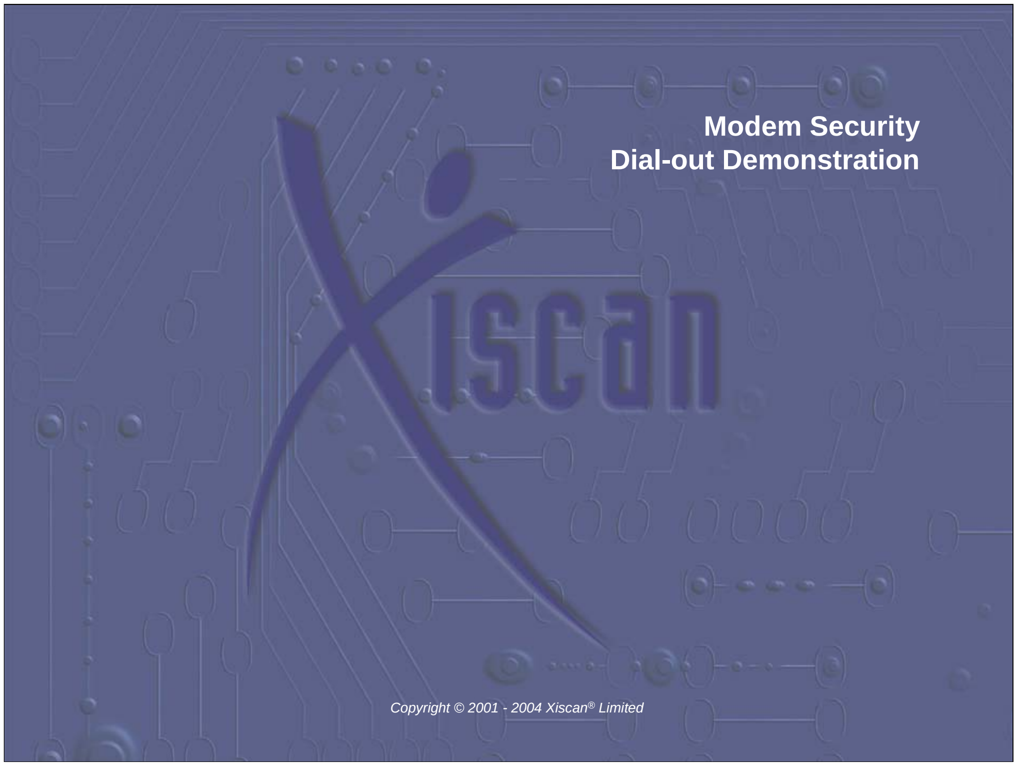
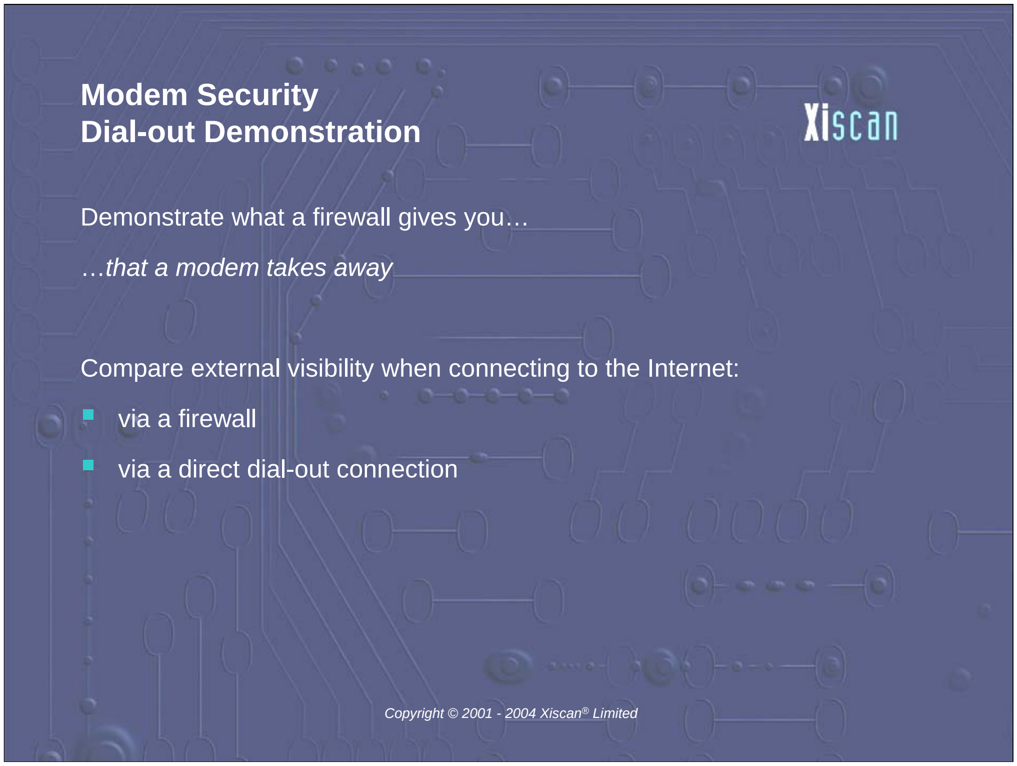


