



Ethical Hacking and Countermeasures

Version 6



Module XVI

Hacking Web Servers

SpeedCake4u, a cake manufacturing firm wants to set up a website for showcasing its products. Matt, a high school graduate was assigned the task of building the website. Even though Matt was not a pro in website building, the \$2000 pay was the main motivation for him to take up the task.

He builds a website with all the features that the company management asked.

The following day the cake manufacturing firm's website was defaced with the Title "Your cake stinks!"

How was it possible to deface the website?

Is Matt the culprit?



PCWorld

Hack Attack Hits 10,000 Web Sites

Infected sites feed exploits to visitors--and more sites are affected than first suspected.

Gregg Keizer, Computerworld

Friday, January 18, 2008 03:50 PM PST

A large-scale hack of legitimate Web sites to infect visitors' PCs is much more massive than first thought, researchers said Friday. At least 10,000 sites have been compromised, and have hijacked unpatched systems that steered to their URLs.

On Monday, Mary Landesman, a senior security researcher at ScanSafe Inc., said that she had uncovered [hundreds of sites which had been hacked](#) and were feeding exploits to visitors. Friday, Don Jackson, a senior researcher with Atlanta-based SecureWorks Inc., said the number was considerably larger.

According to ScanSafe's data, approximately 10,000 sites hosted on Linux servers running Apache, the popular open-source Web server software, have been hacked, most likely with purloined log-in credentials. Those servers have been infected with a pair of files that generate constantly-changing malicious JavaScript. When visitors reach the hacked site, the script calls up an exploit cocktail that includes attack code targeting recent QuickTime vulnerabilities, the long-running Windows MDAC bug, and even a fixer flaw in Yahoo Messenger.

If the visitor's PC is unpatched against any of the nine exploits Jackson listed, it's infected with new variant of Rbot, the notorious backdoor Trojan he called "a very nasty piece of software." The end result: The PC is added to a botnet.

Jackson can't prove how the sites were originally hacked, but all the evidence points to the theft of log-on credentials; one reason why he came to that conclusion is that hosts that have been cleaned of the infection -- or in some cases even had Linux reinstalled -- are quickly reinfected.

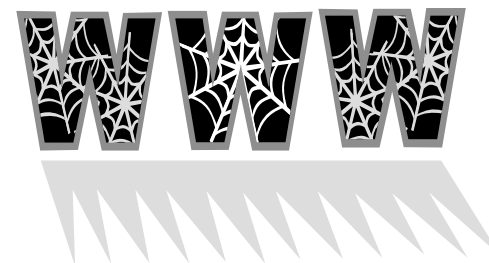
"There was no sign of brute forcing [of passwords] just prior to the infection," said Jackson, "but attackers hosting companies are hit all the time with password attacks. It's part of doing business."

Earlier in the week, Landesman of ScanSafe drew a link between the security breach at U.K.-based Fasthosts Ltd., that country's largest Web hosting vendor, and the site hacks, saying then that the domains ScanSafe had found infected had, or had recently had, a relationship with Fasthosts.

