



Global Information Assurance Certification Paper

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```
Mar  4 16:58:40 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.1.51:9999 10.0.0.115:53 L=70 S=0x00 I=44800
F=0x0000 T=25 (#100)
Mar  4 17:08:03 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.1.51:9999 10.0.0.116:53 L=70 S=0x00 I=45057
F=0x0000 T=25 (#100)
```

This sequence repeats after a ~7:30 pause for one hour 30 minutes.

Notables:

- * The IP ID used the same numbers in each repetition of the sequence.
- * The packet size was always the same. Payload unknown.
- * Each live machine on our network received packets during each repetition.
- * The source port was the same in every repetition.
- * Approx. 8 packets in each repetition.

Summary: This detect comes from the packet filter logs on our firewall.

Its pattern stands out clearly from simply grepping the logs. An

nslookup on the source IP gives
machine51.somewhere.tld. which

seems to indicate a lab type machine probably with little supervision.

A nice place to do network mapping from and ship the results 'home'.

Technique: Poor. Perhaps they are just learning to use their new tool?

One scan would have been interesting, but repeating it for an hour

and a half is foolish.

Intent: Information gathering. They are trying to locate (and possibly

determine version) DNS servers at each IP.

Severity: Low. All the packets were dropped by the firewall. DNS is not

accessible from the outside.

[illegible]

```
date/time:          machine/facility:      rule:
action:interface:protocol:
src ip/port:        dst ip/port:  length:TOS:  IP ID: IP
Flags: TTL: rule#
```

Notables:

- ```
* Source port is the same for each packet.
* All the destination ports are 'interesting'.
```













Apr 4 10:51:49 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.240:80 10.0.0.114:1863 L=52 S=0x00 I=9439 F=0x4000  
T=49 (#11)  
Apr 4 10:52:06 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.240:80 10.0.0.114:1863 L=52 S=0x00 I=15009 F=0x4000  
T=49 (#11)  
Apr 4 10:52:38 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.240:80 10.0.0.114:1863 L=52 S=0x00 I=18496 F=0x4000  
T=49 (#11)  
Apr 4 10:53:44 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.240:80 10.0.0.114:1863 L=52 S=0x00 I=33762 F=0x4000  
T=49 (#11)  
Apr 4 10:55:44 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.240:80 10.0.0.114:1863 L=52 S=0x00 I=61459 F=0x4000  
T=49 (#11)  
Apr 4 10:57:44 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.240:80 10.0.0.114:1863 L=52 S=0x00 I=20983 F=0x4000  
T=49 (#11)

Apr 4 10:50:00 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.244:80 10.0.0.114:1834 L=52 S=0x00 I=49491 F=0x4000  
T=49 (#11)  
Apr 4 10:50:02 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.244:80 10.0.0.114:1834 L=52 S=0x00 I=49863 F=0x4000  
T=49 (#11)  
Apr 4 10:50:07 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.244:80 10.0.0.114:1834 L=52 S=0x00 I=50288 F=0x4000  
T=49 (#11)  
Apr 4 10:50:16 fw kernel: Packet log: input REJECT eth3  
PROTO=6  
10.2.7.244:80 10.0.0.114:1834 L=52 S=0x00 I=52618 F=0x4000  
T=49 (#11)

Notables:

\* The time between packets starts at 1 second and doubles  
between each  
pair up to 120 seconds where it stays for about 20  
minutes.



date/time:                    machine/facility:                    rule:  
action:interface:protocol:  
src ip/port:                dst ip/port:    length:TOS:    IP ID: IP  
Flags: TTL: rule#

Dec 23 17:08:51 fw kernel: Packet log: input REJECT eth3  
PROTO=17  
10.0.0.16:138 10.0.0.255:138 L=216 S=0x00 I=49943 F=0x0000  
T=128 (#19)  
Dec 23 17:09:15 fw kernel: Packet log: input REJECT eth3  
PROTO=17  
10.0.0.200:138 10.0.0.255:138 L=234 S=0x00 I=36748 F=0x0000  
T=128 (#19)  
Dec 23 17:09:17 fw kernel: Packet log: input REJECT eth3  
PROTO=17  
10.0.0.200:137 10.0.0.255:137 L=78 S=0x00 I=37516 F=0x0000  
T=128 (#17)  
Dec 23 17:09:48 fw kernel: Packet log: input REJECT eth3  
PROTO=17  
10.0.0.15:138 10.0.0.255:138 L=246 S=0x00 I=4096 F=0x0000  
T=128 (#19)  
Dec 23 17:10:08 fw kernel: Packet log: input REJECT eth3  
PROTO=17  
10.0.0.5:138 10.0.0.255:138 L=229 S=0x00 I=27910 F=0x0000  
T=128 (#19)  
Dec 23 17:10:18 fw kernel: Packet log: input REJECT eth3  
PROTO=17  
10.0.0.15:138 10.0.0.255:138 L=231 S=0x00 I=19712 F=0x0000  
T=128 (#19)  
Dec 23 17:10:40 fw kernel: Packet log: input REJECT eth3  
PROTO=17  
10.0.0.23:138 10.0.0.255:138 L=241 S=0x00 I=44376 F=0x0000  
T=128 (#19)

Syslog from a system under test on our network.

Dec 27 11:42:11 tun1 /bsd: ARP information for 10.0.0.254  
overwritten from ethernet address 00:D0:B7:0E:AA:9C  
Dec 27 11:45:34 tun1 /bsd: ARP information for 10.0.0.254  
verwritten from ethernet address 00:D0:B7:06:83:00

#### Notables:

- \* There are many source IPs involved.
- \* They match the actual distribution of our private network.
- \* The TTLs are all the same and indicate they are probably not from the







Conclusion: Further action was to install snort in preparation for what may come.

Log format:

```
Mar 30 10:14:15 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.1.11:53 10.0.0.114:64726 L=232 S=0x00 I=53130
F=0x0000 T=44 (#107)
Mar 30 10:14:43 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.1.11:53 10.0.0.114:64726 L=232 S=0x00 I=54829
F=0x0000 T=44 (#107)
Mar 30 10:15:39 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.1.11:53 10.0.0.114:64726 L=232 S=0x00 I=58238
F=0x0000 T=44 (#107)
```

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```
Mar 30 10:14:11 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.70.4:53 10.0.0.114:64726 L=232 S=0x00 I=44947
F=0x4000 T=242 (#107)
Mar 30 10:14:35 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.70.4:53 10.0.0.114:64726 L=232 S=0x00 I=44949
F=0x4000 T=242 (#107)
Mar 30 10:15:23 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.70.4:53 10.0.0.114:64726 L=232 S=0x00 I=44951
F=0x4000 T=242 (#107)

Mar 30 10:14:27 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.222.4:53 10.0.0.114:64726 L=232 S=0x00 I=44948
F=0x4000 T=242 (#107)
Mar 30 10:15:07 fw kernel: Packet log: input REJECT eth3
PROTO=17
192.168.222.4:53 10.0.0.114:64726 L=232 S=0x00 I=44950
F=0x4000 T=242 (#107)
```

Notables:

- \* 3 machines/ 4 IPs involved in 'scanning' the dest. port at the same time.
- \* 2 IPs are from .mil and 2 are from .edu
- \* One scan has a different length than the others.
- \* The delay increases rather than staying steady like OS generated traffic would. Each scan shows the same timing pattern.
- \* The IP ID numbers make sense.
- \* The TTLs are about correct or the IPs seen.

Summary: Here our firewall is receiving packets on a particular port from four sources at once. The machines the packets come from all run DNS.

Technique: Fair. There seems to be a scan of multiple machines DNS going on using our IP.

Intent: Network mapping with spoofed IPs as chaff.

Severity: Low. The .mil systems will be able to understand this. The .edu

[illegible]

unknown. No further action possible.

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