Modem Security
Dial-out Demonstration



Modem Security
Dial-out Demonstration

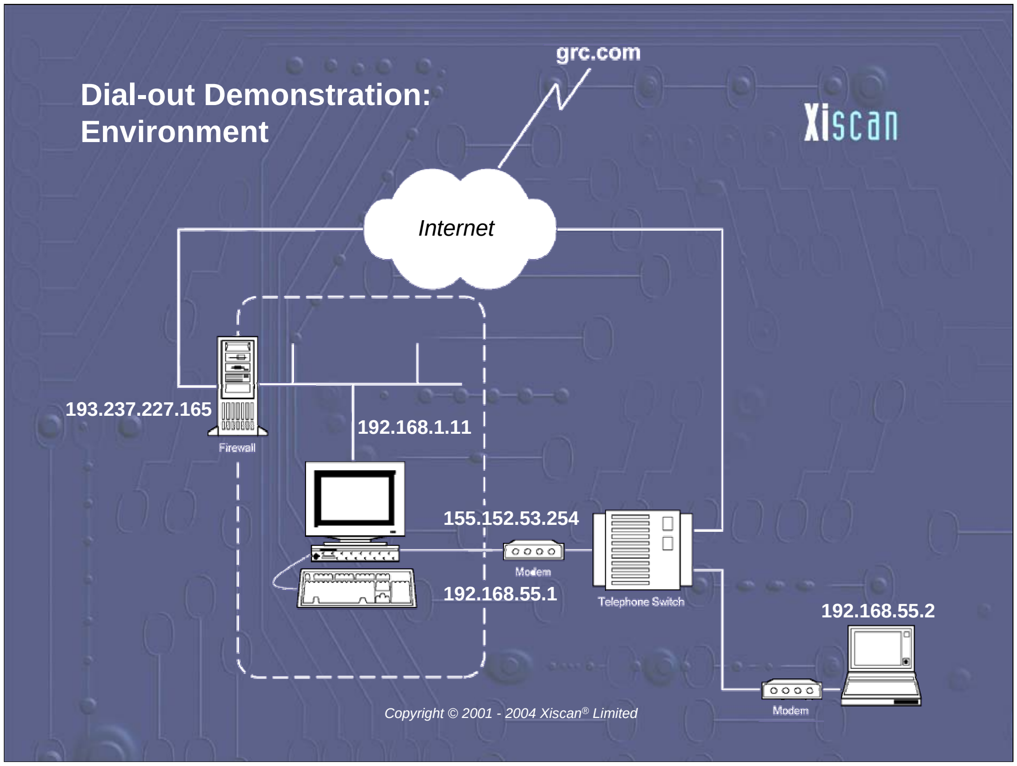
Xiscan

Demonstrate what a firewall gives you…

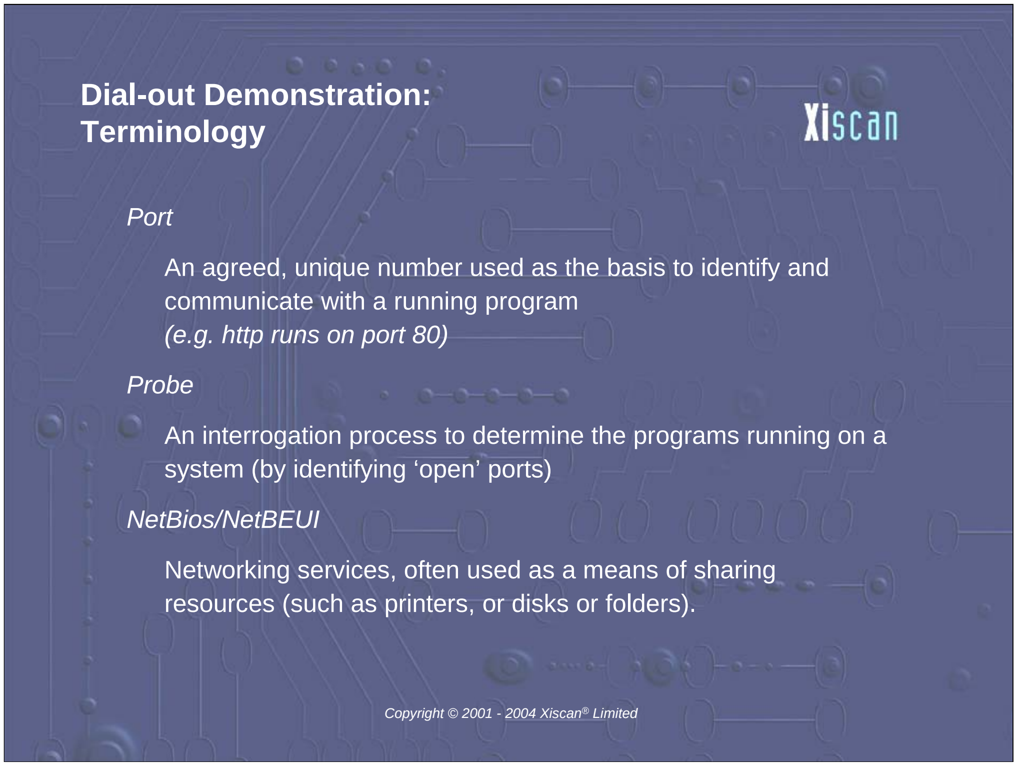
…that a modem takes away

Compare external visibility when connecting to the Internet:

- via a firewall
- via a direct dial-out connection



Dial-out Demonstration: Environment



Dial-out Demonstration: Terminology

Port

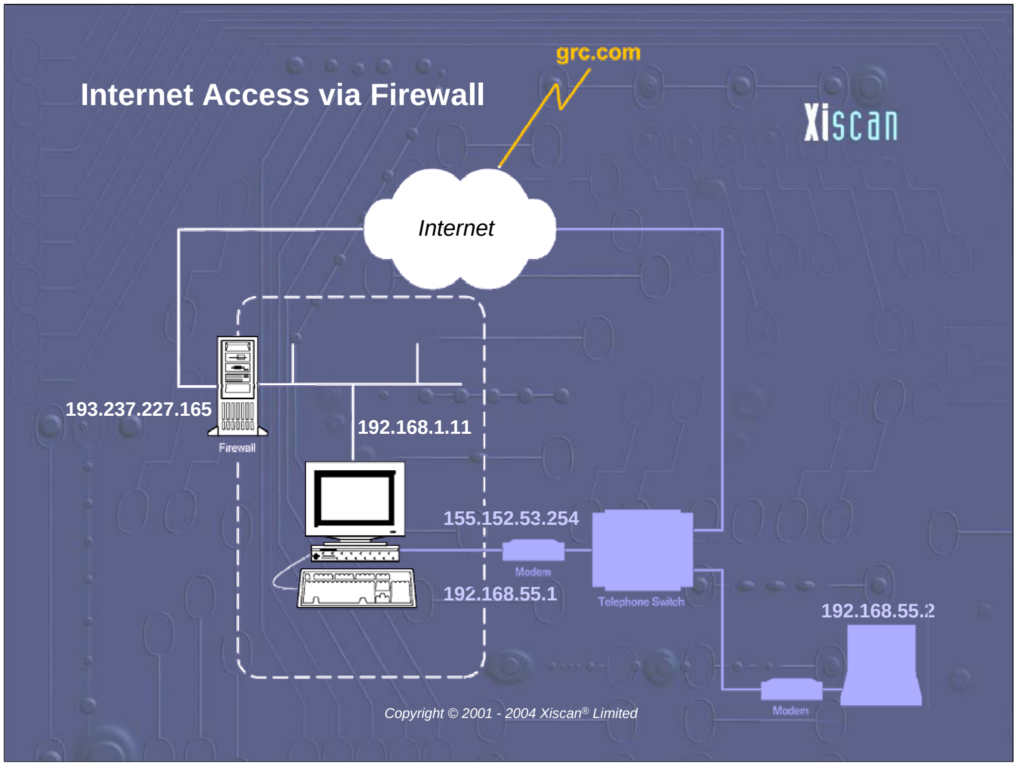
An agreed, unique number used as the basis to identify and communicate with a running program
(e.g. http runs on port 80)

Probe

An interrogation process to determine the programs running on a system (by identifying ‘open’ ports)