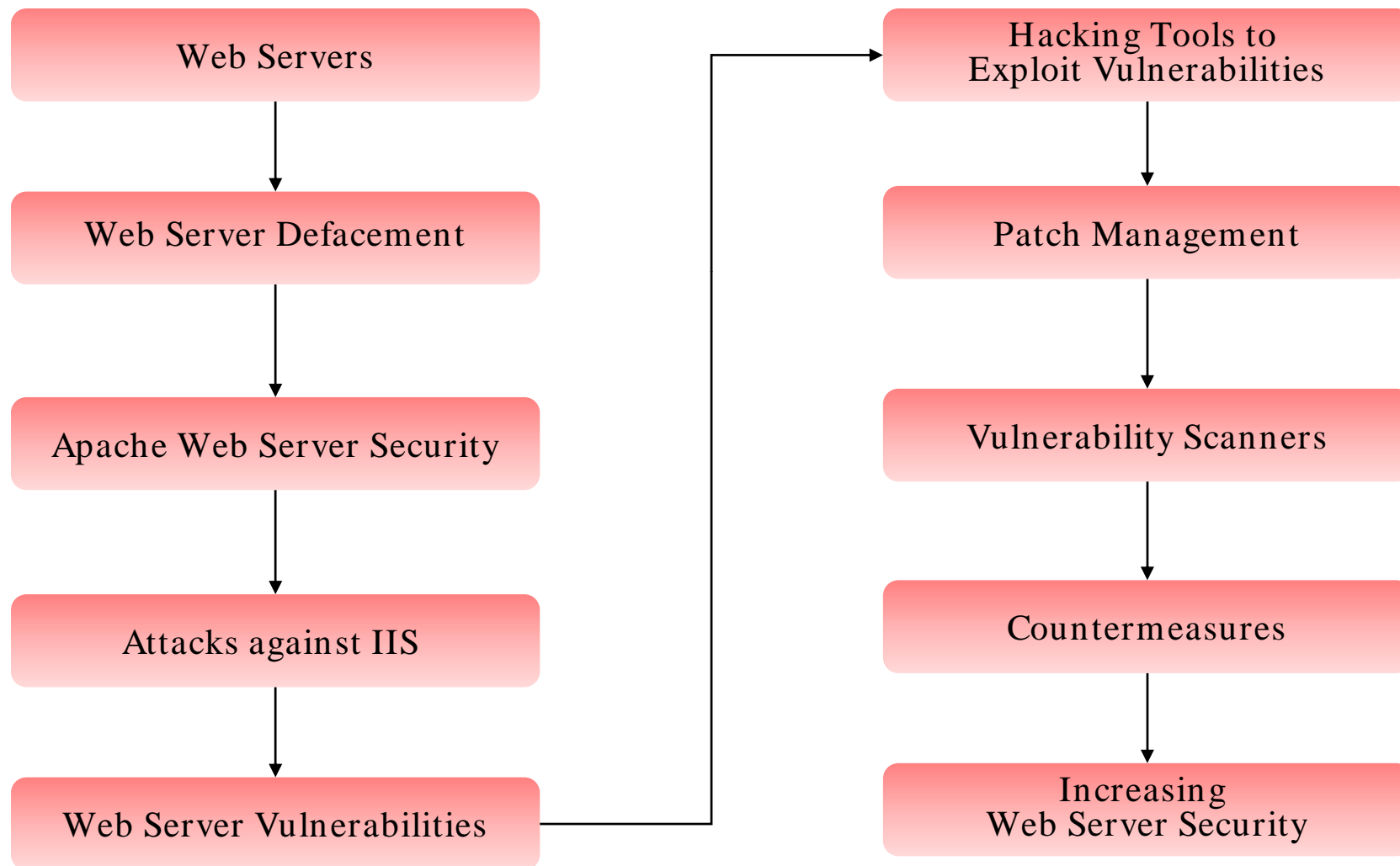
Source: <http://www.pcworld.com/>

This module will familiarize you with :

- Web Servers
- Popular Web Servers and Common Vulnerabilities
- Apache Web Server Security
- IIS Server Security
- Attacks against Web Servers
- Tools used in Attack
- Patch Management
- Understanding Vulnerability Scanners
- Countermeasures
- Increasing Web Server Security



Module Flow



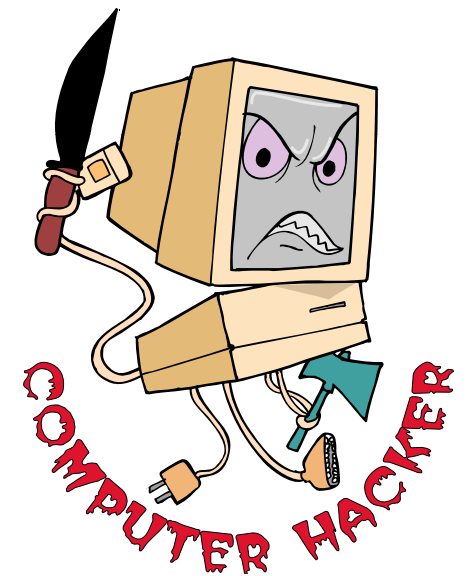
How are Web Servers Compromised

Misconfigurations, in operating systems, or networks

Bugs, OS bugs may allow commands to run on the web

Installing the server with defaults, service packs may not be applied in the process, leaving holes behind

Lack of proper security policy, procedures, and maintenance may create many loopholes for attackers to exploit




Web Server Defacement

Mirror saved on 05/12/2006

Defacer: DeltahackingSecurityTEAM	Domain: [redacted]	IP address: [redacted]
System: Linux	Web server: Apache	Attacker stats

DeltahackingSecurityTEAM



we are : **D_7J** , DR.Trojan , M@asoud HIV++ , Vampire , Ignore

Mail: D_7J@deltahacking.net

website: <http://www.deltahacking.com> <http://www.deltahacking.net>

special thanks to the Delta programmers and defacers

Iranian Hackers Are The Best In The World

Special Thanks To The Zone-h

Iranian Top Attacker: Ashiyane Digital Security Team , Emperor , Nobody Coder , DeltahackingSecurityTEAM , Iran Hackers Sabotage

Mirror saved on 05/18/2006

Defacer: iscorpitx	Domain: http://[redacted]	IP address: [redacted]
System: Win 2003	Web server: IIS 6.0	Attacker stats



HACKED BY iSKORPiTX
 (TURKISH HACKER)

ARMANIAN) FRANCE-) GREECE) PKK TERROR

iscorpitx, marque du monde, présente ses salutations à tout le monde.

