# Global Information Assurance Certification Paper

Capitol SANS
GIAC
Intrusion Detection Practical Assignment

Name: Chan Lee
Date: February 20, 2001

# ASSIGNMENT 1 – NETWORK DETECTS

## Attack 1

### Network Detect:

```
Scan report: slip139-92-139-249.stp.ru.ibm.net [139.92.139.249].
===================== 1/2/01 PST (GMT -8)===============
(335): 12:32:27 src slip139-92-139-249.stp.ru.ibm.net s_port 2528 dst
  aaa.bbb.ccc.0 TCP 3389
(346): 12:32:27 src slip139-92-139-249.stp.ru.ibm.net s_port 2539 dst
  aaa.bbb.ccc.11 TCP 3389
(347): 12:32:27 src slip139-92-139-249.stp.ru.ibm.net s_port 2540 dst
  aaa.bbb.ccc.12 TCP 3389
(348): 12:32:27 src slip139-92-139-249.stp.ru.ibm.net s_port 2541 dst
  aaa.bbb.ccc.13 TCP 3389
(349): 12:32:27 src slip139-92-139-249.stp.ru.ibm.net s_port 2542 dst
  aaa.bbb.ccc.14 TCP 3389
...
(840): 12:33:00 src slip139-92-139-249.stp.ru.ibm.net s_port 3034 dst
  aaa.bbb.ccd.250 TCP 3389
(841): 12:33:00 src slip139-92-139-249.stp.ru.ibm.net s_port 3035 dst
  aaa.bbb.ccd.251 TCP 3389
(842): 12:33:00 src slip139-92-139-249.stp.ru.ibm.net s_port 3036 dst
  aaa.bbb.ccd.252 TCP 3389
(843): 12:33:00 src slip139-92-139-249.stp.ru.ibm.net s_port 3037 dst
  aaa.bbb.ccd.253 TCP 3389
(844): 12:33:00 src slip139-92-139-249.stp.ru.ibm.net s_port 3038 dst
 aaa.bbb.ccd.254 TCP 3389
```

### Source of Trace:

The source of the trace is http://www.sans.org/y2k/010901-1300.htm.

### Detect was generated by:

This detect seems to be from an IDS like Snort. The format is as follows:

> (***AlertIDNumber***): ***Time*** src ***ResolvedSourceIP*** s_port ***SourcePort*** dst ***DestinationSourceIP DestinationPortNumber***

### Probability that the source address was spoofed:

Likely. This targeted scan for port 3389 seems to have been conducted for reconnaissance purposes; however, the host name itself, slip139-92-139-249.stp.ru.ibm.net advertises its function, ip address, and organization name. If the source address is not spoofed, the attacker is making himself extremely visible (he may be a novice attacker). However, there is a possibility that the source is spoofed. The

host, slip139-92-139-249.stp.ru.ibm.net, may have been compromised by the attacker via a trojan, to execute the scans and to bounce the responses of the scan back to the attacker himself. This seems like a viable possibility since the source host seems to be a SLIP server that users may dial into to connect to the network by dial-up.

**Description of the attack:**

CVE Number: CVE-2000-1149
The attack is a scan for port 3389. Microsoft's Transaction server uses this port. There is a known buffer overflow vulnerability in Microsoft's Transaction server (http://www.microsoft.com/TechNet/security/bulletin/MS00-087.asp). If an attacker finds a host running Microsoft Terminal Server without the patch, the attacker can execute any code on the Terminal Server. For example, he would be able to add, change, or delete data, run code already on the server, or upload and run new code on it as well.

**Attack Mechanism:**

If an attacker finds a host running Microsoft Terminal Server without the patch, the attacker can execute any code on the Terminal Server. For example, he would be able to add, change, or delete data, run code already on the server, or upload and run new code on it as well.
The vulnerability lies in an unchecked buffer where Windows NT 4.0 Terminal Server handles the user name when the user logs onto the server. The unchecked buffer is vulnerable to a buffer overrun attack to run arbitrary code on the machine.

**Correlations:**

Reading through the SANS Windows Security Digest at http://www.sans.org/newlook/digests/ntarchives/113000.htm, it reports that the organization Core-SDI has discovered this vulnerability, and provides links for a fix and other links for additional information.

Also, port 3389 is on the list of "Top Ports" for 1/3/01, which implies that one should watch for traffic to 3389 carefully.

**Evidence of active targeting:**

There is no active targeting in this scan. However it is obvious, that the attacker is targeting a specific port. The attacker is using an automated scanning tool (the source port numbers increase sequentially and the times are very close together) to step through a set of IP addresses consecutively. The destination IP addresses increase by one. There is no attempt to throw off IDS's by scanning IP addresses in a random-like order.

**Severity:**

Criticality=4

I chose this value, because the target of the scan was a Windows Terminal Server. Although it is just a mere scan, if the attacker was lucky and did find a host running a Terminal Server, the exploit could be quite dangerous.

Lethality=5

If a Terminal Server is found, the attacker could introduce code that could take any action on the server with Administrator privileges.

System=5

This vulnerability is present only on hosts that run Windows NT 4.0 Terminal Server. There is a patch available, and I am assuming that all NT Terminal Server's have the patch. It is not certain whether there was a NT Terminal Server at all in the target network.

Net=4

I am assuming that the target network has a restrictive firewall with some external connections. A firewall can block this attack from being exploited over the Internet.

Severity = (4+5) – (5+4) = 0

**Defensive recommendation:**

The administrator of the target network should first see if they have any Windows NT Terminal Servers running. If so, the administrator should first filter TCP port 3389 and only allow traffic on that port from legitimate IP addresses that need to set up Terminal Server sessions. While that is in place, the administrator should download the patch available for the Windows NT Terminal Server.

**Multiple Choice Question:**

In the scan above, what detail could lead you to believe that the source IP was spoofed?

a) the destination port
b) the pattern of the source ports
c) the resolved hostname of the source ip
d) the rate at which the scan was done

Answer: C

## Attack 2

**Network Detect:**

```
Jan 09 12:55:52 [firewall.ip.address] %PIX-2-106001: Inbound TCP
connection
  denied from cidr.net.addr.97/35394 to cidr.net.addr.98/23
  flags SYN  on interface outside
Jan 09 12:55:54 [firewall.ip.address] %PIX-2-106001: Inbound TCP
connection
  denied from cidr.net.addr.97/35394 to cidr.net.addr.98/23
  flags SYN  on interface outside
Jan 09 12:55:58 [firewall.ip.address] %PIX-2-106001: Inbound TCP
connection
  denied from cidr.net.addr.97/35394 to cidr.net.addr.98/23
  flags SYN  on interface outside
Jan 09 12:56:06 [firewall.ip.address] %PIX-2-106001: Inbound TCP
connection
  denied from cidr.net.addr.97/35394 to cidr.net.addr.98/23
  flags SYN  on interface outside
```

**Source of Trace:**

The source of the trace is from: http://sans.org/y2k/011901.htm

**Detect was generated by:**

This detect was from a PIX firewall. The format is as follows:

***Month Day Time*** [***Firewall IP Address***] %PIX-2-106001: ***Incident*** from ***SourceIP***/***SourcePort*** to ***DestinationIP***/***DestinationPort*** flags ***TCPflags*** on interface ***LocationofIncident(Inside/Outside)***

**Probability the source address was spoofed:**

The source was spoofed.

**Description of the attack:**

CVE Number:
If the target host was a Windows NT machine then CVE-2000-0328 would apply.

The attacker spoofed the source IP in hopes to establish a telnet session with a host inside the firewall by pretending to be a host in the same subnet. The attacker probably used a spoofing tool or another hacking tool with a spoofing function to spoof the source IP.

**Attack Mechanism:**

I can only speculate what the attacker was attempting. The attacker may have been a disgruntled employee of the organization and had an ftp account or knew of another ftp account. If the attacker was successful in getting past the firewall (which he was not), the attacker could have ran a DOS on the host with the IP of cidr.net.addr.97 busy with a SYN flood. While cidr.net.addr.97 is kept busy, the attacker could have used the spoofed telnet attempts (with the DOS victim's IP address) shown above to establish a telnet session with cidr.net.addr.98. The attacker would also have to correctly guess the corresponding sequence numbers for the attack to work. The attacker would be doing this attack blindly, because he would not be receiving the responses to the spoofed SYN requests he is sending.

Also, another possibility is that the attacker was assuming that there was a telnet session existing between cidr.net.addr.97 and cidr.net.addr.98. It could be possible that the attacker may have been a disgruntled employee that left a telnet session running between the two hosts to hijack the session later. Then the attacker could have used hi-jack tools like Hunt, Juggernaut, T-sight, and IP-watcher to hi jack the telnet session.

A good resource for session hi-jacking I found was "What's Luring in the Ether" at http://www.sans.org/infosecFAQ/firewall/ethernet.htm.

**Correlations:**

Jose Nazario, in the GIAC report of November 9,2000, reported that he experienced attempted Hunt-style hijacks. http://www.sans.org/y2k/110900-1300.htm

**Evidence of active targeting:**

Yes. There was only one host that was targeted and only the attacker tried to only connect to the ftp port on that host.

**Severity:**

Criticality=3

I chose this value, because the attacker was looking for a target that he/she could telnet to. This could be any Unix/Linux/Solaris machine or a Windows machine running a telnet server.

Lethality=5

If the attacker was successful in executing a telnet hijack, the attacker could introduce backdoors into the targeted host and infect other hosts on the network as well.

System=4

This attack is a bit difficult to run successfully on modern machines when you try to guess the sequence numbers. However, if the attacker was using a hi-jack tool like Hunt, odds do improve, because it uses a combination of more sophisticated means like ARP spoofing to hi-jack the session.

Net=4

I am assuming that the target network has a restrictive firewall with some external connections. A firewall that blocks inbound FTP requests (such as the one in this trace) can block this attack from being exploited over the Internet.

Severity = (3+5) – (5+4) = -1

**Defensive recommendation:**

Defenses are fine, the attack was successfully blocked by the firewall. I would monitor the telnet ports to see if subsequent attacks with spoofed source IPs occur.

**Multiple Choice Question:**

According to the trace above, which of the following are true?

a) ingress filtering was used on port 23
b) the packets were crafted by a tool
c) someone in the target organization was trying to start a telnet session with a host that does not run telnet
d) all of the above

Answer: a and b

## Attack 3

**Network Detect:**

```
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.44.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.45.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.46.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.47.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.48.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.49.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.51.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.52.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.53.9704  F
15 Feb 01 18:18:52      tcp    211.46.7.194.9704   ?>
130.216.2.55.9704  F

Source: 211.46.7.194
Ports: tcp-9704
Incident type: Network_scan
re-distribute: yes
timezone: UTC + 1300
reply: no
Time: Thu 15 Feb 2001 at 05:18 (UTC)
```

**Source of the Trace:**

The source of the trace is: http://www.sans.org/y2k/021701.htm

**Detect was generated by:**

This detect was probably generated by an IDS or a packet filter. The format is as follows:

***Day Month Year Time Protocol SourceIP.SourcePort*** ?> ***DestinationIP.DestinationPort TCPFlag(s)***

**Probability the source address was spoofed:**

Somewhat likely. I looked up the source IP address, 211.46.7.194, on whois, and it was not able to resolve a domain name for it. The attacker may have placed a network sniffer

on the network that the host 211.46.7.194 is on, and could be sniffing the scan responses. That way, the attacker does not make himself visible as the originator of the scan.

Quite simply, it could also be a person just carelessly conducting a scan for port 9704, to see if any Linux hosts on the net that may have been already compromised by the RPC stat exploit to possibly reap the benefits of another hacker's labor.

**Description of the attack:**

CVE Number: CAN-2000-0666

This attack uses a vulnerability in rpc.statd in hosts running Linux. The CVE description for this vulernability states that "in rpc.statd in the nfs-utils package in various Linux distributions does not properly cleanse untrusted format strings, which allows remote attackers to gain root privileges."

**Attack Mechanism:**

The attacker targets hosts that are running Linux, and then executes a script that runs the exploit on these hosts sending commands to append a line (with root privilege) to inetd.conf for starting a shell on port 9704 and restarting inetd. The attacker can then, at another time, enter through the shell to continue his attack or he can start covering up his tracks.

Also, it should be noted that FINs were used rather than SYNs. This may have been done to improve the probability of getting a response back from the scanned hosts.

In my research, the best explanation is given by Joakim Bergkvist at http://www.sans.org/y2k/082200.htm.

**Correlations:**

Joakim Bergkvist has been a victim of this exploit and has described how the attack occurs at http://www.sans.org/y2k/082200.htm.

Laurie@edu has also submitted a similar scan for port 9704 at http://www.sans.org/y2k/102700.htm.

This attack has also been seen in other forums as well:
http://lists.insecure.org/incidents/2000/Sep/0054.html
www.securityfocus.com (searchword = port 9704)

**Evidence of active targeting:**

No. There was no active targeting. The attacker was trying to see if any hosts had been compromised by the rpc statd exploit. Port 9704 was consistently targeted in every packet.

**Severity:**

Criticality=3

I chose this value, because the attacker was looking for any Linux host. It could be various distributions of Linux. It is not certain if the attacker was targeting a Linux server or just a Linux workstation.

Lethality=5

If the attacker was successful in finding a host that had been compromised already by the exploit, the attacker could then enter through the created shell and continue his damage on the compromised host and begin to infect other hosts as well.

System=4

It is quite possible to have a vulnerable Linux system. Joakim Bergkvist specifically mentions Linux Redhat 6.x machines, and the CVE description mentions "various" Linux distributions.

Net=4

I am assuming that the target network has a restrictive firewall with some external connections. You can block port 9704 to prevent anyone from connecting to this port from the Internet.

Severity = (3+5) – (4+4) = 0

**Defensive Recommendation:**

I recommend getting the fix for the vulnerability for the specific version of Linux that is used. Also, as a safety precaution, I also recommend blocking port 9704.

**Multiple Choice Question:**

According to the scan above, which of the following are true:

a) a script or tool was used to generate the packets
b) the source host is disconnecting its connections with the target hosts
c) the attacker is scanning for a compromised host that has a port listening on port 9704
d) all of the above

Answer: a and c

## Attack 4

**Trace:**

```
Nov 23 09:49:59 199.239.94.98:1116 -> 192.169.1.11:515 SYN **S*****
Nov 23 09:49:59 199.239.94.98:1117 -> 192.169.1.12:515 SYN **S*****
Nov 23 09:49:59 199.239.94.98:1118 -> 192.169.1.13:515 SYN **S*****
Nov 23 09:49:59 199.239.94.98:1250 -> 192.169.1.145:515 SYN **S*****
Nov 23 09:49:59 199.239.94.98:1253 -> 192.169.1.148:515 SYN **S*****
Nov 23 09:49:59 199.239.94.98:1254 -> 192.169.1.149:515 SYN **S*****
Nov 23 09:49:59 199.239.94.98:1119 -> 192.169.1.14:515 SYN **S*****

....

Nov 23 09:51:13 199.239.94.98:2436 -> 192.169.99.88:515 SYN **S*****
Nov 23 09:51:13 199.239.94.98:2437 -> 192.169.99.89:515 SYN **S*****
Nov 23 09:51:13 199.239.94.98:2438 -> 192.169.99.90:515 SYN **S*****
Nov 23 09:51:13 199.239.94.98:2439 -> 192.169.99.91:515 SYN **S*****
Nov 23 09:51:13 199.239.94.98:2440 -> 192.169.99.92:515 SYN **S*****
Nov 23 09:51:13 199.239.94.98:2442 -> 192.169.99.94:515 SYN **S*****
Nov 23 09:51:13 199.239.94.98:2447 -> 192.169.99.99:515 SYN **S*****
```

**Source of Trace:**

The source of this trace is from Assignment 2 of this practical assignment. Specifically it is from a concatenated file of all the scan files that are in snorts.zip. To concatenate all the scan files I ran the following command:

Grep –h '^[SON][eco][ptv]' SnortSca.txt SnortS[0-9]*.txt >allscans.txt

Then I changed the "MY.NET" in the file to "192.169" by issuing the following command:

Sed –e 's/MY.NET/192.169/g' allscans.txt >allscans2.txt

To obtain the trace above I execute the following command:

Grep ':515 ' allscans2.txt | grep '199.239.94.98' | sort –u +5 > scan199-239-94-98

**Detect was generated by:**

The Snort Intrusion Detection System. The format is as follows:

***Month Day Time SourceIP*** : ***SourcePort*** -> ***DestinationIP*** : ***DestinationPort TCPFlags***

**Probability that the source was spoofed:**

Somewhat likely. I performed a whois on the source IP address, and it was unable to resolve a domain name for it. Another reason why I think this source IP may be spoofed is because this was a pretty large scan. There were a total of 4,719 hosts scanned in little over a minute. Any IDS would pick this scan up, and the attacker used ordinary SYNs to perform the scan. This makes the attacker highly visible if the source was not spoofed.

Then again, it could just be someone just trying out a scanning tool he/she just downloaded for the first time.

**Description of the attack:**

CVE Number: CVE-2000-0917

The attack is a scan for port 515, which is where the UNIX LPR and LPRng services run. SANS has reported that are advisories released concerning LPR service vulnerabilities, for many varities of Linux and for the other UNIX BSD varieties. That report is found at: http://www.sans.org/newlook/alerts/port515.htm.

**Attack Mechanism:**

LPRng, which is a common replacement to the BSD lpd printing service, contains a missing format-string argument in at least two calls to the syslog function. These missing strings in function calls allow an attacker to supply damaging code to a susceptible snprintf() function call. The attacker can further overwrite memory of the printer service's address space and run arbitrary code.

