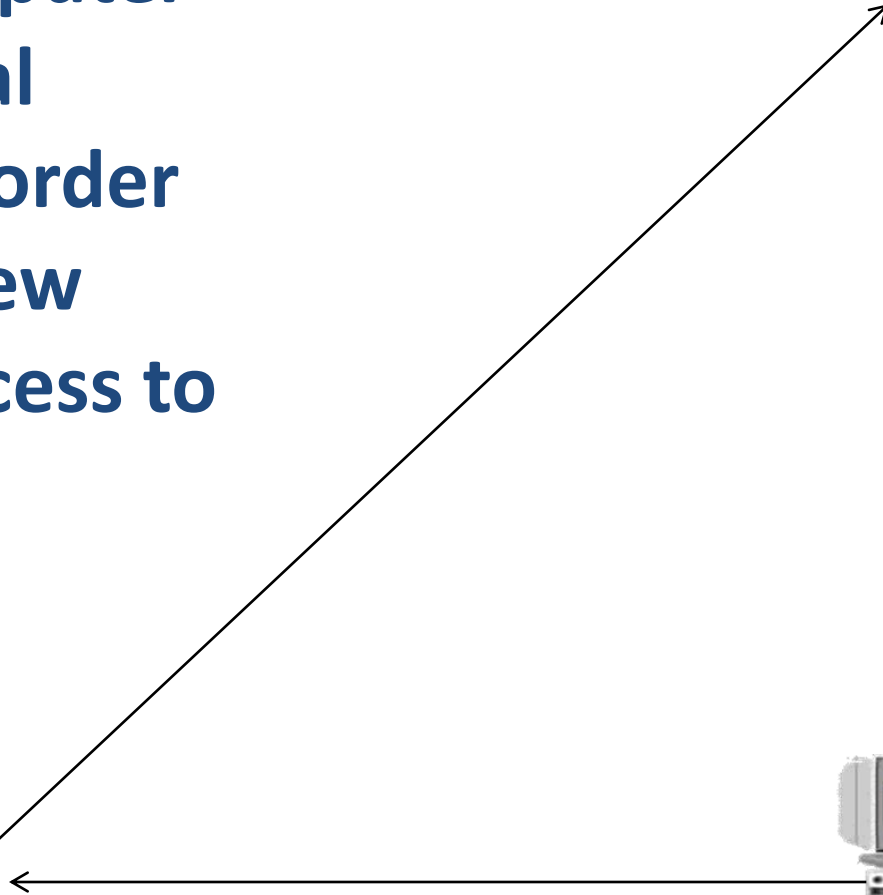
Upstream to the real Internet



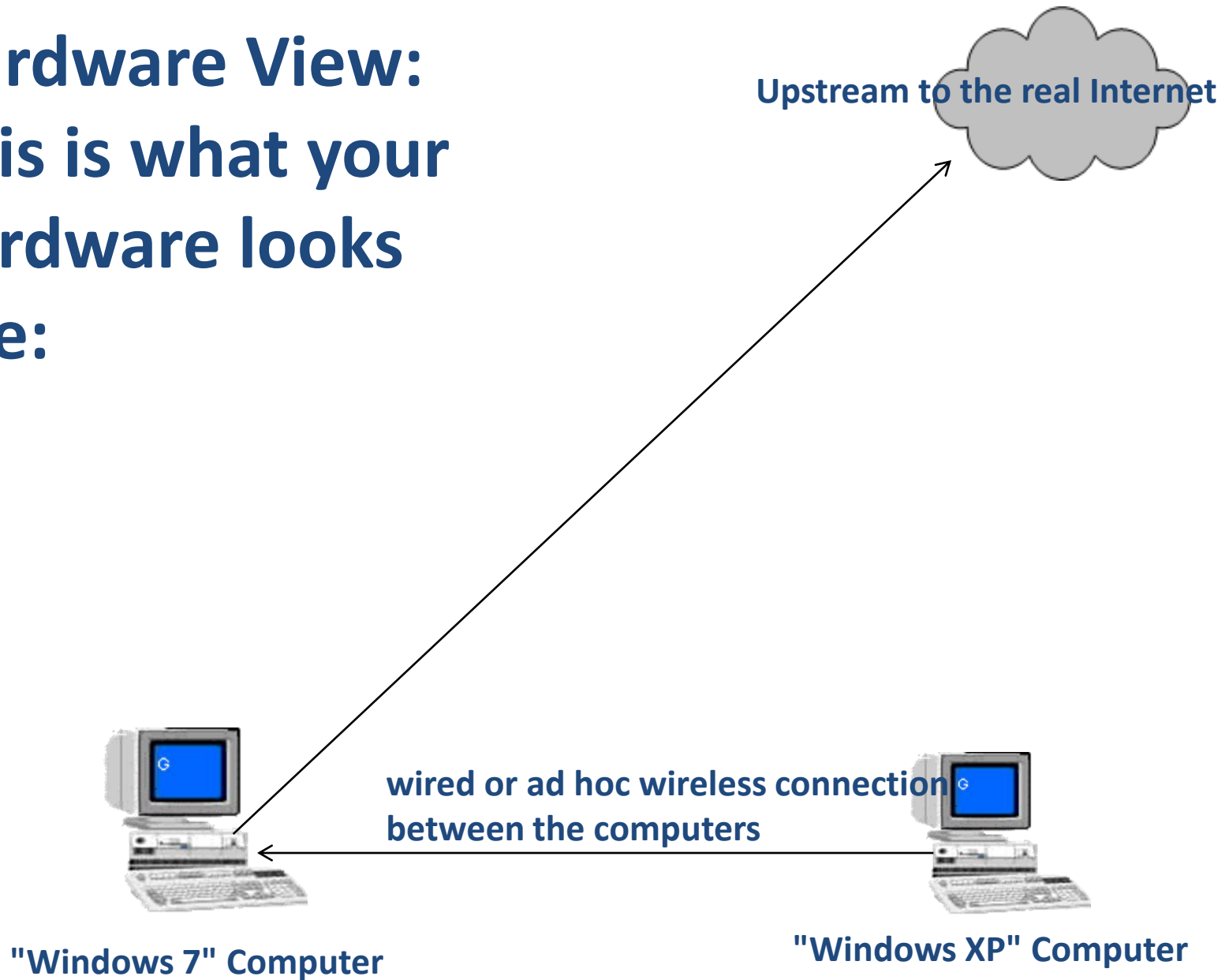
"Windows 7" Computer



"Windows XP" Computer



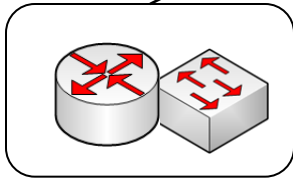
Hardware View: This is what your hardware looks like:



Physical View of the (virtual) Windows' "Internet Connection Sharing" Router

Real "Local Area Network" (LAN)

Upstream to the real Internet



Virtual Windows "ICS" Router



"Windows 7" Computer

Two real network adapters in the
"Windows 7" real computer but
three virtual network adapters
inside the virtual Windows "ICS
Router"
(Virtual network devices can have
more virtual network adapters than
in your physical network.)



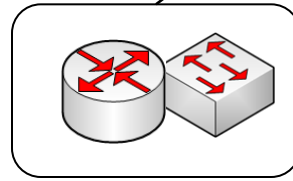
"Windows XP" Computer

Logical View of the "virtual" Windows "Internet Connection Sharing"-- it acts like it exists independently of either computer

Upstream to the real Internet



Real "Local Area Network" ("LAN")



Virtual Windows "Internet Connection Sharing" router



"Windows 7" Computer accesses the Internet and the other computer through the virtual "ICS router"



"Windows XP" Computer accesses the Internet but it cannot access files and printers in the other computer.

WINDOWS' ICS ROUTER

For "Windows XP", see

<http://www.techrepublic.com/article/get-it-done-connect-lans-with-windows-xps-network-bridge/5034572>

and

<http://www.homenethelp.com/web/howto/windows-xp-bridge-setup.asp>

WINDOWS' ICS ROUTER