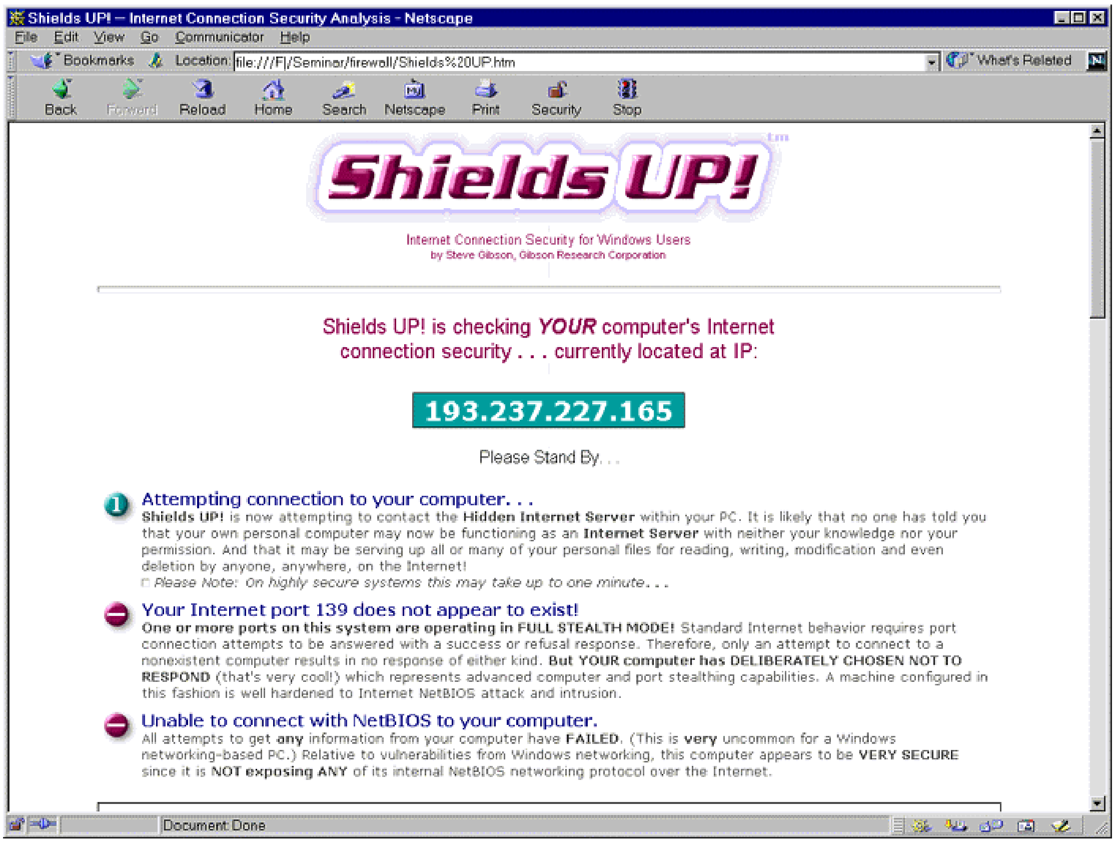
NetBios/NetBEUI

Networking services, often used as a means of sharing resources (such as printers, or disks or folders).



Internet Access via Firewall

Connection through the firewall…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Shields UP!
Document: Done

Internet Connection Security for Windows Users
by Steve Gibson, Gibson Research Corporation

Shields UP! is checking ***YOUR*** computer's Internet connection security . . . currently located at IP:

193.237.227.165

Please Stand By. . .

1 Attempting connection to your computer. . .

Shields UP! is now attempting to contact the **Hidden Internet Server** within your PC. It is likely that no one has told you that your own personal computer may now be functioning as an **Internet Server** with neither your knowledge nor your permission. And that it may be serving up all or many of your personal files for reading, writing, modification and even deletion by anyone, anywhere, on the Internet!

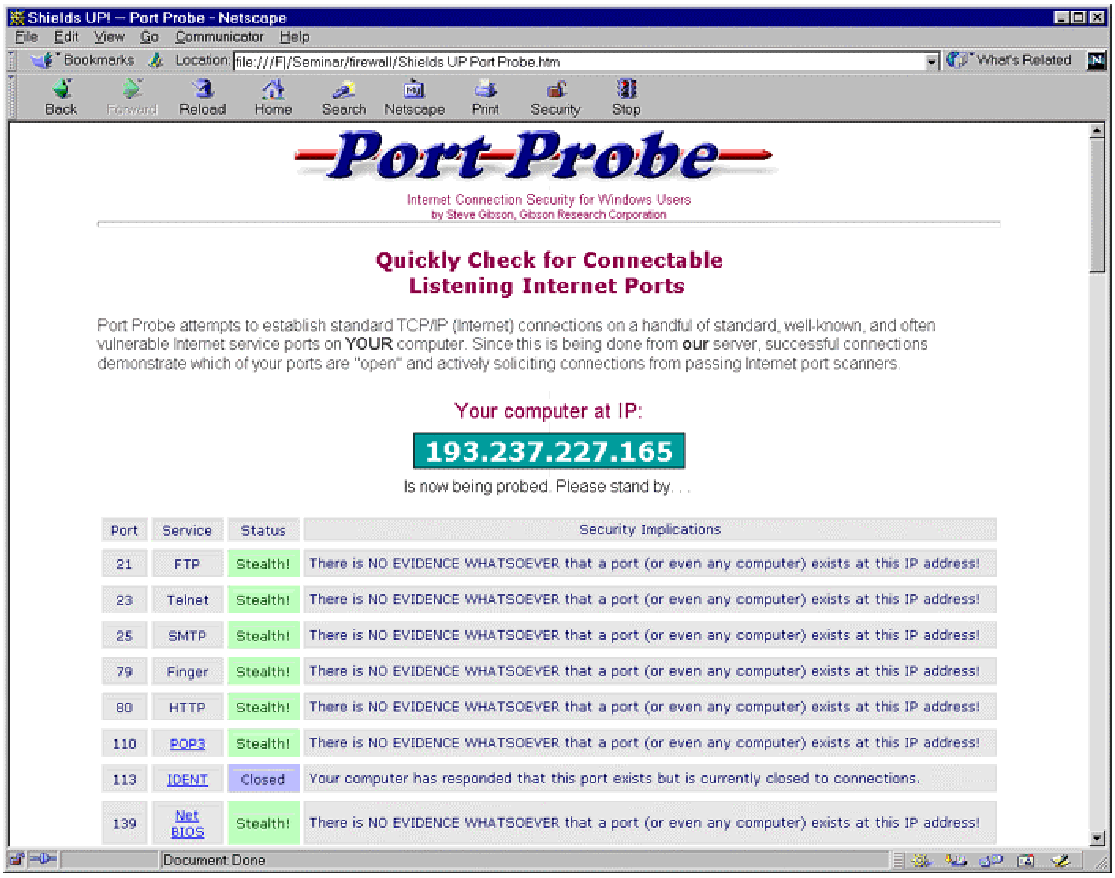
Please Note: On highly secure systems this may take up to one minute. . .