A good discussion of this attack can be found at:

http://s1.red.cert.org/advisories/CA-2000-22.html

**Correlations:**

In November, scans were on the rise for port 515, and SANS issued an Alerts and Analysis article: http://www.sans.org/newlook/alerts/port515.htm

On the SANS website, there is an excellent full-featured document on a successful compromise of a Redhat 7 machine using the LPRng exploit giving the attacker root access. The article is named "The Compromise" and can be found at: http://www.sans.org/y2k/the_compromise.htm

Laurie@edu had a scan also on port 515, and is shown at: http://www.sans.org/y2k/111000-1200.htm

**Evidence of active targeting:**

No. Over 4,719 hosts were scanned in a little over a minute. It appears the attacker was doing broad reconnaissance to see if any hosts had port 515 listening.

**Severity:**

Criticality=3

I chose this value, because the attacker was looking for any Linux/BSD host running the LPRng service. It could be various distributions of Linux or BSD. If the LPRng service was running on a machine that also had other servers (i.e. DNS, FTP, etc) the criticality would be more severe.

Lethality=5

If the attacker was successful in finding a host that had the LPRng service with the vulnerability (versions before LPRng 3.6.25), he/she would be able to gain root access and the fun begins for the attacker. As documented in "The Compromise", the attacker could then connect to another machine to download various things like backdoor programs, a sniffer, a rootkit, etc.

System=4

It is quite possible to have a vulnerable Linux system. The CERT Advisory mentioned previously mentions that the LPRng is a "popular replacement software package to the BSD lpd printing service".

Net=4

I am assuming that the target network has a restrictive firewall with some external connections. You can block port 515 to prevent anyone from connecting to this port from the Internet.

Severity = (3+5) – (4+4) = 0

**Defensive Recommendations:**

You should obtain a patch from your specific vendor. A list of vendors and their patch sites are given on the CERT advisory page at:

http://s1.red.cert.org/advisories/CA-2000-22.html.

Also, as a precaution monitor any traffic to port 515 with an IDS, and block inbound connection attempts to port 515 at the firewall.

**Multiple choice question:**

From the trace shown above, what can be concluded?

a) there is evidence of active targeting
b) the attacker is using a stealth scan
c) the attacker is looking for hosts with the LPRng vulnerability
d) the attacker is using a scanning tool

Answer: c and d

# Assignment 2

## Overview defining the data

My organization was given about a month's worth of data from GIAC Enterprise's SNORT logs. We were given three types of SNORT logs: alert logs, scan logs, and OOS logs. All the files were saved as text files (*.txt).

The following chart describes the data we used to perform the analysis.

| SNORT File Type | Number of Files | Dates Covered |
|---|---|---|
| Alert Files | 54 | 9/26-11/22 |
| Scan Files | 42 | 9/27-11/23 |
| OOS Files | 19 | 8/17, 10/1-11/23 |

*NOTE: The data is not continuous. As explained in the instructions for Assignment 2, from time to time the power failed or the disk was full so we do not have data for all days.

## List of Detects Prioritized By Number of Occurrences

The following table lists the attacks and the number of occurrences.

| Attack | Frequency (# of occurrences) |
|---|---|
| SYN-FIN scan | 56250 |
| Watchlist 000220 IL-ISDNNET-990517 | 30998 |
| Spp_portscan: (only portscan status counted) | 27572 |
| Watchlist 000222 NET-NCFC | 8166 |
| WinGate 1080 Attempt | 4802 |
| TCP SMTP Source Port Traffic | 2893 |
| Attempted SUN RPC highport access | 2542 |
| Broadcast Ping to subnet 70 | 1813 |
| Back Orifice | 1697 |
| SNMP public access | 468 |
| Null Scan | 283 |
| SMB Name Wildcard | 218 |
| Queso fingerprint | 142 |
| NMAP TCP Ping | 96 |
| SUNRPC highport access | 60 |
| Connect to 515 from inside | 56 |
| Probable NMAP fingerprint attempt | 15 |
| External RPC Call | 13 |
| SITE EXEC – Possible wu-ftpd exploit | 7 |
| Tiny Fragments-Possible Hostile Activity | 7 |
| site exec-Possible wu-ftpd exploit | 6 |
| Happy 99 Virus | 2 |

## Description of Attacks

**SYN-FIN scan**: This type of scanning uses an impossible flag combination to probe target hosts for listening ports. These packets are crafted by a scanning tool, because normal packets will never have both the SYN and FIN bits set simultaneously. This scan can be used to possibly avoid detection of IDS systems that only look for SYN only connections. Also Linux will give a distinct response to a SYN-FIN packet ( a SYN-FIN-ACK) that will clue the attacker that the target is a Linux host.

**Spp_portscan**: A scan that is conducted to see what ports are open on a host or a variety of hosts.

**Watchlist 000220 IL-ISDNNET-990517 & Watchlist 000222 NET-NCFC**: The watchlist contains IP addresses that have a record of unusual activity. We had quite a number of alerts from both watchlists.

**WinGate 1080 Attempt**: Port 1080 is a common port for Wingate to operate on. Vulnerabilities with certain versions of WinGate have been found where it allows an attacker to access the Wingate server hard disk.

**TCP SMTP Source Port Traffic**: Both the source port and the destination port is 25 in this alert. The source port is usually one of the higher ephemeral ports. Since the source port is 25, the packet could possibly be crafted.

**Attempted SUN RPC highport access:** Remote Procedure Calls (RPC) allow a user (or an attacker) to execute programs on another computer. There have been multiple vulnerabilities reported that have been widely exploited. It is one of SANS Top ten Threats.

**Broadcast Ping to subnet 70:** A broadcast ping is usually performed to receive an ICMP Echo Response from every host on the subnet (particularly subnet 70). If enough of these broadcast pings are sent, a possible ICMP flood could choke the network bandwidth.

**BackOrifice**: A very common remote administration program used as a trojan horse for Windows hosts. Attacks usually scan for the port BackOrifice listens on, port 31337. If BackOrifice is running on a host, and an attacker finds it, the attacker can connect to it using the Back Orifice client and basically take over the host to do a countless number of evils.

**SNMP public access:** SNMP consists of two parts: the SNMP manager and the SNMP agent. The SNMP manager retrieves configuration and performance counter information from the agents by issuing "get" commands, and they can also change a network element's configuration by issuing "set" commands. SNMP's authentication is accomplished through the use of a community string. Unfortunately, this community string is often set by default to a predictable string. The most common string for reads is "Public", and the most common string for writes is "Private". Since these read and write community strings are so common, it is easy for an attacker to exploit SNMP. The attacker can do much reconnaissance or change settings in network elements as well. According to SANS Top Ten Threats, default SNMP is number 10.

**Null Scan:** This type of scan has none of the tcp flag bits set. Null scans can be used to map out a network.

**SMB Name Wildcard:** The SMB Wildcard is a Netbios name query and this is a sign that an attacker is trying to access a share with poor access control. When improperly configured, sharing via Netbios, can make sensitive information susceptible to an attacker connected to the network. It is written on the SANS top ten list that "When file sharing is enabled on Windows machines they become vulnerable to both information theft and certain types of quick-moving viruses". http://www.sans.org/topten.htm

**Queso Fingerprint:** Queso is a tool that determines the operating system of the target host. It does so by analyzing the responses to impossible packets that Queso sends.

Queso uses destination port 80 by default but it can use other port that is open on the target host. Once the operating system is determined, an attacker can then use the appropriate exploits on the target host.

**NMAP TCP Ping:** NMAP is a versatile and powerful tool to map out a network and to see what services are running on the hosts of the targeted network. The TCP Ping is one of its options to scan what hosts are up on a network as opposed to an ICMP ping.

**SUNRPC highport access:** As mentioned earlier in the description for "Attempted SUN RPC highport access", access to these ports should be closely monitored. This is an alert indicating a SUN RPC port has been accessed; namely 32771.

**Connect to 515 from inside:** Port 515 is where the UNIX LPR and LPRng services run. SANS has reported that are advisories released concerning LPR service vulnerabilities, for many varities of Linux and for the other UNIX BSD varieties. That report is found at: http://www.sans.org/newlook/alerts/port515.htm. An attacker can exploit the string-format vulnerability present in the LPRng service, and potentially gain root access or execute malicious code.

**Probable NMAP fingerprint attempt:** NMAP can also be used to determine with fair accuracy the operating system of the target host. Once the operating system is determined, an attacker can then use the appropriate exploits on the target host.

**External RPC Call:** An external host is attempting to use the RPC services of the target host.

**SITE EXEC – Possible wu-ftpd exploit & site exec-Possible wu-ftpd exploit:** There are several vulnerabilities in wu-ftpd. Wu-ftpd is a common package used for FTP services. For example, wu-ftpd, has a buffer overflow vulnerability due to improper bounds checking. For more information see http://www.cert.org/advisories/CA-1999-13.html.

**Tiny Fragments-Possible Hostile Activity:** Usually the TCP header is 20 bytes long; but there are tools that can craft fragmented packets to bypass firewalls or Intrusion Detection Systems. Tiny packets can also be used for reconnaissance purposes.

**Happy 99 Virus:** The Happy 99 virus is usually attached to an email. When they execute the .exe file, there is a fireworks display to distract the target while the virus infects the target host.

## Top Talker's List:

### Top 30 Alert Destination Ports

The following table displays how frequent connections to specific ports were attempted. These results are from the Alert data files.

Note: To save space only the TOP 30 ports are shown.

| Destination Port | Frequency (# of connection attempts) |
|---|---|
| 21 | 19639 |
| 53 | 18341 |
| 9704 | 14184 |
| 25 | 11053 |
| 6699 | 9764 |
| 4619 | 5734 |
| 4922 | 4813 |
| 1080 | 4812 |
| 27374 | 3577 |
| 6688 | 3295 |
| 32771 | 2602 |
| 31337 | 1697 |
| 4990 | 1459 |
| 1069 | 648 |
| 1255 | 625 |
| 1476 | 579 |
| 6346 | 474 |
| 161 | 468 |
| 4968 | 420 |
| 6700 | 368 |
| 23 | 349 |
| 4410 | 290 |
| 109 | 267 |
| 4752 | 260 |
| 4722 | 257 |
| 4545 | 243 |
| 137 | 218 |
| 4191 | 217 |
| 4519 | 174 |
| 4780 | 163 |

**Top 30 Scanned Destination Ports**

The following table displays how frequent specific ports were scanned. These results are from the Scan data files.

Note: To save space only the TOP 30 ports are shown.

| Destination Port | Frequency (# of times scanned) |
|---|---|
| 21 | 118786 |
| 27374 | 36214 |
| 515 | 25799 |
| 53 | 19521 |
| 9704 | 14168 |
| 98 | 9469 |
| 9088 | 8763 |
| 110 | 8687 |
| 139 | 5648 |
| 113 | 4244 |
| 23 | 3048 |
| 67 | 2297 |
| 19000 | 2081 |
| 1080 | 1897 |
| 31337 | 1219 |
| 5232 | 944 |
| 443 | 358 |
| 1057 | 333 |
| 6699 | 321 |
| 2781 | 317 |
| 1041 | 317 |
| 1162 | 316 |
| 1103 | 284 |
| 3083 | 261 |
| 2183 | 247 |
| 2184 | 239 |
| 2981 | 238 |
| 3111 | 229 |
| 1108 | 208 |
| 2187 | 207 |

**Top 30 Alerting Source Networks**

The following table shows which source networks caused the most network alerts. These results are from the Alert data files. **All 192.169.X.X networks is MY.NET**

Note: To save space only the TOP 30 networks are displayed

| Network Address | Frequency (# of attacks to MY.NET) |
|---|---|
| 24.X.X.X | 144 |
| 63.X.X.X | 71 |
| 159.226.X.X | 45 |
| 62.X.X.X | 39 |
| 64.X.X.X | 29 |
| 193.231.220.X | 19 |
| 205.188.153.X | 17 |
| 192.169.97.X | 16 |
| 193.230.165.X | 14 |
| 192.169.98.X | 14 |
| 194.102.93.X | 12 |
| 216.67.50.X | 11 |
| 193.231.210.X | 10 |
| 192.169.101.X | 9 |
| 216.152.64.X | 8 |
| 194.206.208.X | 8 |
| 4.X.X.X | 8 |
| 212.179.45.X | 7 |
| 203.155.129.X | 7 |
| 217.10.201.X | 6 |
| 216.67.82.X | 6 |
| 193.230.162.X | 6 |
| 12.X.X.X | 6 |
| 151.21.X.X | 5 |
| 148.233.X.X | 5 |
| 38.X.X.X | 5 |
| 213.154.134.X | 4 |
| 213.154.130.X | 4 |
| 212.179.95.X | 4 |
| 212.179.44.X | 4 |

**Top 30 Alerting Destination IPs**

The following table shows which destination IP addresses that had the most attempted connections. These results are from the Alert data files. **All 192.169.X.X IPs are MY.NET.**

Note: To save space only the TOP 30 destination IPs are displayed

| Destination IPs | Frequency (# of Attempted Connections) |
|---|---|
| 192.169.6.7 | 5808 |
| 192.169.211.146 | 4814 |
| 192.169.223.98 | 3940 |
| 192.169.206.90 | 3918 |
| 192.169.203.142 | 1640 |
| 192.169.218.142 | 1463 |
| 192.169.214.170 | 1371 |
| 192.169.100.230 | 1302 |
| 192.169.202.22 | 952 |
| 192.169.201.174 | 803 |
| 192.169.214.74 | 669 |
| 192.169.209.106 | 655 |
| 192.169.221.146 | 639 |
| 192.169.223.254 | 627 |
| 192.169.211.178 | 610 |
| 192.169.253.43 | 589 |
| 192.169.15.215 | 582 |
| 192.169.227.190 | 565 |
| 192.169.101.192 | 561 |
| 192.169.203.206 | 508 |
| 192.169.98.181 | 501 |
| 192.169.221.246 | 490 |
| 192.169.225.58 | 477 |
| 192.169.225.210 | 437 |
| 192.169.220.190 | 435 |
| 192.169.203.118 | 434 |
| 192.169.207.14 | 413 |
| 192.169.206.118 | 374 |
| 192.169.207.158 | 368 |
| 192.169.217.214 | 366 |

## List of Source Addresses and Registration Information

The following table is a list of source IP's to its registered host name. **All 192.169.X.X IPs are MY.NET addresses.**

Note: When the IP address appears in the Host name field, whois was not able to resolve the IP address.

**THIS LIST IS ABOUT 30 PAGES.**

| Source IP | Host Name |
|---|---|
| 12.128.180.45 | 12.128.180.45 |
| 12.30.169.12 | 12.30.169.12 |
| 12.30.169.253 | 12.30.169.253 |
| 12.31.176.55 | 12.31.176.55 |
| 12.34.21.196 | 12.34.21.196 |
| 12.43.88.5 | 12.43.88.5 |
| 127.0.0.1 | lds |
| 128.113.145.105 | shellder-06.dynamic.rpi.edu |
| 128.119.10.51 | wash-51.res.umass.edu |
| 128.148.221.203 | bootp-203.chapin.brown.edu |
| 128.175.109.52 | host109-52.student.udel.edu |
| 128.175.153.19 | host153-19.student.udel.edu |
| 128.175.68.159 | host68-159.student.udel.edu |
| 128.193.136.218 | 128.193.136.218 |
| 128.193.137.38 | trenkelv.RCN.ORST.EDU |
| 128.193.232.142 | shoe.RCN.ORST.EDU |
| 128.194.79.228 | suprma19.resnet.tamu.edu |
| 128.195.229.11 | vp229011.reshsg.uci.edu |
| 128.2.160.98 | DASHOCKADELL.RES.CMU.EDU |
| 128.2.81.133 | 8TH-DWARF.REM.CMU.EDU |
| 128.227.205.209 | torrent.cise.ufl.edu |
| 128.253.247.116 | tls16.resnet.cornell.edu |
| 128.253.97.158 | kcw13.resnet.cornell.edu |
| 128.46.156.117 | csociety-ftp.ecn.purdue.edu |
| 128.54.203.218 | t8kim.resnet.ucsd.edu |
| 128.59.42.191 | dialup-cc3-86.cc.columbia.edu |
| 128.59.42.88 | dialup-1-79.cc.columbia.edu |
| 128.61.56.190 | r56h190.res.gatech.edu |
| 129.101.18.16 | LUKESCOMPUTER |
| 129.123.6.14 | avarice.cass.usu.edu |
| 129.130.193.16 | STUDY5 |
| 129.130.98.92 | rn-098-092.reshall.k-state.net |
| 129.137.222.188 | cahr285.cah.uc.edu |
| 129.186.67.59 | pc116a-09.cs.iastate.edu |
| 129.2.204.249 | 129-2-204-249.student.umd.edu |