- Microsoft's official documentation on "Internet Connection Sharing" in "Windows Vista" is located at <http://windows.microsoft.com/en-US/windows-vista/Using-ICS-Internet-Connection-Sharing>

WINDOWS' ICS ROUTER

- Microsoft's official documentation for using "Internet Connection Sharing" in "Windows XP" is located at <http://support.microsoft.com/kb/306126>

WINDOWS' ICS ROUTER

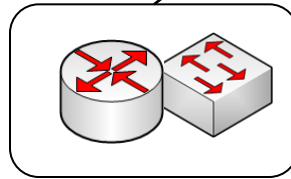
- Difference between virtual virtual "Internet Connection Sharing"(ICS) and Windows' "Network Bridge":
two-way file sharing in "Network Bridge" versus
one-way file sharing in "ICS"

Logical View of the "virtual" Windows "Internet Connection Sharing"-- it acts like it exists independently of either computer

Upstream to the real Internet



Real "Local Area Network" ("LAN")



Virtual Windows "Internet Connection Sharing" router



"Windows 7" Computer accesses the Internet and the other computer through the virtual "Network Bridge"



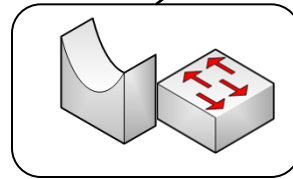
"Windows XP" Computer accesses the Internet and the other computer through the virtual "Network Bridge"

Logical View of the "virtual" Windows "Network Bridge"-- it acts like it exists independently of either computer

Upstream to the real Internet



Real "Local Area Network" ("LAN")



Virtual Windows "Network Bridge"



"Windows 7" Computer accesses the Internet and the other computer through the virtual "Network Bridge"



"Windows XP" Computer accesses the Internet and the other computer through the virtual "Network Bridge"