Your Internet port 139 does not appear to exist!

One or more ports on this system are operating in FULL STEALTH MODE! Standard Internet behavior requires port connection attempts to be answered with a success or refusal response. Therefore, only an attempt to connect to a nonexistent computer results in no response of either kind. **But YOUR computer has DELIBERATELY CHOSEN NOT TO RESPOND** (that's very cool!) which represents advanced computer and port stealthing capabilities. A machine configured in this fashion is well hardened to Internet NetBIOS attack and intrusion.

Unable to connect with NetBIOS to your computer.

All attempts to get **any** information from your computer have **FAILED**. (This is **very** uncommon for a Windows networking-based PC.) Relative to vulnerabilities from Windows networking, this computer appears to be **VERY SECURE** since it is **NOT exposing ANY** of its internal NetBIOS networking protocol over the Internet.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What's Related
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Port Probe
Document: Done

Internet Connection Security for Windows Users
by Steve Gibson, Gibson Research Corporation

Quickly Check for Connectable Listening Internet Ports

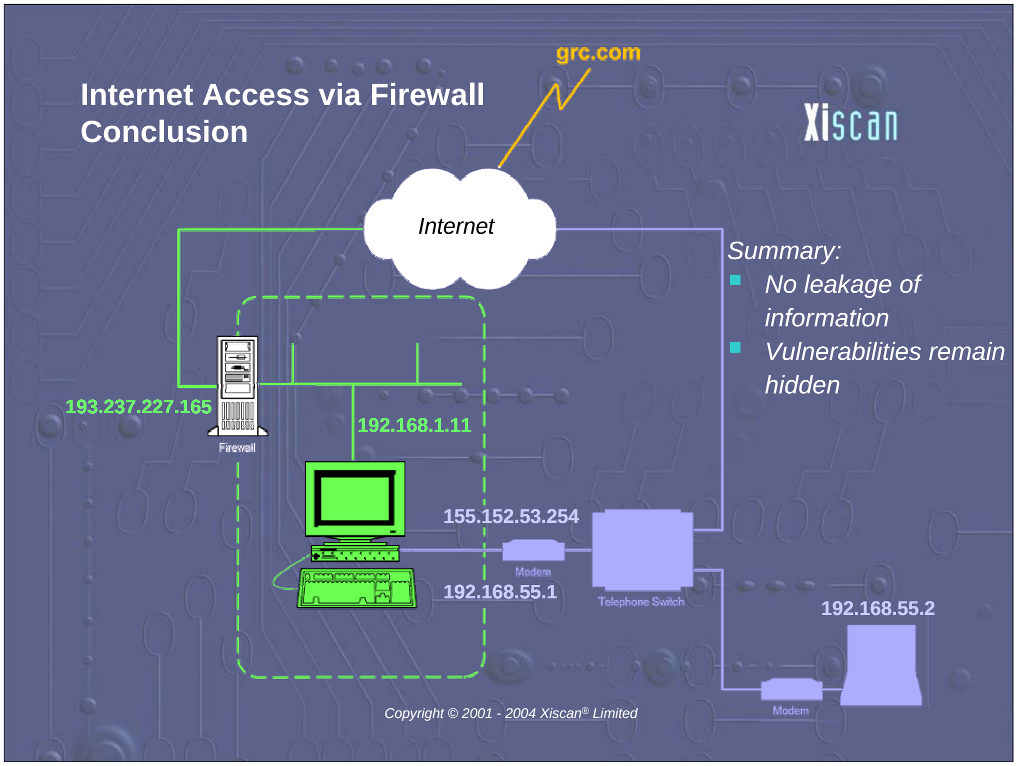
Port Probe attempts to establish standard TCP/IP (Internet) connections on a handful of standard, well-known, and often vulnerable Internet service ports on **YOUR** computer. Since this is being done from **our** server, successful connections demonstrate which of your ports are "open" and actively soliciting connections from passing Internet port scanners.

Your computer at IP:

193.237.227.165

Is now being probed. Please stand by. . .