| Source IP | Host Name |
|---|---|
| 129.2.243.83 | ruffryder.student.umd.edu |
| 129.2.246.25 | NotRegistered-129-2-246-25.student.umd.edu |
| 129.241.139.224 | s224b.studby.ntnu.no |
| 129.242.219.27 | nonet.td.org.UiT.No |
| 129.37.159.177 | slip129-37-159-177.on.ca.prserv.net |
| 129.49.231.73 | 129.49.231.73 |
| 129.7.141.62 | Dorm-36158.RH.UH.EDU |
| 129.93.198.95 | pcp020104pcs.unl.edu |
| 129.93.206.170 | pcp008790pcs.unl.edu |
| 129.93.211.40 | pcp009539pcs.unl.edu |
| 130.126.211.213 | isr5981.urh.uiuc.edu |
| 130.127.196.96 | WEB3 |
| 130.161.78.55 | sh39k15.jvb.tudelft.nl |
| 130.227.195.57 | KELD |
| 130.231.5.100 | yok5100.oulu.fi |
| 130.239.140.108 | stipgr294.sn.umu.se |
| 130.39.216.104 | spt-4.madstudio.lsu.edu |
| 130.39.251.3 | steele.rurallife.lsu.edu |
| 130.49.86.89 | dhcp86-89.pittsburgh.resnet.pitt.edu |
| 130.75.178.186 | pc10.duese.uni-hannover.de |
| 130.83.253.17 | gw.av.wh.tu-darmstadt.de |
| 130.86.31.21 | station-21.brhlab.csus.edu |
| 130.89.229.162 | cal040012.student.utwente.nl |
| 130.89.229.48 | cal032044.student.utwente.nl |
| 130.91.215.192 | GRT-215-192.RESNET.UPENN.EDU |
| 131.104.254.193 | RN254-193.resnet.uoguelph.ca |
| 131.173.67.58 | 131.173.67.58 |
| 131.204.195.71 | fotifor.resnet.auburn.edu |
| 131.238.3.47 | balintrc.oca.udayton.edu |
| 132.178.218.181 | 132.178.218.181 |
| 132.199.220.223 | rx4016.cip.uni-regensburg.de |
| 132.199.222.167 | rx2077.cip.uni-regensburg.de |
| 132.66.90.64 | ppp-90-064.tau.ac.il |
| 133.46.212.81 | 133.46.212.81 |
| 134.28.73.132 | a301b.whm.tu-harburg.de |
| 134.58.0.50 | nat-50.kulnet.kuleuven.ac.be |
| 134.76.63.97 | stoffel.cweg.stud.uni-goettingen.de |
| 134.88.222.41 | hw00a0d21418a1.res.umassd.edu |
| 137.120.224.68 | campusa0068nuts.unimaas.nl |
| 137.99.152.146 | d152h146.resnet.uconn.edu |
| 138.4.182.14 | 138.4.182.14 |
| 138.88.47.2 | adsl-138-88-47-2.bellatlantic.net |
| 139.130.61.206 | alphac.lnk.telstra.net |
| 139.142.171.16 | sun-171-16.sunwave.net |
| 139.6.22.107 | 05-08.stw1.FH-Koeln.DE |

| Source IP | Host Name |
|---|---|
| 140.186.112.26 | funky.ultrashell.net |
| 141.109.81.131 | CHERRY |
| 141.157.98.201 | adsl-141-157-98-201.bellatlantic.net |
| 141.157.99.21 | adsl-141-157-99-21.bellatlantic.net |
| 141.35.38.164 | ibz-ce01a.verwaltung.uni-jena.de |
| 142.165.32.27 | hss-32-27.sk.sympatico.ca |
| 142.17.160.168 | Studio-229.Etudiants.CUSLM.CA |
| 142.176.103.125 | 142.176.103.125 |
| 143.89.13.3 | ustlnx6.ust.hk |
| 144.132.229.13 | CPE-144-132-229-13.nsw.bigpond.net.au |
| 144.92.245.21 | mirror.sit.wisc.edu |
| 147.163.20.147 | student7.diepa.unipa.it |
| 147.229.100.147 | p3-328A.purk.kn.vutbr.cz |
| 147.46.208.71 | 147.46.208.71 |
| 148.217.14.205 | 148.217.14.205 |
| 148.223.54.176 | du-148-223-54-176.prodigy.net.mx |
| 148.233.161.244 | du-148-233-161-244.prodigy.net.mx |
| 148.233.234.142 | du-148-233-234-142.prodigy.net.mx |
| 148.233.245.203 | du-148-233-245-203.prodigy.net.mx |
| 148.233.52.133 | du-148-233-52-133.prodigy.net.mx |
| 148.233.60.245 | du-148-233-60-245.prodigy.net.mx |
| 148.240.16.23 | dial-148-240-16-23.zone-1.dial.net.mx |
| 149.205.110.45 | HVD |
| 149.99.98.146 | 149.99.98.146 |
| 151.21.170.71 | ppp-71-170.21-151.libero.it |
| 151.21.56.81 | ppp-81-56.21-151.libero.it |
| 151.21.78.248 | ppp-248-78.21-151.libero.it |
| 151.21.79.104 | ppp-104-79.21-151.libero.it |
| 151.21.87.245 | ppp-245-87.21-151.libero.it |
| 151.26.19.249 | ppp-249-19.26-151.libero.it |
| 151.29.211.18 | ppp-18-211.29-151.libero.it |
| 152.2.174.136 | dhcp2168.dhcp.unc.edu |
| 152.66.24.68 | 152.66.24.68 |
| 152.9.54.26 | 152.9.54.26 |
| 155.207.25.68 | transp.topo.auth.gr |
| 157.182.149.108 | bxt3223-108.hrlnet.wvu.edu |
| 157.182.33.208 | brs0331-208.hrlnet.wvu.edu |
| 159.226.111.1 | MAIL |
| 159.226.113.1 | 159.226.113.1 |
| 159.226.114.1 | 159.226.114.1 |
| 159.226.115.1 | 159.226.115.1 |
| 159.226.118.9 | moon.ibp.ac.cn |
| 159.226.120.14 | 159.226.120.14 |
| 159.226.120.19 | 159.226.120.19 |
| 159.226.128.1 | server.shcnc.ac.cn |

| Source IP | Host Name |
|---|---|
| 159.226.144.130 | NS |
| 159.226.157.1 | 159.226.157.1 |
| 159.226.158.188 | 159.226.158.188 |
| 159.226.159.1 | 159.226.159.1 |
| 159.226.159.146 | 159.226.159.146 |
| 159.226.172.136 | 159.226.172.136 |
| 159.226.2.20 | fruits.cnc.ac.cn |
| 159.226.209.2 | apple.cast.ac.cn |
| 159.226.21.3 | 159.226.21.3 |
| 159.226.218.3 | 159.226.218.3 |
| 159.226.22.55 | AILAB-SERVER |
| 159.226.22.59 | 159.226.22.59 |
| 159.226.224.1 | 159.226.224.1 |
| 159.226.228.1 | RED |
| 159.226.23.3 | TEDDY |
| 159.226.247.60 | 159.226.247.60 |
| 159.226.39.1 | 159.226.39.1 |
| 159.226.41.166 | 159.226.41.166 |
| 159.226.41.188 | 159.226.41.188 |
| 159.226.42.9 | 159.226.42.9 |
| 159.226.45.204 | dos204.iphy.ac.cn |
| 159.226.45.3 | aphy.iphy.ac.cn |
| 159.226.45.60 | ssc.iphy.ac.cn |
| 159.226.49.157 | 159.226.49.157 |
| 159.226.5.207 | 159.226.5.207 |
| 159.226.5.222 | 159.226.5.222 |
| 159.226.5.65 | 159.226.5.65 |
| 159.226.5.77 | 159.226.5.77 |
| 159.226.5.83 | 159.226.5.83 |
| 159.226.6.5 | search.cnnic.net.cn |
| 159.226.61.62 | 159.226.61.62 |
| 159.226.63.190 | lcc.icm.ac.cn |
| 159.226.63.200 | 159.226.63.200 |
| 159.226.64.152 | 159.226.64.152 |
| 159.226.66.130 | mail.im.ac.cn |
| 159.226.91.20 | 159.226.91.20 |
| 159.226.92.10 | netlib.amss.ac.cn |
| 160.39.225.142 | dyn-shp-225-142.dyn.columbia.edu |
| 160.78.49.191 | ema.chim.unipr.it |
| 161.142.150.51 | 161.142.150.51 |
| 161.142.194.63 | j49.ptl47.jaring.my |
| 161.184.140.162 | edtn007274.hs.telusplanet.net |
| 161.53.3.211 | 161.53.3.211 |
| 161.53.3.212 | 161.53.3.212 |
| 161.53.3.232 | 161.53.3.232 |

| Source IP | Host Name |
|---|---|
| 161.53.3.236 | 161.53.3.236 |
| 161.58.8.77 | 161.58.8.77 |
| 163.10.19.34 | decanato.exactas.unlp.edu.ar |
| 163.121.213.100 | 163.121.213.100 |
| 164.8.21.101 | 164.8.21.101 |
| 165.138.35.1 | CLEMENS |
| 165.166.177.10 | chatserv.infoave.net |
| 165.230.229.40 | leenap.resnet.rutgers.edu |
| 167.206.202.18 | hicks202-18.optonline.net |
| 168.120.12.33 | digit33.aunet.au.ac.th |
| 168.120.16.155 | 168.120.16.155 |
| 168.120.16.250 | chat.au.ac.th |
| 168.143.29.9 | dparks.clark.net |
| 168.187.27.27 | ppp-27-027.kems.net |
| 168.187.31.42 | WIN98 |
| 168.191.230.220 | sdn-ar-002waseatP180.dialsprint.net |
| 168.191.230.42 | sdn-ar-001waseatP058.dialsprint.net |
| 168.191.250.64 | sdn-ar-001tnnashP104.dialsprint.net |
| 168.191.91.142 | sdn-ar-003florlaP252.dialsprint.net |
| 169.132.154.25 | ppp-25.ts-6.lax.idt.net |
| 169.232.73.204 | s73-204.resnet.ucla.edu |
| 169.233.14.204 | cs-d0716.resnet.ucsc.edu |
| 169.254.184.161 | 169.254.184.161 |
| 172.130.97.123 | AC82617B.ipt.aol.com |
| 172.134.3.235 | AC8603EB.ipt.aol.com |
| 172.141.91.45 | AC8D5B2D.ipt.aol.com |
| 172.142.146.152 | AC8E9298.ipt.aol.com |
| 172.143.182.224 | AC8FB6E0.ipt.aol.com |
| 172.147.75.18 | AC934B12.ipt.aol.com |
| 172.152.112.209 | AC9870D1.ipt.aol.com |
| 172.154.142.141 | AC9A8E8D.ipt.aol.com |
| 172.154.54.107 | AC9A366B.ipt.aol.com |
| 172.157.126.93 | AC9D7E5D.ipt.aol.com |
| 172.160.164.114 | ACA0A472.ipt.aol.com |
| 172.161.70.246 | ACA146F6.ipt.aol.com |
| 172.167.118.229 | ACA776E5.ipt.aol.com |
| 172.177.231.97 | ACB1E761.ipt.aol.com |
| 192.102.197.234 | geo197a.cps.intel.com |
| 192.107.104.122 | 192.107.104.122 |
| 192.116.207.178 | 192.116.207.178 |
| 192.148.174.7 | mailman.globalkey.com |
| 192.169.101.113 | 192.169.101.113 |
| 192.169.101.142 | 192.169.101.142 |
| 192.169.101.145 | 192.169.101.145 |
| 192.169.101.147 | 192.169.101.147 |

| Source IP | Host Name |
|---|---|
| 192.169.101.152 | 192.169.101.152 |
| 192.169.101.153 | 192.169.101.153 |
| 192.169.101.160 | 192.169.101.160 |
| 192.169.101.53 | 192.169.101.53 |
| 192.169.101.89 | 192.169.101.89 |
| 192.169.153.135 | 192.169.153.135 |
| 192.169.179.78 | 192.169.179.78 |
| 192.169.222.42 | 192.169.222.42 |
| 192.169.97.108 | 192.169.97.108 |
| 192.169.97.115 | 192.169.97.115 |
| 192.169.97.120 | 192.169.97.120 |
| 192.169.97.130 | 192.169.97.130 |
| 192.169.97.159 | 192.169.97.159 |
| 192.169.97.171 | 192.169.97.171 |
| 192.169.97.178 | 192.169.97.178 |
| 192.169.97.185 | 192.169.97.185 |
| 192.169.97.189 | 192.169.97.189 |
| 192.169.97.192 | 192.169.97.192 |
| 192.169.97.204 | 192.169.97.204 |
| 192.169.97.205 | 192.169.97.205 |
| 192.169.97.207 | 192.169.97.207 |
| 192.169.97.208 | 192.169.97.208 |
| 192.169.97.215 | 192.169.97.215 |
| 192.169.97.219 | 192.169.97.219 |
| 192.169.98.106 | 192.169.98.106 |
| 192.169.98.109 | 192.169.98.109 |
| 192.169.98.111 | 192.169.98.111 |
| 192.169.98.116 | 192.169.98.116 |
| 192.169.98.122 | 192.169.98.122 |
| 192.169.98.123 | 192.169.98.123 |
| 192.169.98.132 | 192.169.98.132 |
| 192.169.98.141 | 192.169.98.141 |
| 192.169.98.154 | 192.169.98.154 |
| 192.169.98.160 | 192.169.98.160 |
| 192.169.98.165 | 192.169.98.165 |
| 192.169.98.174 | 192.169.98.174 |
| 192.169.98.191 | 192.169.98.191 |
| 192.169.98.197 | 192.169.98.197 |
| 192.206.151.152 | tweety.tgrace.com |
| 192.216.128.28 | protege.linkline.com |
| 193.11.234.79 | anan.rotary.studenthem.gu.se |
| 193.136.132.85 | andorinha.ist.utl.pt |
| 193.145.235.81 | srv1a.pal.ua.es |
| 193.159.101.206 | pC19F65CE.dip.t-dialin.net |
| 193.166.0.134 | ircg.funet.fi |

| Source IP | Host Name |
|---|---|
| 193.180.253.2 | users.sala.se |
| 193.226.127.19 | 193.226.127.19 |
| 193.226.127.20 | 193.226.127.20 |
| 193.226.127.21 | ppp5.icemenerg.vsat.ro |
| 193.226.148.161 | port1.Bucharest2.RO.EU.net |
| 193.226.148.167 | port7.Bucharest2.RO.EU.net |
| 193.226.161.116 | e-Volution-2.iNES.RO |
| 193.226.161.141 | DynIP-161-141.Dialup.iNES.RO |
| 193.226.161.156 | DynIP-161-156.Dialup.iNES.RO |
| 193.226.161.157 | DynIP-161-157.Dialup.iNES.RO |
| 193.226.181.57 | 193.226.181.57 |
| 193.226.46.209 | 193.226.46.209 |
| 193.226.60.179 | 193.226.60.179 |
| 193.226.61.199 | ppp06.euroweb.ro |
| 193.226.61.211 | ppp18.euroweb.ro |
| 193.226.61.229 | ppp36.euroweb.ro |
| 193.230.105.120 | 193.230.105.120 |
| 193.230.129.169 | Lubrifin.deltanet.ro |
| 193.230.162.112 | 193.230.162.112 |
| 193.230.162.145 | 193.230.162.145 |
| 193.230.162.155 | 193.230.162.155 |
| 193.230.162.243 | 193.230.162.243 |
| 193.230.162.79 | 193.230.162.79 |
| 193.230.162.89 | 193.230.162.89 |
| 193.230.165.16 | 193.230.165.16 |
| 193.230.165.17 | 193.230.165.17 |
| 193.230.165.19 | 193.230.165.19 |
| 193.230.165.20 | 193.230.165.20 |
| 193.230.165.27 | 193.230.165.27 |
| 193.230.165.37 | 193.230.165.37 |
| 193.230.165.39 | 193.230.165.39 |
| 193.230.165.41 | 193.230.165.41 |
| 193.230.165.42 | 193.230.165.42 |
| 193.230.165.48 | 193.230.165.48 |
| 193.230.165.49 | 193.230.165.49 |
| 193.230.165.53 | 193.230.165.53 |
| 193.230.165.58 | 193.230.165.58 |
| 193.230.165.60 | OEMCOMPUTER |
| 193.230.177.149 | 193.230.177.149 |
| 193.230.230.85 | ceva.mediafax.ro |
| 193.230.247.95 | Moca.CODEC.Ro |
| 193.230.250.251 | tel271468.is.necomm.ro |
| 193.231.125.141 | ppp-141.dnt.ro |
| 193.231.125.159 | ppp-159.dnt.ro |
| 193.231.169.166 | 193.231.169.166 |

| Source IP | Host Name |
|---|---|
| 193.231.184.221 | 193.231.184.221 |
| 193.231.196.27 | lyon.intelsev.ro |
| 193.231.207.26 | ppp153.dnttm.ro |
| 193.231.207.72 | ppp67.dnttm.ro |
| 193.231.209.130 | ppp130.fx.ro |
| 193.231.210.35 | ppp25-ph.fx.ro |
| 193.231.210.37 | ppp27-ph.fx.ro |
| 193.231.210.38 | ppp28-ph.fx.ro |
| 193.231.210.40 | ppp30-ph.fx.ro |
| 193.231.210.41 | ppp31-ph.fx.ro |
| 193.231.210.42 | ppp32-ph.fx.ro |
| 193.231.210.43 | ppp33-ph.fx.ro |
| 193.231.210.44 | ppp34-ph.fx.ro |
| 193.231.210.45 | ppp35-ph.fx.ro |
| 193.231.210.46 | ppp36-ph.fx.ro |
| 193.231.220.101 | ppp220101.fx.ro |
| 193.231.220.103 | ppp220103.fx.ro |
| 193.231.220.106 | ppp220106.fx.ro |
| 193.231.220.125 | ppp220125.fx.ro |
| 193.231.220.126 | ppp220126.fx.ro |
| 193.231.220.128 | ppp220128.fx.ro |
| 193.231.220.132 | ppp220132.fx.ro |
| 193.231.220.136 | ppp220136.fx.ro |
| 193.231.220.17 | ppp220017.fx.ro |
| 193.231.220.182 | ppp220182.fx.ro |
| 193.231.220.203 | ppp220203.fx.ro |
| 193.231.220.208 | ppp220208.fx.ro |
| 193.231.220.216 | ppp220216.fx.ro |
| 193.231.220.226 | ppp220226.fx.ro |
| 193.231.220.65 | ppp220065.fx.ro |
| 193.231.220.71 | ppp220071.fx.ro |
| 193.231.220.74 | ppp220074.fx.ro |
| 193.231.220.77 | ppp220077.fx.ro |
| 193.231.220.89 | ppp220089.fx.ro |
| 193.231.230.87 | 193.231.230.87 |
| 193.231.236.141 | 193.231.236.141 |
| 193.231.242.90 | MIHAIB |
| 193.231.253.224 | ady624.interplus.ro |
| 193.231.6.40 | atc40.diac.tuiasi.ro |
| 193.231.6.44 | atc44.diac.tuiasi.ro |
| 193.251.13.153 | ANeuilly-101-1-2-153.abo.wanadoo.fr |
| 193.251.33.61 | ALille-201-1-2-61.abo.wanadoo.fr |
| 193.251.42.11 | APoncelet-101-2-1-11.abo.wanadoo.fr |
| 193.252.111.116 | APh-Aug-101-1-3-116.abo.wanadoo.fr |
| 193.252.63.9 | AMarseille-201-2-1-9.abo.wanadoo.fr |