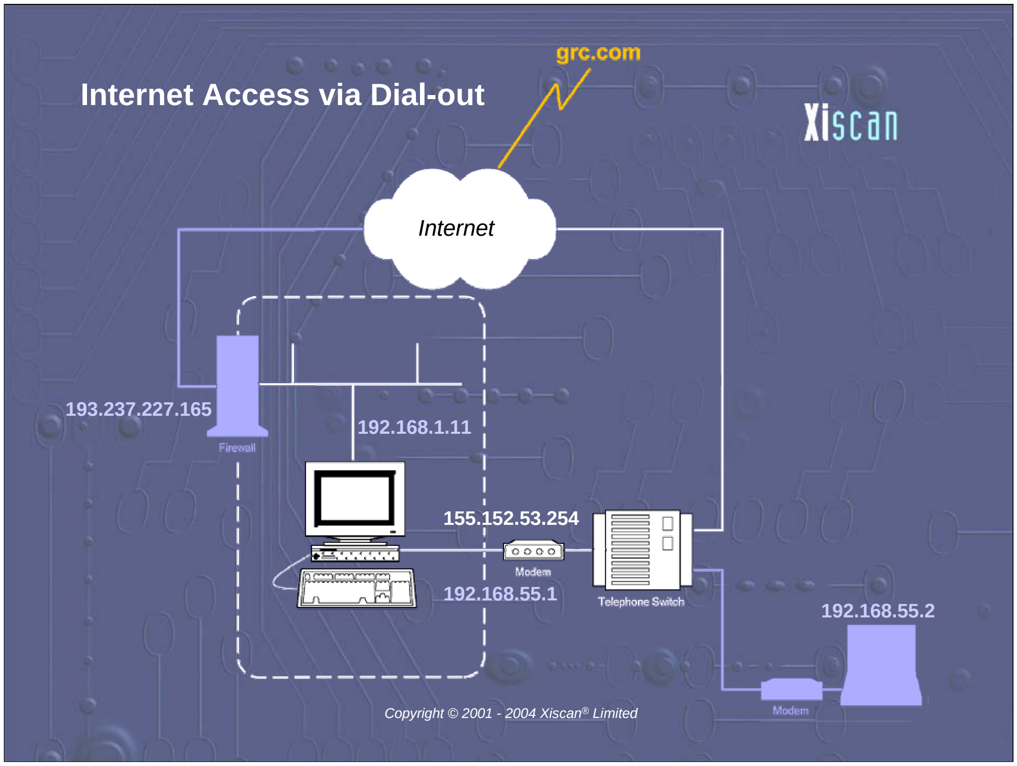
Port	Service	Status	Security Implications
21	FTP	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!
23	Telnet	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!
25	SMTP	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!
79	Finger	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!
80	HTTP	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!
110	POP3	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!
113	IDENT	Closed	Your computer has responded that this port exists but is currently closed to connections.
139	Net BIOS	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!



Internet Access via Firewall Conclusion

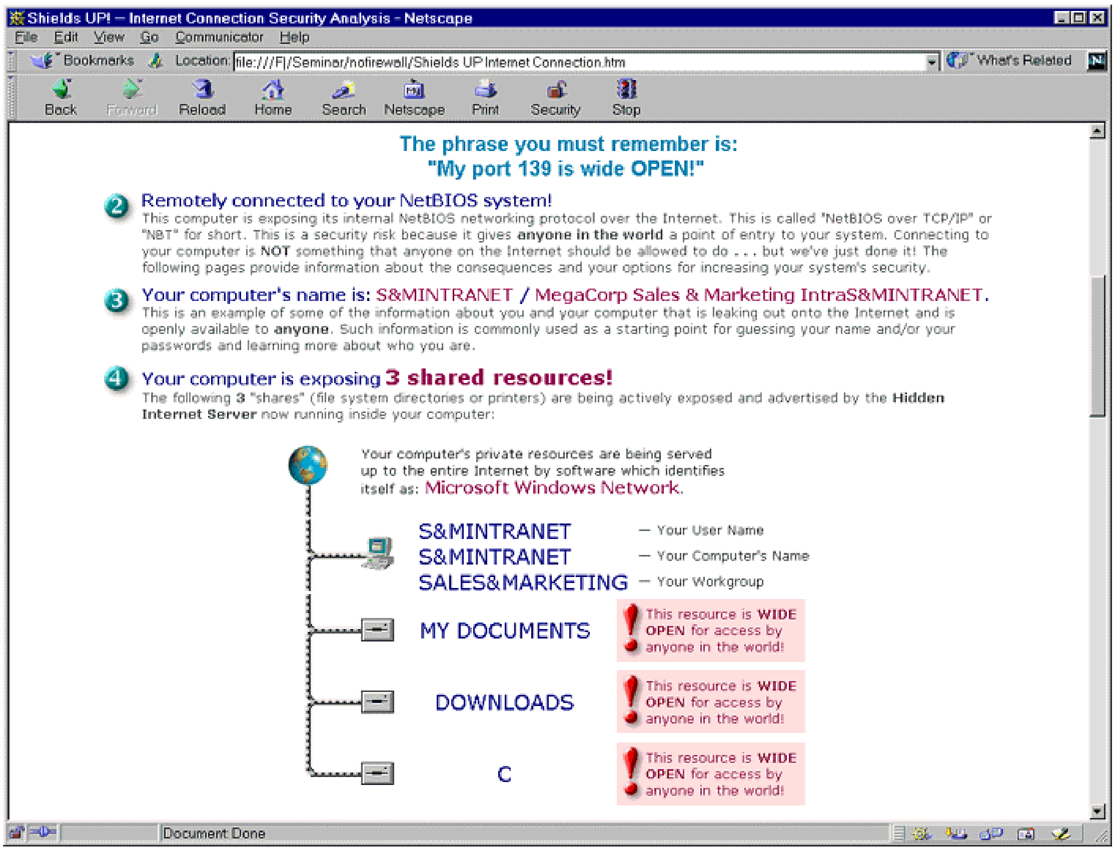
Summary:

- *No leakage of information*
- *Vulnerabilities remain hidden*



Internet Access via Dial-out

Connection through a dial-out connection: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The phrase you must remember is:
"My port 139 is wide OPEN!"

2 Remotely connected to your NetBIOS system!
This computer is exposing its internal NetBIOS networking protocol over the Internet. This is called "NetBIOS over TCP/IP" or "NBT" for short. This is a security risk because it gives **anyone in the world** a point of entry to your system. Connecting to your computer is **NOT** something that anyone on the Internet should be allowed to do . . . but we've just done it! The following pages provide information about the consequences and your options for increasing your system's security.

3 Your computer's name is: S&MINTRANET / MegaCorp Sales & Marketing IntraS&MINTRANET.
This is an example of some of the information about you and your computer that is leaking out onto the Internet and is openly available to **anyone**. Such information is commonly used as a starting point for guessing your name and/or your passwords and learning more about who you are.

4 Your computer is exposing **3 shared resources!**
The following **3** "shares" (file system directories or printers) are being actively exposed and advertised by the **Hidden Internet Server** now running inside your computer:

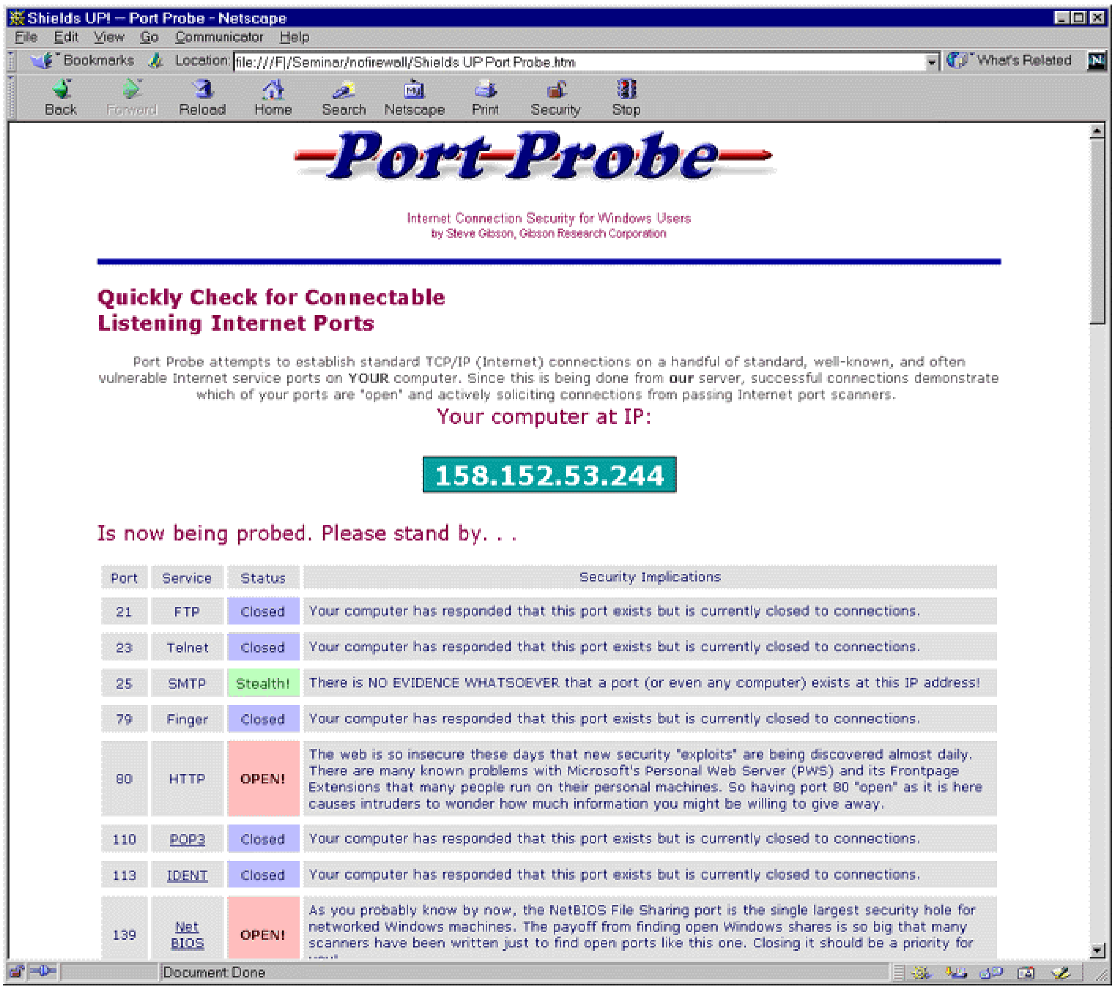
Your computer's private resources are being served up to the entire Internet by software which identifies itself as: Microsoft Windows Network.