| Source IP | Host Name |
|---|---|
| 193.254.36.29 | dial14-tl0.logicnet.ro |
| 193.254.42.138 | bz0-l0.logictl.net |
| 193.254.47.67 | 193.254.47.67 |
| 193.6.166.178 | vpk012.date.hu |
| 193.6.17.183 | isdn55.ts53.iif.hu |
| 193.6.6.104 | di4.diakir.uni-miskolc.hu |
| 193.64.114.10 | net10.printeq.fi |
| 193.71.202.51 | freedu-193-71-202-51.libertysurf.no |
| 193.77.28.84 | 193.77.28.84 |
| 193.89.244.61 | ip695.boanxx1.adsl.tele.dk |
| 194.102.143.114 | 194.102.143.114 |
| 194.102.143.125 | 194.102.143.125 |
| 194.102.181.77 | 194.102.181.77 |
| 194.102.188.29 | 194.102.188.29 |
| 194.102.213.8 | 194.102.213.8 |
| 194.102.224.129 | ns.petar.ro |
| 194.102.242.65 | 194.102.242.65 |
| 194.102.242.67 | 194.102.242.67 |
| 194.102.242.71 | 194.102.242.71 |
| 194.102.250.30 | iq.kappa.ro |
| 194.102.253.109 | hagi.kappa.ro |
| 194.102.254.101 | dialup-56K-101.kappa.ro |
| 194.102.254.108 | dialup-56K-108.kappa.ro |
| 194.102.254.16 | dialup-56K-16.kappa.ro |
| 194.102.93.104 | ppp11-2.digiro.net |
| 194.102.93.111 | ppp18-2.digiro.net |
| 194.102.93.31 | ppp1-1.digiro.net |
| 194.102.93.37 | ppp7-1.digiro.net |
| 194.102.93.43 | ppp13-1.digiro.net |
| 194.102.93.50 | ppp20-1.digiro.net |
| 194.102.93.52 | ppp22-1.digiro.net |
| 194.102.93.53 | ppp23-1.digiro.net |
| 194.102.93.55 | ppp25-1.digiro.net |
| 194.102.93.60 | ppp30-1.digiro.net |
| 194.102.93.74 | ppp4-v90.digiro.net |
| 194.102.93.91 | ppp21-v90.digiro.net |
| 194.102.99.58 | novell.iasi.osf.ro.99.102.194.in-addr.arpa |
| 194.151.106.20 | 194.151.106.20 |
| 194.153.247.222 | 194.153.247.222 |
| 194.154.146.160 | nic-c53s02-l152.spidernet.net |
| 194.154.148.147 | nic-c53s04-l019.spidernet.net |
| 194.176.38.194 | boxer.MACTEP.org |
| 194.204.195.126 | 194.204.195.126 |
| 194.204.195.164 | M1M0O7 |
| 194.205.220.45 | 194.205.220.45 |

| Source IP | Host Name |
|---|---|
| 194.206.208.153 | 194.206.208.153 |
| 194.206.208.169 | 194.206.208.169 |
| 194.206.208.173 | 194.206.208.173 |
| 194.206.208.194 | 194.206.208.194 |
| 194.206.208.201 | 194.206.208.201 |
| 194.206.208.230 | 194.206.208.230 |
| 194.206.208.238 | 194.206.208.238 |
| 194.206.208.249 | 194.206.208.249 |
| 194.208.52.150 | 194-208-052-150.TELE.NET |
| 194.213.72.25 | karo.algonet.se |
| 194.239.155.193 | 194.239.155.193 |
| 194.247.82.105 | WINGATE_PC |
| 194.251.101.198 | qn-lpr4-198.quicknet.inet.fi |
| 194.42.130.110 | limassol137.cylink.com.cy |
| 194.47.102.147 | hlunt98.univ.vxu.se |
| 194.47.144.22 | sorcerynet.fukt.hk-r.se |
| 194.67.168.11 | 194.67.168.11 |
| 194.75.152.237 | dalnet.lineone.net |
| 194.77.98.148 | hs2-148.handshake.de |
| 194.84.208.118 | hellfire.sparc2000.com |
| 194.87.13.86 | top100.rambler.ru |
| 194.88.77.240 | monopoly.fulham.vi.net |
| 194.9.222.251 | sbsi-251.222.rev.fr.colt.net |
| 195.10.46.143 | 195.10.46.143 |
| 195.103.69.159 | proxy.guest.net |
| 195.115.7.2 | Cegetel-fw.entreprises.cegetel.fr |
| 195.127.250.109 | udial609.a-city.de |
| 195.132.153.115 | r153m115.cybercable.tm.fr |
| 195.132.238.183 | r238m183.cybercable.tm.fr |
| 195.132.238.93 | r238m93.cybercable.tm.fr |
| 195.132.57.32 | r57m32.cybercable.tm.fr |
| 195.132.76.194 | r76m194.cybercable.tm.fr |
| 195.132.96.165 | r96m165.cybercable.tm.fr |
| 195.138.224.45 | 195.138.224.45 |
| 195.139.15.242 | darkwing.contempus.com |
| 195.14.128.135 | ni-6-7.cytanet.com.cy |
| 195.14.128.90 | ni-5-90.cytanet.com.cy |
| 195.14.132.112 | pa-1-112.cytanet.com.cy |
| 195.14.132.43 | pa-1-43.cytanet.com.cy |
| 195.14.143.248 | ni-8-120.cytanet.com.cy |
| 195.14.144.187 | ni-12-67.cytanet.com.cy |
| 195.14.144.228 | ni-12-108.cytanet.com.cy |
| 195.14.145.45 | ni-2-45.cytanet.com.cy |
| 195.154.188.66 | 195.154.188.66 |
| 195.154.54.33 | ppp33-net1-idf7-bas1.isdnet.net |

| Source IP | Host Name |
|---|---|
| 195.159.0.151 | login1.powertech.no |
| 195.162.221.167 | cable-195-162-221-167.upc.chello.be |
| 195.162.222.156 | cable-195-162-222-156.upc.chello.be |
| 195.17.14.159 | 195.17.14.159 |
| 195.190.96.205 | ts6-195-190-96-205.Spb.dial.sovam.com |
| 195.214.168.11 | 195.214.168.11 |
| 195.214.168.84 | 195.214.168.84 |
| 195.215.15.130 | irc.dk.quakenet.eu.org |
| 195.34.150.82 | TK150082.tuwien.teleweb.at |
| 195.34.28.117 | dialup-28117.dialup.ptt.ru |
| 195.44.205.143 | 195.44.205.143 |
| 195.54.105.6 | wsd-vccsc.framfab.se |
| 195.6.226.46 | ca-ol-valence-3-46.abo.wanadoo.fr |
| 195.87.131.36 | 195.87.131.36 |
| 195.97.49.52 | vdp020.lam01.gwc.hol.gr |
| 198.139.244.22 | philly.pa.us.dal.net |
| 198.182.76.100 | irc.blackened.com |
| 198.63.2.192 | 198.63.2.192 |
| 198.78.16.3 | 198.78.16.3 |
| 198.82.82.82 | br.campus.vt.edu |
| 198.88.16.33 | barovia.dal.net |
| 198.88.88.99 | barovia.dal.net |
| 198.92.138.226 | mail.ihostit.net |
| 198.96.37.34 | beta1-009.complex2.resnet.yorku.ca |
| 199.120.223.5 | premis.lod.com |
| 199.224.86.36 | thyme.epix.net |
| 199.234.153.12 | shell.lazerlink.net |
| 199.36.49.2 | 199.36.49.2 |
| 2.2.2.2 | 2.2.2.2 |
| 200.182.206.65 | dl-adsl-sao-C8B6CE41.sao.terra.com.br |
| 200.191.80.181 | 200-191-80-181-as.acessonet.com.br |
| 200.191.80.206 | 200-191-80-206-as.acessonet.com.br |
| 200.244.177.239 | 200.244.177.239 |
| 200.31.30.155 | dialgye107.impsat.net.ec |
| 200.37.103.207 | 200.37.103.207 |
| 200.37.198.88 | USER08 |
| 200.37.7.18 | facf.unjbg.edu.pe |
| 200.41.34.79 | 200.41.34.79 |
| 200.41.35.175 | 200.41.35.175 |
| 200.43.18.59 | 200.43.18.59 |
| 200.48.187.195 | 200.48.187.195 |
| 200.48.188.199 | 200.48.188.199 |
| 200.48.213.143 | ALFA1 |
| 200.48.214.207 | 200.48.214.207 |
| 200.48.23.20 | 200.48.23.20 |

| Source IP | Host Name |
|---|---|
| 200.48.54.99 | 200.48.54.99 |
| 200.48.88.82 | MS-12 |
| 200.48.93.2 | PC1 |
| 200.50.11.20 | 200.50.11.20 |
| 200.50.9.33 | MARK |
| 200.50.9.72 | 200.50.9.72 |
| 200.51.51.201 | mq1.concejomdp.gov.ar |
| 200.53.184.66 | isp66.ifxnw.com.mx |
| 200.59.36.121 | lineaAE121.velocom.com.ar |
| 200.59.36.206 | lineaAE206.velocom.com.ar |
| 202.1.193.167 | 202.1.193.167 |
| 202.1.193.178 | 202.1.193.178 |
| 202.100.34.235 | 202.100.34.235 |
| 202.128.69.135 | tttbbs.ppp.netpci.com |
| 202.138.27.222 | 222.0612.mel.iprimus.net.au |
| 202.142.66.15 | 202.142.66.15 |
| 202.142.66.156 | 202.142.66.156 |
| 202.147.18.158 | me-as-01-158.free.net.au |
| 202.147.18.17 | me-as-01-017.free.net.au |
| 202.147.25.168 | me-as-08-168.free.net.au |
| 202.147.251.152 | 202.147.251.152 |
| 202.147.27.153 | me-as-10-153.free.net.au |
| 202.152.13.131 | gateway.bim.co.id |
| 202.152.22.146 | ns.widyadharma.ac.id |
| 202.153.112.222 | 202.153.112.222 |
| 202.156.51.76 | mcns76.docsis51.singa.pore.net |
| 202.159.45.146 | 202.159.45.146 |
| 202.163.254.79 | RDIMEN |
| 202.187.24.3 | 202.187.24.3 |
| 202.188.217.155 | 202.188.217.155 |
| 202.188.26.44 | lbn-26-44.tm.net.my |
| 202.188.37.29 | 202.188.37.29 |
| 202.188.85.53 | 202.188.85.53 |
| 202.46.249.87 | paue.ugm.ac.id |
| 202.61.169.26 | 202.61.169.26 |
| 202.77.125.162 | DATA |
| 202.87.115.131 | 202.87.115.131 |
| 202.9.134.7 | 202.9.134.7 |
| 202.9.188.89 | 202.9.188.89 |
| 202.93.66.66 | imam-66.pworld.net.ph |
| 202.93.70.60 | ap-sultan-60.pworld.net.ph |
| 203.101.6.206 | async205-syd-isp-6.nas.one.net.au |
| 203.102.177.83 | 203.102.177.83 |
| 203.108.42.138 | slpen52p10.ozemail.com.au |
| 203.108.42.142 | slpen52p14.ozemail.com.au |

| Source IP | Host Name |
|---|---|
| 203.108.42.183 | slpen52p55.ozemail.com.au |
| 203.114.231.2 | host31002.EZnet.co.th |
| 203.114.231.33 | host31033.EZnet.co.th |
| 203.134.130.127 | 127.b.001.mel.iprimus.net.au |
| 203.134.132.11 | 011.d.001.mel.iprimus.net.au |
| 203.134.132.134 | 134.d.001.mel.iprimus.net.au |
| 203.134.133.79 | 079.a.002.mel.iprimus.net.au |
| 203.134.172.240 | 240.e.003.mel.iprimus.net.au |
| 203.134.27.6 | 006.d.002.mel.iprimus.net.au |
| 203.134.52.183 | 183.0403.mel.iprimus.net.au |
| 203.134.7.16 | 016.a.002.syd.iprimus.net.au |
| 203.135.55.113 | 203.135.55.113 |
| 203.143.253.35 | pptp35.dyn253.pacific.net.au |
| 203.143.253.40 | pptp40.dyn253.pacific.net.au |
| 203.148.182.108 | 203.148.182.108 |
| 203.148.183.22 | 203.148.183.22 |
| 203.148.183.44 | 203.148.183.44 |
| 203.149.50.79 | ppp13.tsknet.org |
| 203.155.129.101 | l129ppp101.ksc.net.th |
| 203.155.129.119 | l129ppp119.ksc.net.th |
| 203.155.129.15 | l129ppp015.ksc.net.th |
| 203.155.129.50 | l129ppp050.ksc.net.th |
| 203.155.129.78 | l129ppp078.ksc.net.th |
| 203.155.129.86 | l129ppp086.ksc.net.th |
| 203.155.129.99 | l129ppp099.ksc.net.th |
| 203.155.130.111 | l130ppp111.ksc.net.th |
| 203.155.132.140 | l132ppp140.ksc.net.th |
| 203.155.132.186 | l132ppp186.ksc.net.th |
| 203.164.23.11 | co3023113-a.belrs1.nsw.optushome.com.au |
| 203.164.90.252 | co3032774-a.rivrw1.nsw.optushome.com.au |
| 203.165.24.144 | cj3069157-a.yoksk1.kt.home.ne.jp |
| 203.167.138.158 | 203-167-138-158.dialup.clear.net.nz |
| 203.168.13.13 | ilo-13-13.i-next.net |
| 203.17.149.59 | 203.17.149.59 |
| 203.170.144.127 | 203.170.144.127 |
| 203.170.154.9 | 203.170.154.9 |
| 203.170.157.154 | 203.170.157.154 |
| 203.170.157.178 | 203.170.157.178 |
| 203.176.33.49 | 203.176.33.49 |
| 203.198.110.152 | 203.198.110.152 |
| 203.199.79.135 | 203.199.79.135 |
| 203.23.238.144 | modem025.ramoth.comcen.com.au |
| 203.29.154.221 | nme-56k-221.tpgi.com.au |
| 203.32.161.197 | adnet.imgserv.com |
| 203.33.188.165 | dialup293.canberra.net.au |

| Source IP | Host Name |
|---|---|
| 203.59.106.194 | reggae-00-194-106.nv.iinet.net.au |
| 203.59.78.195 | reggae-03-195.nv.iinet.net.au |
| 203.59.80.29 | reggae-18-29.nv.iinet.net.au |
| 203.59.80.84 | reggae-18-84.nv.iinet.net.au |
| 203.59.83.169 | reggae-06-169.nv.iinet.net.au |
| 203.59.87.133 | reggae-22-133.nv.iinet.net.au |
| 203.66.42.129 | 203.66.42.129 |
| 203.75.25.62 | 203.75.25.62 |
| 203.96.91.36 | 203.96.91.36 |
| 204.100.64.150 | 204.100.64.150 |
| 204.117.70.5 | security.enterthegame.com |
| 204.123.28.11 | crawler1.webresearch.pa-x.dec.com |
| 204.152.184.80 | kechara.sorcery.net |
| 204.155.48.3 | 204.155.48.3 |
| 204.184.0.2 | GIDEON4 |
| 204.185.36.100 | SCUZZLE |
| 204.185.36.109 | BANKS1 |
| 204.185.36.187 | M0P5Q0 |
| 204.210.104.40 | a204b210n104client40.hawaii.rr.com |
| 204.210.104.69 | a204b210n104client69.hawaii.rr.com |
| 204.210.160.90 | dhcp204-210-160-090.insight.rr.com |
| 204.30.99.123 | 204.30.99.123 |
| 204.30.99.29 | 204.30.99.29 |
| 205.128.11.157 | 205.128.11.157 |
| 205.136.57.121 | fox3.foxlink.net |
| 205.188.1.105 | 205.188.1.105 |
| 205.188.153.100 | fes-d004.icq.aol.com |
| 205.188.153.101 | fes-d005.icq.aol.com |
| 205.188.153.102 | fes-d006.icq.aol.com |
| 205.188.153.104 | fes-d008.icq.aol.com |
| 205.188.153.105 | fes-d009.icq.aol.com |
| 205.188.153.106 | fes-d010.icq.aol.com |
| 205.188.153.107 | fes-d011.icq.aol.com |
| 205.188.153.108 | fes-d012.icq.aol.com |
| 205.188.153.109 | fes-d013.icq.aol.com |
| 205.188.153.110 | fes-d014.icq.aol.com |
| 205.188.153.111 | fes-d015.icq.aol.com |
| 205.188.153.114 | fes-d018.icq.aol.com |
| 205.188.153.115 | fes-d019.icq.aol.com |
| 205.188.153.116 | fes-d020.icq.aol.com |
| 205.188.153.97 | fes-d001.icq.aol.com |
| 205.188.153.98 | fes-d002.icq.aol.com |
| 205.188.153.99 | fes-d003.icq.aol.com |
| 205.188.179.33 | fes-d021.icq.aol.com |
| 205.188.3.211 | 205.188.3.211 |

| Source IP | Host Name |
|---|---|
| 205.188.3.239 | 205.188.3.239 |
| 205.188.4.2 | 205.188.4.2 |
| 205.197.182.100 | beast.toad.net |
| 205.251.201.36 | wiley-1-153636.roadrunner.nf.net |
| 205.251.246.87 | wiley246h087.roadrunner.nf.net |
| 205.252.23.236 | 205.252.23.236 |
| 206.101.105.16 | commcenter16.citynet.net |
| 206.105.235.137 | bay-137-b3.codetel.net.do |
| 206.111.102.155 | USA |
| 206.128.219.83 | 206.128.219.83 |
| 206.140.182.244 | 206.140.182.244 |
| 206.167.181.162 | 206.167.181.162 |
| 206.183.143.241 | chapterhouse.sugar-river.net |
| 206.190.24.156 | 206.190.24.156 |
| 206.204.3.253 | ftp1.encmpss1.com |
| 206.231.46.1 | 206.231.46.1 |
| 206.253.63.135 | uly-usr1-135.pld.com |
| 206.71.111.183 | hh1111183.direcpc.com |
| 207.106.84.176 | leda.jtan.com |
| 207.114.4.46 | ProxyScan.MD.US.Undernet.Org |
| 207.123.161.43 | www.itsecure.bbn.com |
| 207.126.106.118 | mandarin.peopleweb.com |
| 207.144.250.50 | 207.144.250.50 |
| 207.144.250.88 | 207.144.250.88 |
| 207.172.148.202 | 207-172-148-202.s11.as3.anp.md.dialup.rcn.com |
| 207.172.195.166 | 207-172-195-166.s166.tnt1.clm.md.dialup.rcn.com |
| 207.172.195.21 | 207-172-195-21.s21.tnt1.clm.md.dialup.rcn.com |
| 207.211.106.40 | 207.211.106.40 |
| 207.33.111.32 | 207.33.111.32 |
| 208.151.64.137 | pcd088137.netvigator.com |
| 208.160.245.162 | ppp-e01.iloilo.net |
| 208.160.255.78 | 208.160.255.78 |
| 208.184.156.138 | 208.184.156.138.available |
| 208.185.24.251 | mildly.arrogant.org |
| 208.185.24.8 | voyager.straynet.com |
| 208.185.83.2 | unknown.lomag.net |
| 208.191.243.101 | adsl-208-191-243-101.dsl.ltrkar.swbell.net |
| 208.194.160.1 | 208.194.160.1 |
| 208.194.161.155 | proxy.monitor.twisted.ma.us.dal.net |
| 208.204.44.103 | 208.204.44.103 |
| 208.212.171.140 | COMPUTER_10 |
| 208.212.171.155 | 208.212.171.155 |
| 208.224.126.73 | s14.Pm2.t-one.net |
| 208.226.155.242 | lcl242.cvzoom.net |
| 208.47.92.164 | owb.kellyandwilmore.com |

| Source IP | Host Name |
|---|---|
| 208.5.7.19 | intouch2085719.intouch.com |
| 208.52.105.204 | 208.52.105.204 |
| 208.58.42.162 | macalpine.cornfed.com |
| 208.61.112.254 | adsl-61-112-254.mia.bellsouth.net |
| 208.61.142.104 | adsl-61-142-104.mia.bellsouth.net |
| 208.61.4.207 | adsl-61-4-207.mia.bellsouth.net |
| 208.61.44.215 | adsl-61-44-215.mia.bellsouth.net |
| 208.61.45.79 | adsl-61-45-79.mia.bellsouth.net |
| 208.63.176.26 | adsl-63-176-26.clt.bellsouth.net |
| 208.9.110.30 | starfish.intercom.net |
| 209.1.233.136 | 209.1.233.136 |
| 209.10.218.248 | irc.wwf.com |
| 209.10.218.250 | java.webmaster.com |
| 209.10.218.251 | irc.webmaster.com |
| 209.10.77.201 | Security.Gameslink.Net |
| 209.115.197.52 | tmmi197-052.telusvelocity.net |
| 209.133.28.137 | webmaster.ca.us.webchat.org |
| 209.133.35.87 | irc2.bondage.com |
| 209.133.35.89 | irc3.bondage.com |
| 209.143.63.7 | wapa-ras2-1-cs-4.dial.bright.net |
| 209.148.136.22 | spc-isp-wsr-uas-04-21.sprint.ca |
| 209.160.56.44 | 209.160.56.44 |
| 209.176.88.16 | irc.advizexweb.net |
| 209.180.159.92 | 209-180-159-92.customers.uswest.net |
| 209.185.131.251 | law-www.hotmail.com |
| 209.190.223.101 | prime.atlantech.net |
| 209.191.146.4 | shell.25bway.compuhelp.com |
| 209.206.104.75 | bronx-ip-11-75.dynamic.ziplink.net |
| 209.206.105.239 | bronx-ip-12-239.dynamic.ziplink.net |
| 209.206.107.152 | bronx-ip-14-152.dynamic.ziplink.net |
| 209.206.114.199 | spartenburg-ip-3-199.dynamic.ziplink.net |
| 209.209.68.157 | 209-209-68-157.la.inreach.net |
| 209.211.58.28 | shell.jaxn.com |
| 209.212.128.41 | vader.fdt.net |
| 209.212.128.47 | watto.fdt.net |
| 209.214.7.30 | host-209-214-7-30.mia.bellsouth.net |
| 209.214.80.53 | host-209-214-80-53.fll.bellsouth.net |
| 209.214.82.86 | host-209-214-82-86.fll.bellsouth.net |
| 209.218.228.201 | ATHM-209-218-xxx-201.Home.net |
| 209.221.143.119 | ops.netscan.org |
| 209.222.168.101 | roberti.transport.com |
| 209.245.10.173 | dialup-209.245.10.173.Denver1.Level3.net |
| 209.246.136.110 | COOLLINK5 |
| 209.249.77.28 | host9.webmaster.com |
| 209.25.94.109 | 209.25.94.109 |

| Source IP | Host Name |
|---|---|
| 209.253.109.139 | A010-0139.TUSC.splitrock.net |
| 209.254.185.128 | A060-0636.MINN.splitrock.net |
| 209.255.208.114 | A030-0114.PHL2.splitrock.net |
| 209.255.209.93 | A030-0347.PHL2.splitrock.net |
| 209.255.210.204 | A030-0712.PHL2.splitrock.net |
| 209.255.211.58 | A030-0820.PHL2.splitrock.net |
| 209.30.248.102 | p102.amax37.dialup.dal1.flash.net |
| 209.50.1.64 | bea-pm1-020.inetnebr.com |
| 209.51.166.13 | neowarp.com |
| 209.58.17.3 | FreeHostingUSA.Teleglobe.net |
| 209.61.155.53 | irc.turkiye.com |
| 209.73.164.126 | tv33.sv.av.com |
| 209.85.3.25 | tmtowtdi.perl.org |
| 209.86.44.104 | user-38lcb38.dialup.mindspring.com |
| 209.92.40.32 | dslcv1-32.fast.net |
| 209.94.100.151 | 209.94.100.151 |
| 209.94.199.141 | cuscon1035.tstt.net.tt |
| 209.94.199.186 | cuscon1080.tstt.net.tt |
| 209.94.224.13 | server9.vonl.com |
| 210.101.101.110 | 210.101.101.110 |
| 210.113.89.200 | ASIC_WEB |
| 210.154.33.43 | 210.154.33.43 |
| 210.23.114.185 | 210.23.114.185 |
| 210.9.19.185 | ppp-185.cust210-9-19.ghr.chariot.net.au |
| 211.124.193.36 | zaqd37cc124.zaq.ne.jp |
| 211.178.76.232 | 211.178.76.232 |
| 211.46.110.81 | 211.46.110.81 |
| 212.0.107.107 | 212.0.107.107 |
| 212.122.97.183 | 212.122.97.183 |
| 212.123.8.136 | D47B0888.kabel.telenet.be |
| 212.125.18.8 | 212.125.18.8 |
| 212.125.18.97 | 212.125.18.97 |
| 212.127.170.138 | qn-212-127-170-138.quicknet.nl |
| 212.139.33.169 | 212.139.33.169 |
| 212.143.48.167 | ADSLT1-p167.adsl.netvision.net.il |
| 212.146.28.87 | baana-87.raketti.net |
| 212.156.183.126 | 212.156.183.126 |
| 212.158.123.66 | irc.ins.net.uk |
| 212.160.78.75 | iif3.kki.krakow.pl |
| 212.171.112.182 | 212.171.112.182 |
| 212.171.123.135 | 212.171.123.135 |
| 212.175.252.14 | 212.175.252.14 |
| 212.177.241.101 | 212.177.241.101 |
| 212.179.125.105 | bzq-125-105.bezeqint.net |
| 212.179.125.114 | bzq-125-114.bezeqint.net |

| Source IP | Host Name |
|---|---|
| 212.179.125.92 | bzq-125-92.bezeqint.net |
| 212.179.126.227 | cable-95227.bezeqint.net |
| 212.179.127.25 | bzq-128-25.bezeqint.net |
| 212.179.15.122 | clnt-15122.bezeqint.net |
| 212.179.16.228 | clnt-16228.bezeqint.net |
| 212.179.175.216 | 212.179.175.216 |
| 212.179.19.134 | clnt-19134.bezeqint.net |
| 212.179.23.95 | clnt-23095.bezeqint.net |
| 212.179.24.136 | clnt-24136.bezeqint.net |
| 212.179.27.111 | clnt-27111.bezeqint.net |
| 212.179.27.189 | clnt-27189.bezeqint.net |
| 212.179.27.6 | clnt-27006.bezeqint.net |
| 212.179.29.170 | clnt-29170.bezeqint.net |
| 212.179.29.196 | clnt-29196.bezeqint.net |
| 212.179.29.213 | clnt-29213.bezeqint.net |
| 212.179.30.113 | clnt-30113.bezeqint.net |
| 212.179.30.74 | clnt-30074.bezeqint.net |
| 212.179.33.242 | PT10-33242.bezeqint.net |
| 212.179.33.254 | PT10-33254.bezeqint.net |
| 212.179.34.194 | clnt-34194.bezeqint.net |
| 212.179.38.200 | clnt-38200.bezeqint.net |
| 212.179.39.194 | clnt-39194.bezeqint.net |
| 212.179.41.137 | fr-c41137.bezeqint.net |
| 212.179.41.148 | fr-c41148.bezeqint.net |
| 212.179.41.226 | fr-c41226.bezeqint.net |
| 212.179.41.24 | fr-c41024.bezeqint.net |
| 212.179.42.2 | fr-c42002.bezeqint.net |
| 212.179.42.71 | fr-c42071.bezeqint.net |
| 212.179.42.80 | fr-c42080.bezeqint.net |
| 212.179.42.95 | fr-c42095.bezeqint.net |
| 212.179.44.106 | bzq-44-106.bezeqint.net |
| 212.179.44.114 | bzq-44-114.bezeqint.net |
| 212.179.44.115 | bzq-44-115.bezeqint.net |
| 212.179.44.66 | bzq-44-66.bezeqint.net |
| 212.179.45.241 | fr-c27241.bezeqint.net |
| 212.179.45.69 | fr-c27069.bezeqint.net |
| 212.179.45.72 | fr-c27072.bezeqint.net |
| 212.179.45.76 | fr-c27076.bezeqint.net |
| 212.179.45.79 | fr-c27079.bezeqint.net |
| 212.179.45.81 | fr-c27081.bezeqint.net |
| 212.179.45.82 | fr-c27082.bezeqint.net |
| 212.179.48.199 | fr-c48199.bezeqint.net.48.179.212.IN-ADDR.ARPA |
| 212.179.50.77 | fr-c50077.bezeqint.net |
| 212.179.56.5 | 212.179.56.5 |
| 212.179.58.191 | 212.179.58.191 |

| Source IP | Host Name |
|---|---|
| 212.179.63.10 | 212.179.63.10 |
| 212.179.64.189 | PT712189.bezeqint.net |
| 212.179.66.2 | PT712002.bezeqint.net |
| 212.179.67.186 | 212.179.67.186 |
| 212.179.67.29 | 212.179.67.29 |
| 212.179.7.36 | clnt-7036.bezeqint.net |
| 212.179.7.58 | clnt-7058.bezeqint.net |
| 212.179.72.226 | 212.179.72.226 |
| 212.179.77.49 | 212.179.77.49 |
| 212.179.79.115 | ASSAF_G |
| 212.179.79.2 | 212.179.79.2 |
| 212.179.95.16 | cable-95016.bezeqint.net |
| 212.179.95.26 | cable-95026.bezeqint.net |
| 212.179.95.45 | cable-95045.bezeqint.net |
| 212.179.95.5 | cable-95005.bezeqint.net |
| 212.18.172.177 | p177-07.netc.pt |
| 212.187.106.231 | c106231.upc-c.chello.nl |
| 212.187.21.156 | c21156.upc-c.chello.nl |
| 212.187.65.135 | c65135.upc-c.chello.nl |
| 212.198.123.8 | e008.dhcp212-123.cybercable.fr |
| 212.2.215.217 | 212.2.215.217 |
| 212.204.233.231 | vinxs.com |
| 212.216.228.242 | a-mx1-51.tin.it |
| 212.216.25.87 | a-bg13-56.tin.it |
| 212.216.33.168 | a-bl5-41.tin.it |
| 212.217.124.187 | 212.217.124.187 |
| 212.242.29.75 | msx-sla-13-10.ppp.cybercity.dk |
| 212.242.29.84 | msx-sla-13-19.ppp.cybercity.dk |
| 212.246.193.4 | ip5-004.dial.tpo.fi |
| 212.252.30.182 | asy182.as30.sol.superonline.com |
| 212.253.18.249 | 212.253.18.249 |
| 212.253.190.242 | 212.253.190.242 |
| 212.32.167.113 | h21232167113.kommunicera.umea.se |
| 212.35.129.78 | 212.35.129.78 |
| 212.41.53.127 | user53-127.jakinternet.co.uk |
| 212.43.196.5 | inco.fr.eu.dal.net |
| 212.43.238.183 | 212.43.238.183 |
| 212.46.67.212 | london.afternet.org |
| 212.46.76.30 | 212.46.76.30 |
| 212.54.110.175 | 212.54.110.175 |
| 212.54.110.250 | 212.54.110.250 |
| 212.54.116.79 | 212.54.116.79 |
| 212.54.96.169 | dialup-169.totalnet.ro |
| 212.54.97.138 | 212.54.97.138 |
| 212.55.140.11 | 212.55.140.11 |

| Source IP | Host Name |
|---|---|
| 212.64.12.65 | 33dyn65.com21.casema.net |
| 212.64.26.120 | 5dyn120.rijswzh.casema.net |
| 212.64.35.26 | 8dyn26.utr.casema.net |
| 212.64.35.27 | 8dyn27.utr.casema.net |
| 212.72.72.66 | irc.traced.net |
| 212.72.72.77 | babs.BNV.BayCIX.de |
| 212.72.75.236 | 212.72.75.236 |
| 212.78.153.242 | dom2-242.menta.net |
| 212.86.129.227 | toolnine.argh.org |
| 212.89.31.158 | cm05998.telecable.es |
| 212.90.79.63 | cs79063.pp.htv.fi |
| 212.93.138.217 | 212.93.138.217 |
| 212.93.145.67 | 212.93.145.67 |
| 213.1.203.250 | host213-1-203-250.btinternet.com |
| 213.1.64.35 | host213-1-64-35.btinternet.com |
| 213.112.156.148 | ua-213-112-156-148.cust.bredbandsbolaget.se |
| 213.112.23.188 | ua-213-112-23-188.cust.bredbandsbolaget.se |
| 213.112.23.46 | ua-213-112-23-46.cust.bredbandsbolaget.se |
| 213.112.62.183 | ua-213-112-62-183.cust.bredbandsbolaget.se |
| 213.123.33.189 | host213-123-33-189.dialup.lineone.co.uk |
| 213.131.74.250 | host-213-131-74-250.link.net |
| 213.132.133.168 | cable-213-132-133-168.upc.chello.be |
| 213.154.129.100 | ppp94.pcnet.ro |
| 213.154.129.28 | ppp28.pcnet.ro |
| 213.154.129.86 | ppp82.pcnet.ro |
| 213.154.130.116 | ppp253.pcnet.ro |
| 213.154.130.135 | ppp272.pcnet.ro |
| 213.154.130.184 | ppp321.pcnet.ro |
| 213.154.130.77 | ppp214.pcnet.ro |
| 213.154.131.131 | ns.endzone.ro |
| 213.154.133.190 | stan.pcnet.ro |
| 213.154.134.74 | PC09 |
| 213.154.134.78 | PC13 |
| 213.154.134.80 | PC15 |
| 213.154.134.81 | PC16 |
| 213.167.196.192 | 213.167.196.192 |
| 213.167.196.25 | 213.167.196.25 |
| 213.167.197.194 | 213-167-197-194.flat.galactica.it |
| 213.167.198.191 | 213.167.198.191 |
| 213.167.198.8 | 213-167-198-8.flat.galactica.it |
| 213.167.199.96 | 213.167.199.96 |
| 213.167.206.183 | 213-167-206-183.flat.galactica.it |
| 213.167.209.112 | 213-167-209-112.flat.galactica.it |
| 213.167.210.123 | 213.167.210.123 |
| 213.167.213.178 | 213-167-213-178.flat.galactica.it |