S&MINTRANET — Your User Name
S&MINTRANET — Your Computer's Name
SALES&MARKETING — Your Workgroup

MY DOCUMENTS — This resource is **WIDE OPEN** for access by anyone in the world!

DOWNLOADS — This resource is **WIDE OPEN** for access by anyone in the world!

C — This resource is **WIDE OPEN** for access by anyone in the world!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Port Probe

Internet Connection Security for Windows Users
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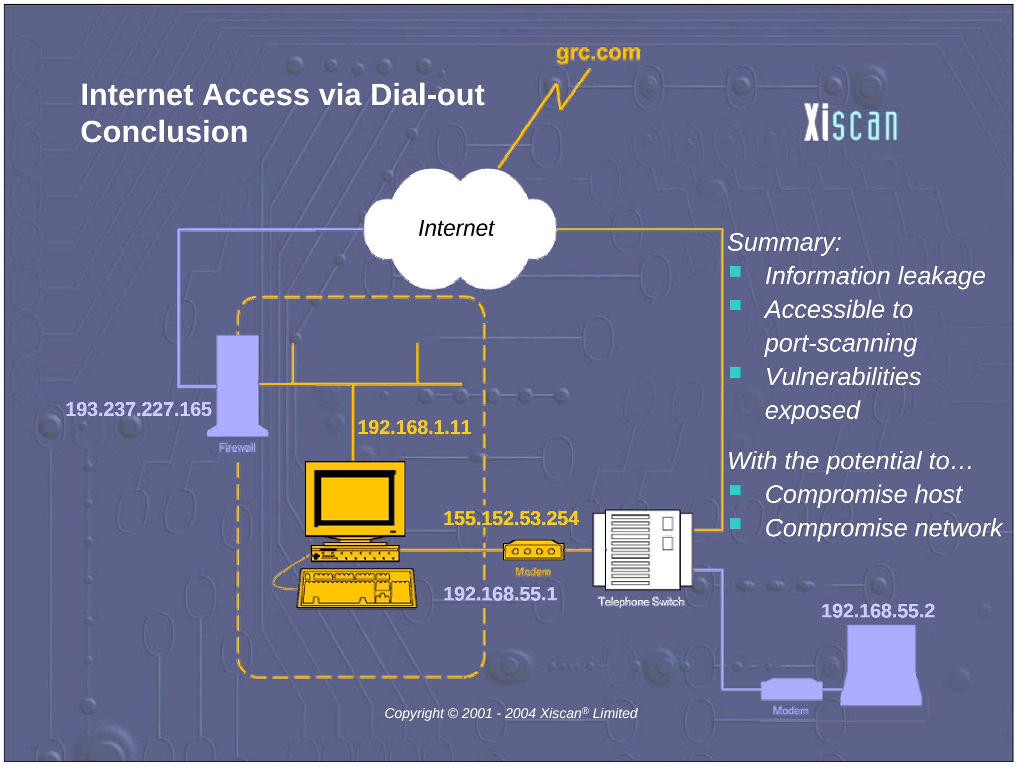
Your computer at IP:

158.152.53.244

Is now being probed. Please stand by. . .

Port	Service	Status	Security Implications
21	FTP	Closed	Your computer has responded that this port exists but is currently closed to connections.
23	Telnet	Closed	Your computer has responded that this port exists but is currently closed to connections.
25	SMTP	Stealth!	There is NO EVIDENCE WHATSOEVER that a port (or even any computer) exists at this IP address!
79	Finger	Closed	Your computer has responded that this port exists but is currently closed to connections.
80	HTTP	OPEN!	The web is so insecure these days that new security "exploits" are being discovered almost daily. There are many known problems with Microsoft's Personal Web Server (PWS) and its Frontpage Extensions that many people run on their personal machines. So having port 80 "open" as it is here causes intruders to wonder how much information you might be willing to give away.
110	POP3	Closed	Your computer has responded that this port exists but is currently closed to connections.
113	IDENT	Closed	Your computer has responded that this port exists but is currently closed to connections.
139	Net BIOS	OPEN!	As you probably know by now, the NetBIOS File Sharing port is the single largest security hole for networked Windows machines. The payoff from finding open Windows shares is so big that many scanners have been written just to find open ports like this one. Closing it should be a priority for



Internet Access via Dial-out Conclusion

Summary:

- *Information leakage*
- *Accessible to port-scanning*
- *Vulnerabilities exposed*

With the potential to…

- *Compromise host*
- *Compromise network*

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What kind of information leaks out?:

- *User name*
- *Computer name*
- *Workgroup*
- *Organisation*
- *Shared directories*
- *Network protocols*