| Source IP | Host Name |
|---|---|
| 213.167.215.19 | 213.167.215.19 |
| 213.171.130.93 | 213.171.130.93 |
| 213.186.134.31 | NAS-213-186-134-31.ixir.com |
| 213.186.155.47 | irc.ixir.net |
| 213.196.4.2 | hosting02.truehosting.nl |
| 213.204.134.251 | 251.ppp134.rsd.worldonline.se |
| 213.213.8.223 | h213-8-223.BO.infinito.it |
| 213.224.155.131 | D5E09B83.kabel.telenet.be |
| 213.224.98.219 | D5E062DB.kabel.telenet.be |
| 213.237.14.117 | 213.237.14.117.adsl.hum.worldonline.dk |
| 213.237.16.122 | 213.237.16.122.adsl.sd.worldonline.dk |
| 213.255.22.98 | h255-22-98.MI2.albacom.net |
| 213.35.133.153 | 213.35.133.153 |
| 213.41.69.52 | hosting-52.69.rev.fr.colt.net |
| 213.43.60.144 | NAS-213-43-60-144.ixir.com |
| 213.43.69.126 | 213.43.69.126 |
| 213.43.69.72 | 213.43.69.72 |
| 213.43.72.158 | 213.43.72.158 |
| 213.43.77.66 | 213.43.77.66 |
| 213.43.80.51 | 213.43.80.51 |
| 213.43.86.72 | 213.43.86.72 |
| 213.45.155.149 | a-pv15-22.tin.it |
| 213.46.113.179 | d113179.upc-d.chello.nl |
| 213.46.128.88 | d128088.upc-d.chello.nl |
| 213.46.95.210 | d95210.upc-d.chello.nl |
| 213.48.182.156 | usr999-wol.cableinet.co.uk |
| 213.51.64.167 | cc39695-a.assen1.dr.nl.home.com |
| 213.6.220.212 | Adcd4.pppool.de |
| 213.61.112.10 | gordon-shumway.alf-in-space.de |
| 213.64.152.159 | h159n1fls21o908.telia.com |
| 213.64.65.174 | h174n3fls1o843.telia.com |
| 213.65.70.48 | h48n3fls21o906.telia.com |
| 213.76.114.60 | pa60.konin.cvx.ppp.tpnet.pl |
| 213.77.220.3 | pa3.przemysl.cvx.ppp.tpnet.pl |
| 213.8.121.25 | 213.8.121.25 |
| 213.8.52.189 | 213.8.52.189 |
| 213.96.160.88 | 213.96.160.88 |
| 213.96.27.142 | FLUNFERT |
| 216.10.12.2 | kinetic.cpanel.net |
| 216.10.12.30 | gravity.cpanel.net |
| 216.104.228.102 | non-invasive-proximity-checking-device.safeweb.com |
| 216.111.239.130 | awww.jeah.net |
| 216.111.248.10 | 216.111.248.10 |
| 216.145.193.212 | mke0920.excel.net |
| 216.148.218.160 | head.rwc.rhns.redhat.com |

| Source IP | Host Name |
|---|---|
| 216.15.153.106 | ilke.ilkenet.net |
| 216.15.182.66 | s1.elitedesign.net |
| 216.151.96.4 | lithium.theshell.com |
| 216.152.64.129 | sauron.ca.us.webchat.org |
| 216.152.64.130 | glass.webmaster.com |
| 216.152.64.137 | glass2.webmaster.com |
| 216.152.64.142 | java.ca.us.webchat.org |
| 216.152.64.143 | webmaster.ca.us.webchat.org |
| 216.152.64.150 | stable.ca.us.webchat.org |
| 216.152.64.151 | katana.ca.us.webchat.org |
| 216.152.64.213 | w2k.webmaster.com |
| 216.164.109.15 | jwp3.erols.com |
| 216.164.165.190 | 216-164-165-190.s190.tnt2.clm.md.dialup.rcn.com |
| 216.170.155.148 | hyky2pool1-a19.hyden.tds.net |
| 216.176.130.250 | finger-for-port-scan-info-at-hebron.in.us.dal.net |
| 216.177.0.32 | spider.603.com |
| 216.179.0.32 | suarez.bestweb.net |
| 216.179.0.37 | services.gamesnet.net |
| 216.186.190.125 | bt-125-190.cust.blacktopdsl.com |
| 216.209.104.95 | HSE-Kitchener-ppp105100.sympatico.ca |
| 216.209.216.104 | HSE-Montreal-ppp103077.sympatico.ca |
| 216.209.219.108 | HSE-Montreal-ppp103843.sympatico.ca |
| 216.217.217.11 | rs2.RisingNet.net |
| 216.22.147.226 | relic.net |
| 216.228.142.102 | v1r11.org |
| 216.232.101.167 | a0gs45y4y500j.bc.hsia.telus.net |
| 216.232.113.15 | am0g19gjb575j.bc.hsia.telus.net |
| 216.234.161.197 | mircx.com |
| 216.238.39.101 | 216.238.39.101 |
| 216.247.183.4 | 216.247.183.4 |
| 216.252.154.115 | host-216-252-154-115.interpacket.net |
| 216.33.20.80 | ftp.angelfire.com |
| 216.35.103.79 | si4000.inktomi.com |
| 216.35.103.80 | si4001.inktomi.com |
| 216.35.103.81 | si4002.inktomi.com |
| 216.35.116.90 | si3000.inktomi.com |
| 216.35.116.91 | si3001.inktomi.com |
| 216.35.116.92 | si3002.inktomi.com |
| 216.35.217.59 | 216.35.217.59 |
| 216.35.217.72 | 216.35.217.72 |
| 216.36.20.154 | bc1s3p2.dashmail.net |
| 216.43.55.44 | ats-3ccpe-0806.mcleodusa.net |
| 216.6.117.11 | ns2.hyperia.com |
| 216.65.3.242 | supercom.puternet.com |
| 216.65.46.2 | Mercury.unixrules.net |

| Source IP | Host Name |
|---|---|
| 216.67.50.103 | nas-50-103.houston.navipath.net |
| 216.67.50.126 | nas-50-126.houston.navipath.net |
| 216.67.50.179 | nas-50-179.houston.navipath.net |
| 216.67.50.18 | nas-50-18.houston.navipath.net |
| 216.67.50.189 | nas-50-189.houston.navipath.net |
| 216.67.50.19 | nas-50-19.houston.navipath.net |
| 216.67.50.212 | nas-50-212.houston.navipath.net |
| 216.67.50.37 | nas-50-37.houston.navipath.net |
| 216.67.50.57 | nas-50-57.houston.navipath.net |
| 216.67.50.72 | nas-50-72.houston.navipath.net |
| 216.67.50.94 | nas-50-94.houston.navipath.net |
| 216.67.51.43 | nas-51-43.houston.navipath.net |
| 216.67.82.100 | nas-82-100.houston.navipath.net |
| 216.67.82.139 | nas-82-139.houston.navipath.net |
| 216.67.82.153 | nas-82-153.houston.navipath.net |
| 216.67.82.235 | nas-82-235.houston.navipath.net |
| 216.67.82.243 | nas-82-243.houston.navipath.net |
| 216.67.82.32 | nas-82-32.houston.navipath.net |
| 216.67.84.99 | ip-67-84-99.orlando-t.navipath.net |
| 216.77.213.91 | host-216-77-213-91.fll.bellsouth.net |
| 216.77.214.109 | host-216-77-214-109.fll.bellsouth.net |
| 216.79.213.87 | host-216-79-213-87.sld.bellsouth.net |
| 216.79.215.34 | host-216-79-215-34.sld.bellsouth.net |
| 216.86.203.177 | adsl-gte-la-216-86-203-177.mminternet.com |
| 216.87.208.170 | ns.time-warp.net |
| 216.94.134.20 | dirk2.holoweb.net |
| 216.95.146.101 | hideout.sorcery.net |
| 217.10.196.170 | 217.10.196.170 |
| 217.10.201.154 | 2dial154.xnet.ro |
| 217.10.201.164 | 2dial164.xnet.ro |
| 217.10.201.171 | 2dial171.xnet.ro |
| 217.10.201.68 | 2dial68.xnet.ro |
| 217.10.201.80 | 2dial80.xnet.ro |
| 217.10.201.99 | 2dial99.xnet.ro |
| 217.10.204.52 | 5dial52.xnet.ro |
| 217.10.206.79 | 7dial79.xnet.ro |
| 217.10.206.93 | 7dial93.xnet.ro |
| 24.0.198.25 | cc212886-a.bnapk1.occa.home.com |
| 24.0.39.207 | cx460178-b.fed1.sdca.home.com |
| 24.1.251.2 | 24.1.251.2 |
| 24.108.117.65 | 24.108.117.65 |
| 24.108.140.159 | 24.108.140.159 |
| 24.112.119.218 | cr744829-e.lngly1.bc.wave.home.com |
| 24.112.147.180 | cr648783-a.pr1.on.wave.home.com |
| 24.112.150.20 | cr518339-a.wlfdle1.on.wave.home.com |

| Source IP | Host Name |
|---|---|
| 24.112.21.195 | cr777912-a.hnsn1.on.wave.home.com |
| 24.112.51.119 | cr1021515-c.lndn1.on.wave.home.com |
| 24.113.148.32 | cr653462-a.nvcr1.bc.wave.home.com |
| 24.113.168.58 | 24.113.168.58 |
| 24.113.99.78 | cr1006732-a.rchmd1.bc.wave.home.com |
| 24.114.111.229 | cr304893-c.slnt1.on.wave.home.com |
| 24.114.140.136 | cr573159-a.lndn1.on.wave.home.com |
| 24.114.251.248 | cr326386-a.lndn1.on.wave.home.com |
| 24.114.91.40 | cr401913-a.lndn1.on.wave.home.com |
| 24.128.48.165 | atsatsulin.ne.mediaone.net |
| 24.129.217.184 | 24.129.217.184 |
| 24.129.69.120 | ss69-120.jacksonville.net |
| 24.129.81.199 | dar-81-199.jacksonville.net |
| 24.129.82.105 | dar-82-105.jacksonville.net |
| 24.129.82.132 | dar-82-132.jacksonville.net |
| 24.13.101.55 | cc1037108-a.twsn1.md.home.com |
| 24.13.195.174 | c638286-a.btnrug1.la.home.com |
| 24.132.169.189 | node1a9bd.a2000.nl |
| 24.141.100.254 | d141-100-254.home.cgocable.net |
| 24.141.141.171 | d141-141-171.home.cgocable.net |
| 24.147.20.20 | h00c0dfe990f7.ne.mediaone.net |
| 24.15.181.254 | cj588095-a.dlcty1.va.home.com |
| 24.150.7.166 | d150-7-166.home.cgocable.net |
| 24.156.144.237 | 24.156.144.237 |
| 24.160.111.26 | cs160111-26.houston.rr.com |
| 24.160.248.216 | mke-160-248-216.wi.rr.com |
| 24.161.236.91 | 24161236hfc91.tampabay.rr.com |
| 24.161.28.113 | cm-24-161-28-113.nycap.rr.com |
| 24.163.114.140 | ffaxvahe3-3-140.cox.rr.com |
| 24.163.205.231 | nic-163-c205-231.mw.mediaone.net |
| 24.163.42.82 | rdu163-42-082.nc.rr.com |
| 24.169.186.32 | syr-24-169-186-32.twcny.rr.com |
| 24.169.61.162 | bgm-24-169-61-162.stny.rr.com |
| 24.169.66.96 | syr-24-169-66-96.twcny.rr.com |
| 24.169.75.46 | syr-24-169-75-46.twcny.rr.com |
| 24.17.40.25 | c296932-a.wtrlo1.ia.home.com |
| 24.176.160.236 | c220610-a.saltlk1.ut.home.com |
| 24.176.165.218 | c652433-f.saltlk1.ut.home.com |
| 24.178.64.55 | c783201-a.sprgfld1.mo.home.com |
| 24.18.194.110 | cx923278-b.provd1.ri.home.com |
| 24.18.84.210 | cc671589-a.abdn1.md.home.com |
| 24.18.90.197 | cc53440-a.catv1.md.home.com |
| 24.180.134.156 | cc349491-a.hwrd1.md.home.com |
| 24.180.152.148 | cc1037029-a.burl1.nj.home.com |
| 24.180.195.78 | cc438173-a.abdn1.md.home.com |

| Source IP | Host Name |
|---|---|
| 24.180.235.62 | cc1017685-f.essx1.md.home.com |
| 24.180.92.40 | cc236578-a.union1.nj.home.com |
| 24.188.153.23 | ool-18bc9917.dyn.optonline.net |
| 24.19.23.143 | c393974-a.iowact1.ia.home.com |
| 24.191.241.82 | ool-18bff152.dyn.optonline.net |
| 24.200.122.185 | modemcable185.122-200-24.mtl.mc.videotron.ca |
| 24.200.14.91 | modemcable091.14-200-24.que.mc.videotron.ca |
| 24.200.140.155 | modemcable155.140-200-24.mtl.mc.videotron.ca |
| 24.200.171.66 | modemcable066.171-200-24.mtl.mc.videotron.ca |
| 24.200.80.101 | modemcable101.80-200-24.mtl.mc.videotron.ca |
| 24.200.9.10 | modemcable010.9-200-24.que.mc.videotron.ca |
| 24.200.91.109 | modemcable109.91-200-24.mtl.mc.videotron.ca |
| 24.201.112.10 | modemcable010.112-201-24.timi.mc.videotron.ca |
| 24.201.72.26 | modemcable026.72-201-24.mtl.mc.videotron.ca |
| 24.201.86.191 | modemcable191.86-201-24.timi.mc.videotron.ca |
| 24.201.96.70 | modemcable070.96-201-24.mtl.mc.videotron.ca |
| 24.21.108.133 | cx600416-b.irvn1.occa.home.com |
| 24.21.80.190 | cx692004-a.santab1.ca.home.com |
| 24.214.18.65 | user-24-214-18-65.knology.net |
| 24.214.77.118 | user-24-214-77-118.knology.net |
| 24.218.41.5 | h0090272aeec8.ne.mediaone.net |
| 24.22.255.128 | cc133072-a.lwrnc1.in.home.com |
| 24.222.84.30 | u84n30.hfx.eastlink.ca |
| 24.222.92.233 | u92n233.hfx.eastlink.ca |
| 24.226.167.52 | 167-52.tr.cgocable.ca |
| 24.228.45.172 | cv220967-a.norwlk1.ct.home.com |
| 24.228.60.34 | 24.228.60.34 |
| 24.229.67.16 | Computer-1.msns.str.ptd.net |
| 24.23.151.112 | cx673530-a.vbch1.va.home.com |
| 24.23.158.27 | cx386650-c.vbch1.va.home.com |
| 24.232.14.61 | OL61-14.fibertel.com.ar |
| 24.232.24.26 | OL26-24.fibertel.com.ar |
| 24.232.63.148 | OL148-63.fibertel.com.ar |
| 24.234.93.60 | dhcp060.93.lvcm.com |
| 24.24.105.86 | m12bhPs1n86.midsouth.rr.com |
| 24.24.138.13 | we-24-24-138-13.we.mediaone.net |
| 24.24.98.22 | m4bhSs5n22.midsouth.rr.com |
| 24.240.33.192 | 24-240-33-192.hsacorp.net |
| 24.26.55.231 | 24.26.55.231 |
| 24.27.222.61 | 24.27.222.61 |
| 24.27.230.65 | PAVILION |
| 24.28.238.136 | gso28-238-136.triad.rr.com |
| 24.28.70.200 | cs2870-200.austin.rr.com |
| 24.29.206.229 | rm02-24-29-206-229.ce.mediaone.net |
| 24.3.161.193 | cc287787-b.union1.nj.home.com |

| Source IP | Host Name |
|---|---|
| 24.3.52.127 | cc537169-a.essx1.md.home.com |
| 24.3.52.236 | cc816150-a.essx1.md.home.com |
| 24.31.150.211 | ubr02-24-31-150-211.maine.rr.com |
| 24.31.240.83 | mkc-31-240-83.kc.rr.com |
| 24.31.88.99 | a24b31n88client99.hawaii.rr.com |
| 24.4.251.183 | cc211413-a.mdltwn1.nj.home.com |
| 24.40.46.225 | cn17773-a.newcas1.de.home.com |
| 24.42.132.240 | cr59109-a.yec1.on.wave.home.com |
| 24.42.164.65 | cr833142-a.wlfdle1.on.wave.home.com |
| 24.42.193.203 | cr381257-a.etob1.on.wave.home.com |
| 24.43.119.84 | cr498384-a.slnt1.on.wave.home.com |
| 24.48.16.119 | dynamic-16-119.pha.adelphia.net |
| 24.51.197.148 | fl-wbu1-c4-197-148.pbc.adelphia.net |
| 24.6.151.155 | cc941502-a.hwrd1.md.home.com |
| 24.6.176.79 | cx419097-a.chspk1.va.home.com |
| 24.64.188.44 | 24.64.188.44.on.wave.home.com |
| 24.65.121.98 | h24-65-121-98.ss.shawcable.net |
| 24.65.126.116 | h24-65-126-116.ss.shawcable.net |
| 24.65.145.247 | 24.65.145.247 |
| 24.65.78.210 | 24.65.78.210.on.wave.home.com |
| 24.65.80.127 | 24.65.80.127.on.wave.home.com |
| 24.66.231.148 | h24-66-231-148.ed.shawcable.net |
| 24.68.160.31 | h24-68-160-31.ed.shawcable.net |
| 24.68.89.6 | 24.68.89.6.on.wave.home.com |
| 24.69.177.12 | 24.69.177.12.on.wave.home.com |
| 24.69.209.73 | 24.69.209.73 |
| 24.69.214.58 | h24-69-214-58.du.shawcable.net |
| 24.7.227.215 | c921627-a.alntn1.tx.home.com |
| 24.72.12.211 | static24-72-12-211.reverse.accesscomm.ca |
| 24.9.152.152 | cc882301-a.abdn1.md.home.com |
| 24.9.64.57 | ci532059-a.ruthfd1.tn.home.com |
| 24.92.122.5 | dt11q1n05.elp.rr.com |
| 24.92.207.46 | dt173n2e.tampabay.rr.com |
| 24.92.249.27 | syr-24-92-249-27.twcny.rr.com |
| 24.92.249.28 | syr-24-92-249-28.twcny.rr.com |
| 24.92.30.130 | dt0c1n82.tampabay.rr.com |
| 24.93.201.55 | a2-2b055.neo.rr.com |
| 24.94.224.180 | okc-94-224-180.mmcable.com |
| 24.94.47.81 | bgm-24-94-47-81.stny.rr.com |
| 24.95.110.53 | m10bhXs2n53.midsouth.rr.com |
| 24.95.18.23 | dt052n17.maine.rr.com |
| 24.95.192.51 | roc-24-95-192-51.rochester.rr.com |
| 24.95.207.144 | roc-24-95-207-144.rochester.rr.com |
| 24.95.24.100 | dt0c0n64.maine.rr.com |
| 24.95.244.128 | ubr-95.244.128.stcloud.cfl.rr.com |

| Source IP | Host Name |
|---|---|
| 24.95.93.59 | dhcp9593059.columbus.rr.com |
| 32.101.117.246 | slip-32-101-117-246.va.us.prserv.net |
| 35.10.185.26 | alfafara.user.msu.edu |
| 35.9.37.225 | ike.egr.msu.edu |
| 38.15.52.5 | WEBTRENDS1 |
| 38.196.148.130 | 38.196.148.130 |
| 38.200.223.8 | 38.200.223.8 |
| 38.33.36.114 | ip114.milwaukee11.wi.pub-ip.psi.net |
| 38.38.25.126 | ip126.laurel11.md.pub-ip.psi.net |
| 4.19.104.226 | net104-226.jal.cc.il.us |
| 4.35.184.141 | lsanca1-ar8-184-141.dsl.gtei.net |
| 4.4.56.174 | PPPa17-ResaleTampaB1-2R7028.dialinx.net |
| 4.4.56.194 | PPPa37-ResaleTampaB1-2R7028.dialinx.net |
| 4.4.56.220 | PPPa63-ResaleTampaB1-2R7028.dialinx.net |
| 4.48.8.114 | PPPa53-ResaleTampaB3-1R7356.dialinx.net |
| 4.48.8.84 | PPPa23-ResaleTampaB3-1R7356.dialinx.net |
| 4.54.73.153 | PPPa60-ResaleOlympia4-4R7164.dialinx.net |
| 61.11.233.113 | IMRAN |
| 61.11.234.170 | 61.11.234.170 |
| 61.11.234.73 | 61.11.234.73 |
| 61.11.238.86 | 61.11.238.86 |
| 62.108.8.119 | node0877.a2000.nl |
| 62.11.153.125 | ca1-125.dialup.tiscalinet.it |
| 62.11.155.27 | ca1-539.dialup.tiscalinet.it |
| 62.136.10.186 | modem-186.sodium.dialup.pol.co.uk |
| 62.136.2.72 | modem-72.lithium.dialup.pol.co.uk |
| 62.136.216.9 | modem-9.kleins-butterfly.dialup.pol.co.uk |
| 62.136.235.97 | modem-97.blue-head-tilefish.dialup.pol.co.uk |
| 62.136.46.136 | modem-136.cesium.dialup.pol.co.uk |
| 62.136.90.120 | modem-120.dextroamphetam.dialup.pol.co.uk |
| 62.137.44.152 | modem-24.orbic-cardinal.dialup.pol.co.uk |
| 62.137.81.199 | modem-199.new-jersey.dialup.pol.co.uk |
| 62.226.88.88 | p3EE25858.dip.t-dialin.net |
| 62.252.177.197 | m453-mp1-cvx2a.lan.ntl.com |
| 62.252.4.220 | m220-mp1-cvx1a.gui.ntl.com |
| 62.253.44.15 | m15-mp1-cvx1c.nth.ntl.com |
| 62.253.44.42 | m42-mp1-cvx1c.nth.ntl.com |
| 62.253.45.130 | m386-mp1-cvx1c.nth.ntl.com |
| 62.253.46.27 | m539-mp1-cvx1c.nth.ntl.com |
| 62.253.47.14 | m782-mp1-cvx1c.nth.ntl.com |
| 62.253.72.79 | m79-mp1-cvx1b.bre.ntl.com |
| 62.253.88.38 | m38-mp1-cvx2c.bre.ntl.com |
| 62.255.97.29 | m285-mp1-cvx3a.bre.ntl.com |
| 62.27.247.90 | dialin-port2139.access.nacamar.de |
| 62.29.12.114 | 62.29.12.114 |

| Source IP | Host Name |
|---|---|
| 62.29.9.21 | 62.29.9.21 |
| 62.36.132.126 | 62.36.132.126 |
| 62.4.170.59 | 62.4.170.59 |
| 62.59.137.4 | ppp4-137-59-62.rtm.zonnet.nl |
| 62.6.71.0 | 62.6.71.0 |
| 62.83.112.21 | 21-LASP-X13.libre.retevision.es |
| 62.83.7.229 | 229-MADR-X30.libre.retevision.es |
| 62.96.171.103 | m-dialin-583.addcom.de |
| 62.98.122.66 | 62.98.122.66 |
| 62.98.125.11 | OEMCOMPUTER |
| 62.98.131.42 | 62.98.131.42 |
| 62.98.158.213 | 62.98.158.213 |
| 62.98.166.33 | 62.98.166.33 |
| 62.98.33.172 | 62.98.33.172 |
| 62.98.68.221 | 62.98.68.221 |
| 63.102.143.205 | mal-asc3-ppp205.sheltonbbs.com |
| 63.103.51.141 | COMPUACTION |
| 63.103.51.158 | 63.103.51.158 |
| 63.104.49.126 | irv-hh-gw.headhunter.net |
| 63.119.91.2 | 63.119.91.2 |
| 63.119.91.3 | 63.119.91.3 |
| 63.144.122.4 | 63.144.122.4 |
| 63.147.197.27 | bend-over.ill.get.the.kay-why.com |
| 63.160.118.8 | cols631601188.cols.net |
| 63.160.119.113 | shahd63160119113.shahd.com |
| 63.162.239.69 | 63_162_239_69.belz.com |
| 63.164.155.131 | 63.164.155.131 |
| 63.167.58.13 | 63.167.58.13 |
| 63.168.242.7 | legend.KIREnet.com |
| 63.193.210.208 | adsl-63-193-210-208.dsl.snfc21.pacbell.net |
| 63.195.56.20 | adsl-63-195-56-20.dsl.snfc21.pacbell.net |
| 63.197.150.195 | adsl-63-197-150-195.dsl.snfc21.pacbell.net |
| 63.202.13.20 | adsl-63-202-13-20.dsl.snfc21.pacbell.net |
| 63.206.169.128 | adsl-63-206-169-128.dsl.sktn01.pacbell.net |
| 63.209.84.218 | dialup-63.209.84.218.LosAngeles1.Level3.net |
| 63.214.82.65 | dialup-63.214.82.65.Boston1.Level3.net |
| 63.216.170.100 | 63.216.170.100 |
| 63.216.241.185 | 63-216-241-185.sdsl.cais.net |
| 63.227.180.164 | dsl-gw2-c164.clsp.uswest.net |
| 63.227.65.135 | desmdslgw3poolB135.desm.uswest.net |
| 63.229.75.205 | phnxdslgw7poole205.phnx.uswest.net |
| 63.238.214.65 | irc.friendlynet.com |
| 63.248.225.22 | 3ff8e116.dsl.flashcom.net |
| 63.252.119.242 | A030-0750.LAUR.splitrock.net |
| 63.253.225.174 | A060-0174.SNFC.splitrock.net |

| Source IP | Host Name |
|---|---|
| 63.26.138.103 | 1Cust103.tnt2.carbondale.il.da.uu.net |
| 63.26.138.110 | 1Cust110.tnt2.carbondale.il.da.uu.net |
| 63.26.138.12 | 1Cust12.tnt2.carbondale.il.da.uu.net |
| 63.26.138.250 | 1Cust250.tnt2.carbondale.il.da.uu.net |
| 63.26.7.170 | 1Cust170.tnt1.wilmington.nc.da.uu.net |
| 63.26.7.189 | 1Cust189.tnt1.wilmington.nc.da.uu.net |
| 63.26.7.24 | 1Cust24.tnt1.wilmington.nc.da.uu.net |
| 63.27.120.10 | 1Cust10.tnt1.carbondale.il.da.uu.net |
| 63.27.120.12 | 1Cust12.tnt1.carbondale.il.da.uu.net |
| 63.27.120.122 | 1Cust122.tnt1.carbondale.il.da.uu.net |
| 63.27.120.133 | 1Cust133.tnt1.carbondale.il.da.uu.net |
| 63.27.120.147 | 1Cust147.tnt1.carbondale.il.da.uu.net |
| 63.27.120.163 | 1Cust163.tnt1.carbondale.il.da.uu.net |
| 63.27.120.173 | 1Cust173.tnt1.carbondale.il.da.uu.net |
| 63.27.120.179 | 1Cust179.tnt1.carbondale.il.da.uu.net |
| 63.27.120.18 | 1Cust18.tnt1.carbondale.il.da.uu.net |
| 63.27.120.204 | 1Cust204.tnt1.carbondale.il.da.uu.net |
| 63.27.120.214 | 1Cust214.tnt1.carbondale.il.da.uu.net |
| 63.27.120.235 | 1Cust235.tnt1.carbondale.il.da.uu.net |
| 63.27.120.24 | 1Cust24.tnt1.carbondale.il.da.uu.net |
| 63.27.120.241 | 1Cust241.tnt1.carbondale.il.da.uu.net |
| 63.27.120.254 | 1Cust254.tnt1.carbondale.il.da.uu.net |
| 63.27.120.37 | 1Cust37.tnt1.carbondale.il.da.uu.net |
| 63.27.120.38 | 1Cust38.tnt1.carbondale.il.da.uu.net |
| 63.27.120.66 | 1Cust66.tnt1.carbondale.il.da.uu.net |
| 63.27.120.67 | 1Cust67.tnt1.carbondale.il.da.uu.net |
| 63.27.120.89 | 1Cust89.tnt1.carbondale.il.da.uu.net |
| 63.27.120.91 | 1Cust91.tnt1.carbondale.il.da.uu.net |
| 63.27.120.98 | 1Cust98.tnt1.carbondale.il.da.uu.net |
| 63.39.89.1 | 1Cust1.tnt10.tco2.da.uu.net |
| 63.46.46.143 | 1Cust143.tnt2.sierra-vista.az.da.uu.net |
| 63.64.208.20 | host20.208.64.63 |
| 63.66.18.6 | pimpin.yerbox.org |
| 63.66.18.8 | webmail.haylan.net |
| 63.69.211.217 | 63.69.211.217 |
| 63.70.26.91 | 63.70.26.91 |
| 63.81.226.70 | ppp.63.81.226.070.dragonbbs.com |
| 63.83.225.106 | 63.83.225.106 |
| 63.94.12.3 | onramp.i2k.com |
| 63.94.12.5 | offramp.i2k.com |
| 63.98.143.10 | 63.98.143.10 |
| 64.110.122.243 | host-64-110-122-243.interpacket.net |
| 64.180.54.112 | ak0a19wxb134i.bc.hsia.telus.net |
| 64.193.123.121 | dsl-64-193-123-121.telocity.com |
| 64.197.163.152 | A070-0978.CMB2.splitrock.net |

| Source IP | Host Name |
|---|---|
| 64.197.163.41 | A070-0867.CMB2.splitrock.net |
| 64.197.163.45 | A070-0871.CMB2.splitrock.net |
| 64.20.129.230 | ip-20-129-230.nyc-t.navipath.net |
| 64.20.134.227 | ip-20-134-227.nyc-t.navipath.net |
| 64.208.37.55 | crawler2.googlebot.com |
| 64.229.0.11 | HSE-Hamilton-ppp191376.sympatico.ca |
| 64.24.44.141 | c04-141.012.popsite.net |
| 64.252.0.93 | 93.0.252.64.snet.net |
| 64.252.1.124 | 124.1.252.64.snet.net |
| 64.252.4.55 | 55.4.252.64.snet.net |
| 64.37.114.73 | server5.twistedhumor.com |
| 64.37.114.76 | server13.twistedhumor.com |
| 64.38.143.132 | ip-64-38-143-132.dialup.seanet.com |
| 64.64.226.2 | 64.64.226.2 |
| 64.65.0.178 | python.ircore.net |
| 64.65.0.206 | 64.65.0.206 |
| 64.65.0.83 | ns.thisnet.org |
| 64.65.2.253 | ns.eliteorbit.com |
| 64.65.56.114 | ns.hostingtower.com |
| 64.7.75.82 | 64.7.75.82 |
| 64.80.63.121 | kkr121.parklink.com |
| 64.81.30.185 | dsl081-030-185-sea1.dsl-isp.net |
| 64.84.40.12 | 12-40.84.64.master-link.com |
| 64.86.5.250 | proxy3.monitor.dal.net |
| 64.86.6.250 | proxy2.monitor.dal.net |
| 65.1.218.215 | 65.1.218.215 |
| 65.26.138.18 | mkc-65-26-138-18.kc.rr.com |
| 65.27.52.68 | wks-65-27-52-68.kscable.com |
| 65.5.30.2 | c623920-c.ptlum1.sfba.home.com |
| 66.26.46.225 | rdu26-46-225.nc.rr.com |

## Insights and Correlations from Previous Students' Practicals

### Watchlist (NET-NCFC)

As member of the Watchlist (NET-NCFC), Network 159.226.X.X, continues to display hostile behavior. This network, according to a whois query, is The Computer Network Center Chinese Academy of Sciences. It is ranked #3 on my list of Top 30 Source Networks list, which ranks source networks by the number of alerts that originated from them. It was interesting to find that 96% (7852 SMTP alerts/8166 total alerts) of the alerts were SMTP alerts. This activity pattern was also noted by Clark Crist, GCIA at http://www.sans.org/y2k/practical/Crist_Clark_GCIA.html. He, too, noted "significant SMTP traffic" from the 159.226.X.X network.

Top 10 Most Attempted Access MY.NET IPs from 159.226.X.X:

| MY.NET IPs | Frequency (# of Alerts from 159.226.X.X) |
|---|---|
| 192.169.6.7 | 5801 |
| 192.169.100.230 | 1299 |
| 192.169.253.43 | 461 |
| 192.169.253.41 | 186 |
| 192.169.253.42 | 155 |
| 192.169.99.51 | 70 |
| 192.169.100.81 | 53 |
| 192.169.145.9 | 41 |
| 192.169.6.34 | 13 |
| 192.169.145.18 | 13 |

**DNS-DNS Traffic**

MY.NET had much DNS-DNS (udp 53-udp 53) traffic. Although there is nothing technically wrong with this kind of traffic, large traffic to your DNS server from external sources could mean that hostile activity is taking place. The most active source ip, 160.78.49.191, did not resolve on a whois query. The second-most active source ip, 130.89.229.48, was registered to a Netherlands University school computer, and the website is http://www.utwente.nl . I am uncertain whether you have any affiliation with these two networks, but if you have no connection with them, you may want to have this investigated. Unregistered networks and school networks are good places for attackers to launch their attacks. Donald MacLeod, GCIA also saw the same suspicious traffic from different source IPs at http://www.sans.org/y2k/practical/D_MACLEOD_GCIA.doc.

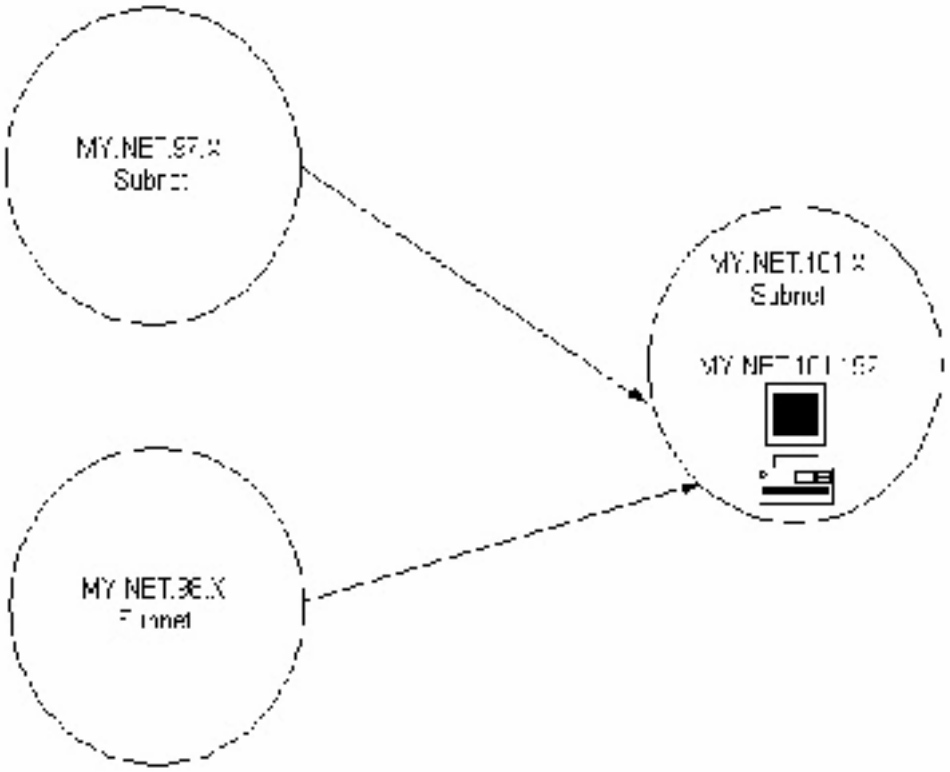
| Source IP | Frequency (# of Accesses) |
|---|---|
| 160.78.49.191 | 7199 |
| 130.89.229.48 | 3860 |
| 195.103.69.159 | 3292 |
| 212.0.107.107 | 2338 |
| 143.89.13.3 | 1584 |
| 192.102.197.234 | 23 |
| 205.128.11.157 | 4 |
| 63.104.49.126 | 3 |

**SNMP with Public String**

SNMP with the default strings is a major security hazard and is noted on SANS top ten list. The SNORT alarms informed me that hosts in the MY.NET.97.X network and in the MY.NET.98.X network were sending SNMP traffic to MY.NET.101.192 using the common "public" string. This poses a risk to MY.NET, and the community string should be changed to a better one. The link graph on the following page displays the SNMP traffic. William Stearns, GCIA, has also seen similar SNMP traffic of hosts reporting to a single manager. http://www.sans.org/y2k/practical/william_stearns_gcia.html

# Assignment 2 LINK GRAPH

**SNMP Traffic Link Graph**




**Statistics**

Total SNMP Alerts = 450
Total SNMP Alerts sourcing from MY.SUBNET.97.X = 23
Total SNMP Alerts sourcing from MY.SUBNET.90.X = 207

**Conclusions**

- All SNMP Traffic originated from either the MY.NET.97.X or the MY.NET.90.X subnet.

- All SNMP Traffic was directed towards one specific host: MY.NET.101.192.

From the statistics, one can assume that MY.NET.101.192 is the SNMP manager, and the hosts that produced the SNMP Alerts are the SNMP agents.

- checked for any SNMP Alerts that were either from an external source or destined to an external source, and there was none.

**SUNRPC High Port Access**

This is another alert that is on SANS Top ten list. As mentioned previously, access to the SUNRPC ports should be monitored closely especially if the source is from outside the network. The top nine source IPs were not resolvable by a whois query. Compared to Clark Crist's practical (http://www.sans.org/y2k/practical/Crist_Clark_GCIA.html), I have relatively small number of SUNRPC port accesses (60 SUNRPC high port access alerts). The most active source IP, 216.10.12.30, constantly used port 2078 to connect to the SUN RPC port 32771. The same activity (with a different souce port however) is shown also in Clark Crist's practical.

| Source Ips | Frequency (# of Accesses) |
|---|---|
| 216.10.12.30 | 33 |
| 216.148.218.160 | 6 |
| 205.188.3.211 | 4 |
| 24.18.90.197 | 3 |
| 205.188.3.239 | 3 |
| 195.34.28.117 | 3 |
| 205.188.4.2 | 2 |
| 24.40.46.225 | 1 |
| 216.10.12.2 | 1 |
| 212.86.129.227 | 1 |
| 211.46.110.81 | 1 |
| 205.188.1.105 | 1 |
| 129.123.6.14 | 1 |

**Telnet Activity – Possible Prelude to Compromise**

Probing deeper into the activities of the Watchlist IPs, I decided to explore telnet as did Clark Crist. I came up with similar findings. There are Watchlist hosts that try to establish a telnet session with one MY.NET. host. There does seem to be telnet activity going on. This is my recreation of the scene:

1. It seems that the first connect is shown in the first alert where the source host port: 1665 is connecting to telnet port 23 on the MY.NET. host.
2. Then for the next four packets, it appears the telnet session continues. I thought that this maybe a TCP retry but the retry times are not consistent and they are sometimes 34 seconds apart.
3. On the sixth alert shown, it appears the attacker tries to establish another telnet connection (shown by the new source port 1509) with the same MY.NET host. It appears he is not able to do so this time.
4. It appears though the original telnet session is still going on all the way till the end where no more further data is provided. I am assuming either the connection was terminated or logging ceased for one reason or another.
5. Then the last two alerts show a new telnet session trying to be established from a different Watchlist host (`159.226.45.3`).

I looked at the OOS files hoping that the packets for this telnet activity was captured, but they were not available. It would have been very informative and interesting to see what data was passed back and forth in the payload of the packets.

```
10/09-20:09:09.857962  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:09:19.670104  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:10:53.624198  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:10:56.334002  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:12:56.760300  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:07:59.340476  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1509 -> 192.169.6.7:23
10/09-20:09:09.857962  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:09:19.670104  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:10:53.624198  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:10:56.334002  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/09-20:12:56.760300  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.204:1665 -> 192.169.6.7:23
10/06-00:00:02.864385  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.3:1201 -> 192.169.6.7:23
10/06-00:00:03.582799  [**] Watchlist 000222 NET-NCFC [**]
159.226.45.3:1201 -> 192.169.6.7:23
```

**HAPPY 99 Virus – A possible compromise**

There were only two hosts that were recipients of the Happy 99 Virus via email. The destination port 25 (SMTP) shows that the virus was sent via email by two different sources. The first source IP, 216.6.117.11, resolved to NS2.HYPERIA.COM, and the second IP, 209.94.224.13, does not resolve. Again, I checked the OOS files to see if a possible compromise may have occurred, but when I grep'ed the time for both of the alert times, I did not come up with any hits.

```
10/05-03:59:51.460766  [**] Happy 99 Virus [**] 216.6.117.11:41827 ->
192.169.253.41:25
11/06-16:06:44.170359  [**] Happy 99 Virus [**] 209.94.224.13:2708 ->
192.169.6.35:25
```

## Defensive Recommendations

1. Since 26% (39,146 Watchlist Alerts/ 151,038 total alerts) of the alerts received were from Watchlist sources, it may be a good idea to block traffic altogether from these Watchlist IPs altogether at the border router or the firewall.

2. As discussed previously, there was much SMTP traffic from a Watchlist source IP. There are various SMTP exploits that have been proven to be very detrimental to a network. As a result, the SANS top ten list recommends that the SMTP port (25 tcp) should be blocked "to all machines, which are not external mail relays".

3. To improve SNMP security, one should block SNMP ports (161 tcp & udp, 162 tcp & udp) on the border router or the firewall to prevent external sources access from sending SNMP traffic to your network. Also, the "public" community string must be changed to an uncommon string.

4. To improve DNS security, DNS ports (53 udp) should be blocked to all machines which are not DNS servers. To prevent exploits on DNS zone transfers, port 53 (tcp) should also be blocked except from external secondary DNS servers.

5. To prevent any exploits on hosts running SUN RPCs, port 32771 should be blocked as well on the border router and firewall. You may also want to do a scan of your own network to see what hosts have the SUN RPC service running, and you may want to turn the RPC services off.

6. Also you may want to consider (stemming from my analysis on a telnet session established by a Watchlist source IP), blocking telnet at the border router and firewall as well. If inbound telnet access is needed then make a specification of what range of IPs are permitted to have inbound telnet sessions. Also you may also want to check the host (MY.NET.6.7) that had the telnet session mentioned above for signs of compromise.

7. Since you have two separate instances of the Happy 99 Virus, you should immediately inspect the hosts that received them and ask the personnel if the attachment was opened. The two hosts were: 192.169.253.41:25 and 192.169.6.35:25.

### Other Suggestions

1. If you have the funds and the means to do so, you may want to set up a honey pot in your DMZ, and log traffic going to the honey pot.
2. To avoid lapses in log data, you may want to have a back-up IDS with plenty of disk space and a back-up power source.

3. Set up host IDS systems wherever possible. Real Secure has a host IDS and even NT's Network Monitor logs packets it receives.
4. Pay careful attention to the source ips, destination ports, and destination ips that were mentioned in the Top 30 lists mentioned above.

## Summary

Your network is a target of various types of attacks, scans, and probes. It is imperative that security be a main concern for your network. Some attacks may have passed through your current defenses, and closer inspection of probable compromised hosts is needed. The Happy 99 Virus, for example, may have infected other computers of your network. I am not quite sure where the SNORT IDS system was placed (hopefully before your firewall), but in case it is not before your firewall, I believe your border router access control lists and firewall rules need to be updated. As a conclusion, I will briefly summarize my findings. There were many alerts caused by traffic from Watchlist source ips. In one trace, it was interesting to find that 96% of the traffic from one of the watchlist source ip's was for SMTP. DNS was also a hot target as well. MY.NET. is still using the default "public" string for SNMP. There were a few connections to the SUN RPC port, but it only takes one to compromise a host and begin an attack. Telnet sessions were also seen established by a source ip belonging to the Watchlist. The happy Virus may have compromised at least two hosts as well.

# Assignment 3 - Analysis Process

## Preparation

Before I began anything, I read the analysis processes of other practicals before I began. I needed to know where to start, and I wanted to avoid re-inventing the wheel wherever possible. Before long, I knew what troubles others had to face, and I got some pretty good suggestions on how to handle huge files of data.

After I got a good idea of what others did and what pitfalls to avoid, I mapped out a strategy of how I was going to handle the data. It didn't take me too long to realize that I would have to give up my attachment to Windows and read a good UNIX book and learn some UNIX tools. I read "UNIX Unleashed by SAMS Publishing"; it's a pretty good book. I did not have constant access to a LINUX or UNIX machine, so I took the advice of a friend and downloaded CYGWIN from www.download.com. It puts a Unix shell on your Windows PC and lets you run many of UNIX's basic commands. It suited my needs fine for this assignment.

I, then, downloaded the Alert, Scan, and OOS files and I was practicing sed, grep, awk, and sort. As time progressed, they practically became my best friends. =)

## Data Manipulation

I downloaded the zipped files down to my computer, and I created separate directories for each. I then unzipped the files in their respective directories. I then concatenated all the separate files into one large file. I issued the following commands

```
grep –h '^[0-1]' SnortAle.txt SnortA[0-9]*.txt > allalerts
grep –h '^[SON][eco][ptv]' SnortSca.txt SnortS[0-9]*.txt > allscans
cat OOScheck.txt OOSche[0-9]*.txt >alloos
```

These commands get rid of the headings and comments are in the individual data files.

## Converting the data files to space delimited format

The awk command works wonders with space delimited data files. The only problem was that the alert data files had spaces in the alert identifier. I needed to get rid of the spaces in the alert name to properly use awk. So I used a a series of sed commands:

```
sed –e 's/\[\*\*\]/,/g' allalerts >z        (turns the [**] into a comma)
sed –e 's/-/,/g' z>z2                       (separates the date and the time by a comma)
sed –e 's/\([0-9][0-9]*\.[0-9][0-9]*\):\([0-9]\)\1/,\2/g' z2 >z3   (parses the time)
sed –e 's/>//g' z3>z4                       (gets rid of extra > mark)
sed –e 's/ //g' z4>z5                       (gets rid of the spaces everywhere)
```

sed –e ‘s/,/ /g’z5>z6 (turn all the commas to spaces)

The scan files were very easy to parse using awk because everything is space delimited already, so you can use awk right away.

## Further manipulation of the data to get specific data

The spp_scans threw off my data so I pulled them out and handled them separately.
grep –v ‘spp’ z6> allalerts2

Now you can pick and choose what field you want to print using the awk command. To get a unique listing of attacks you would use:

awk ‘{print $3}’ allalerts2 | sort –u >listofattacks

To pick and choose which fields you want, and to format your logs so that fields are easy to search we use awk again. For example if we want to display the source and destination ip’s only you would do the following:

```
awk ‘{print $5” “$6}’ allalerts2 | sed –e ‘s/:/ /g’ |
        awk ‘{print “sip “$1” dip “$3}’ > alertsourcedestip
```

Now, to get source and destination ports you would do something very similar:

```
awk ‘{print $5” “$6}’ allalerts2 | sed –e ‘s/:/ /g’ |
        awk ‘{print “s_port “$2” d_port “$4}’ > alertsourcedestport
```

For the scan files you would use very similar awk commands as shown above.

To sort through the OOS files, I just resorted to a combination of grep commands to find certain fields I was looking for.

To do a list of source addresses and registration info, I downloaded snort_sort.pl from www.snort.com and used it. It took just under an entire day for the script to resolve all the alert source IPs. Unfortunately for me, sort_sort outputs its data into html format for viewing in a web browser. When the script was through, I went through a long sequence of sed and awk commands to take out the html parts. I finally ended up with a two column data file with source ips and resolved host names. Here are some of the steps I performed

sed –e ‘s/<a href=http:\/\/www.arin.net\/cgi-bin\/whois.pl?queryinput=/ /g’ snortsort.html>z

sed –e ‘s/<\/a>:/ /g’ z >z2

grep '<h3>' z2 (in snort_sort, all the data records began with '<h3>')

etc…

then I used awk to get the columns, I wanted (source ip and resolved host name).

**Top Talkers List**

Now to do a top talkers list, I needed to make a counting algorithm. For easy and quick counts I used combinations of piped grep commands and wc commands. But for the more laborious counts I needed a program or a script. Due to my limited understanding of scripting, I wrote and compiled a C program called counter.c that counts the number of occurrences of a specific field and outputs to a file called "countresults.txt". The program is in appendix A. This is a very quick and dirty program I wrote; the algorithm is inefficient, but it does its job. If you would like to use it, a little modification may be necessary. With this program, I got all the results for my Top 30 lists (the top talker's lists). It takes in a file called an index which is a list of unique strings (the strings to be searched for), and it takes another file (target file) which is composed of multiple occurrences of the unique strings. It will maintain a count of how many times each unique string occurs in the target file. For you to use it, you must compile it first with a c compiler. I used gcc to compile mine. To compile, issue the command: gcc counter, and it turn gcc will give you an executable so you can run it (usually a.out).

Now for the top talker's list for source IP's, I first used the counter.c program but that proved to be ineffective because there are millions of source IPs. I decided to do a top talker's list by source NETWORKS instead. So I had to modify my count.c code to do a little more, and hence came ipfinder.c (don't ask me why I chose this name). Ipfinder.c will take a list of IP addresses and search for and maintain a count of how many times each ip address in that list appears. It will also categorize each IP address by class. Note: you must feed it two identical data files. Yes, it is inefficient, but quick and dirty. You can find the code for ipfinder.c in appendix B. The program; however, slow it was proved to be quite useful. It ouputs the data to a file called "ipfindercount.txt". In order to use it, you must first compile this program as well. I again used gcc.

**Correlations**
I performed my correlations by doing searches on SANS, google, securityfocus.com,etc for the topic I wanted to correlate with.

**Link Graph**
I did my link graph on SNMP traffic analysis. Through various grep and wc commands I came up with how SNMP traffic was going and I did my link graph on VISIO.

**Defensive Recommendations**
I came up with my analysis and defense recommendations through my readings of other practicals and through searches on other security sites. SANS Top 10 was a good guide to go by.

# Appendix A- counter.c

```
#include <stdio.h>
#include <string.h>

int main (void){

int counter = 0;
char stringdescription[100];
char searchedstring[20], currentstring[20];
char indexfile[200], comparisonfile[200];

FILE *index;
FILE *file;
FILE *output;

printf("Enter the index file: ");
gets(indexfile);

index = fopen(indexfile,"r");

if(index==NULL) {
       printf ("Can't open the indexfile.");
       return 1;
  }
output = fopen("countresults.txt","w");

printf("Enter the comparisonfile: ");
gets(comparisonfile);

printf("Enter description: ");
gets(stringdescription);

while(fgets(searchedstring,20,index)!=NULL) {
    file = fopen(comparisonfile,"r");
    if(file==NULL) {
       printf ("Can't open the comparisonfile");
      return 1;
    }

    while(fgets(currentstring,20,file)!=NULL) {
        if(strcmp(currentstring,searchedstring)==0)
            counter++;
    }

    fprintf(output,"count= %d %s
%s",counter,stringdescription,searchedstring);
    counter = 0;
    fclose(file);
}
fclose(index);
fclose(output);
printf("Done.");
}
```

# Appendix B- ipfinder.c

```
#include <stdio.h>

int octet1=0,octet2=0,octet3=0,octet4=0,counter=0;
int octet21=0,octet22=0,octet23=0,octet24=0;
char class;
char record[400],record2[400];
char inputfile[400],inputfile2[400];

FILE *datafile, *datafile2;
FILE *outputfile;

int main (void){

printf("Enter the data file:");
gets(inputfile);

datafile =fopen(inputfile,"r");
if(datafile==NULL) {
       printf ("Can't open the datafile.");
       return 1;
}

printf("Enter the second file:");
gets(inputfile2);


outputfile = fopen("ipfindercount.txt","w");

while(fgets(record,400,datafile)!=NULL) {
      sscanf(record," %d %d %d %d ", &octet1, &octet2, &octet3,
&octet4);
/*
      fprintf(outputfile,"ipaddress %d.%d.%d.%d count
%d\n",octet1,octet2,octet3,octet4,counter);
*/

      datafile2 =fopen(inputfile2,"r");
      if(datafile2==NULL) {
                  printf ("Can't open datafile2");
      return 1;
      }

      while(fgets(record2,400,datafile2)!=NULL) {
            sscanf(record2," %d %d %d %d ", &octet21, &octet22,
&octet23, &octet24);

            if ((octet1==10) && (octet21==10)){
                  counter ++;
                  fprintf(outputfile,"class Z PossibleReservedIP
%d.X.X.X count %d\n", octet1,counter);
                  counter=0;
            }
```

```
            if ((octet1==127) && (octet21==127)){
                  counter ++;
                  fprintf(outputfile,"class Z PossibleReservedIP
%d.%d.%d.%d count %d\n", octet1,octet2,octet3,octet4,counter);
                  counter=0;
            }


            if ((octet1==192) && (octet21==192) && (octet2==168) &&
(octet22==168)){
                  counter ++;
                  fprintf(outputfile,"class Z ReservedIP %d.%d.%d.X
count %d\n", octet1,octet2,octet3,counter);
                  counter=0;
            }


            if((octet1 >=1) && (octet1 <=126)){
                  class='A';
                  if (octet1 == octet21){
                        counter ++;
                  }
/*
                  fprintf(outputfile,"class %c ipaddress %d.%d.%d.%d
count %d\n", class,octet1,octet2,octet3,octet4,counter);
*/

            }



            if ((octet1 >=128) && (octet1 <=191)){
                  class='B';

                  if ((octet1 == octet21) && (octet2 ==octet22)){
                        counter ++;
                  }
/*
                  fprintf(outputfile,"class %c ipaddress %d.%d.%d.%d
count %d\n", class,octet1,octet2,octet3,octet4,counter);
*/

            }



            if ((octet1 >=192) && (octet1 <=224)){
                  class='C';

                  if ((octet1 == octet21) && (octet2 ==octet22) &&
(octet3 == octet23)){
                        counter ++;
                  }

            }

      }
```

```
if (counter==0){
      continue;
}

if (class=='A'){
      fprintf(outputfile,"class %c ipaddress %d.X.X.X count
%d\n",class,octet1,counter);
}

if (class=='B'){
      fprintf(outputfile,"class %c ipaddress %d.%d.X.X count
%d\n",class,octet1,octet2,counter);
}

if (class=='C'){
      fprintf(outputfile,"class %c ipaddress %d.%d.%d.X count
%d\n",class,octet1,octet2,octet3,counter);
}

counter=0;
fclose(datafile2);
}

fclose(datafile);
fclose(outputfile);
printf("Done.");
}
```