How are Web Servers Defaced

Web Servers are defaced by using the following attacks:

- Credentials through Man-in-the-middle attack
- Password brute force Administrator account
- DNS attack through cache poisoning
- DNS attack through social engineering
- FTP server intrusion
- Mail server intrusion
- Web application bugs
- Web shares misconfigurations
- Wrongly assigned permissions
- Rerouting after firewall attack
- Rerouting after router attack
- SQL Injection
- SSH intrusion
- Telnet intrusion
- URL poisoning
- Web Server extension intrusion
- Remote service intrusion



Attacks Against IIS

IIS is one of the most widely used web server platforms on the Internet

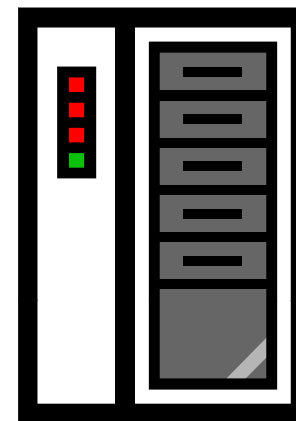
Microsoft's web server has been a frequent target over the years

Various vulnerabilities have attacked it
Examples include:

- :\$DATA vulnerability
- showcode.asp vulnerability
- Piggy backing vulnerability
- Privilege command execution
- Buffer Overflow exploits (IIShack.exe)
- WebDav / RPC Exploits

Warning

These outdated vulnerability has been presented here as a proof of concept to demonstrate how a buffer overflow attack works



IIS 7 Components

IIS 7 contains several components that perform important functions for the application and Web server roles in Windows Server® 2008

Each component has responsibilities, such as listening for requests made to the server, managing processes, and reading configuration files

These components include protocol listeners, such as HTTP.sys, and services, such as World Wide Web Publishing Service (WWW service) and Windows Process Activation Service (WAS)

IIS Directory Traversal (Unicode) Attack

The vulnerability in unpatched Windows 2000 machine results because of a canonicalization error affecting CGI scripts and ISAPI extensions (.ASP is probably the best known ISAPI-mapped file type)

Canonicalization is the process by which various equivalent forms of a name can be resolved to a single, standard name

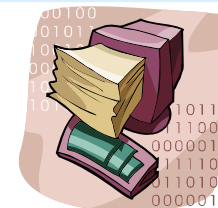
For example, "%c0%af" and "%c1%9c" are overlong representations for ?/? and ?\?

Thus, by feeding the HTTP request (as shown below) to IIS, arbitrary commands can be executed on the server:

```
GET/scripts/..%c0%af../winnt/system32/cmd.exe?/c+dir=c:\ HTTP/1.0
```

Warning

This outdated vulnerability has been presented here as a proof of concept to demonstrate how a buffer overflow attack works



ASCII characters for the dots are replaced with the Unicode equivalent (%2E)

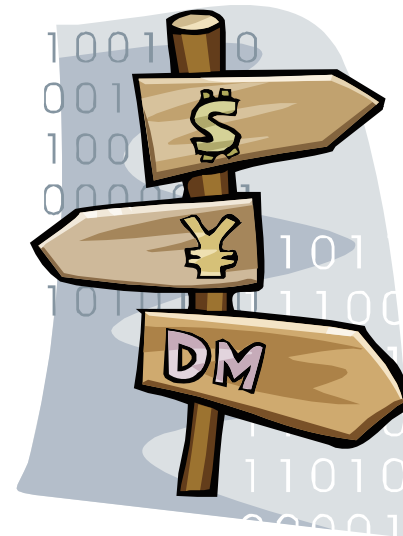
ASCII characters for the slashes are replaced with Unicode equivalent (%c0%af)

Unicode allows multiple encoding possibilities for each characters

Unicode for "/ ": 2f, c0af, e080af, f08080af, f8808080af,

Overlong Unicode is NOT malformed, but it is not allowed by a correct Unicode encoder and decoder

It is maliciously used to bypass filters that check only short Unicode





It occurs due to a canonicalization error in Microsoft IIS 4.0 and 5.0

A malformed URL could be used to access files and folders that lie anywhere on the logical drive that contains the web folders

This allows the attacker to escalate his privileges on the machine

This would enable the malicious user to add, change or delete data, run code already on the server, or upload new code to the server and run it

This vulnerability can be exploited by using the NETCAT as the backdoor (Trojan horse)

Warning

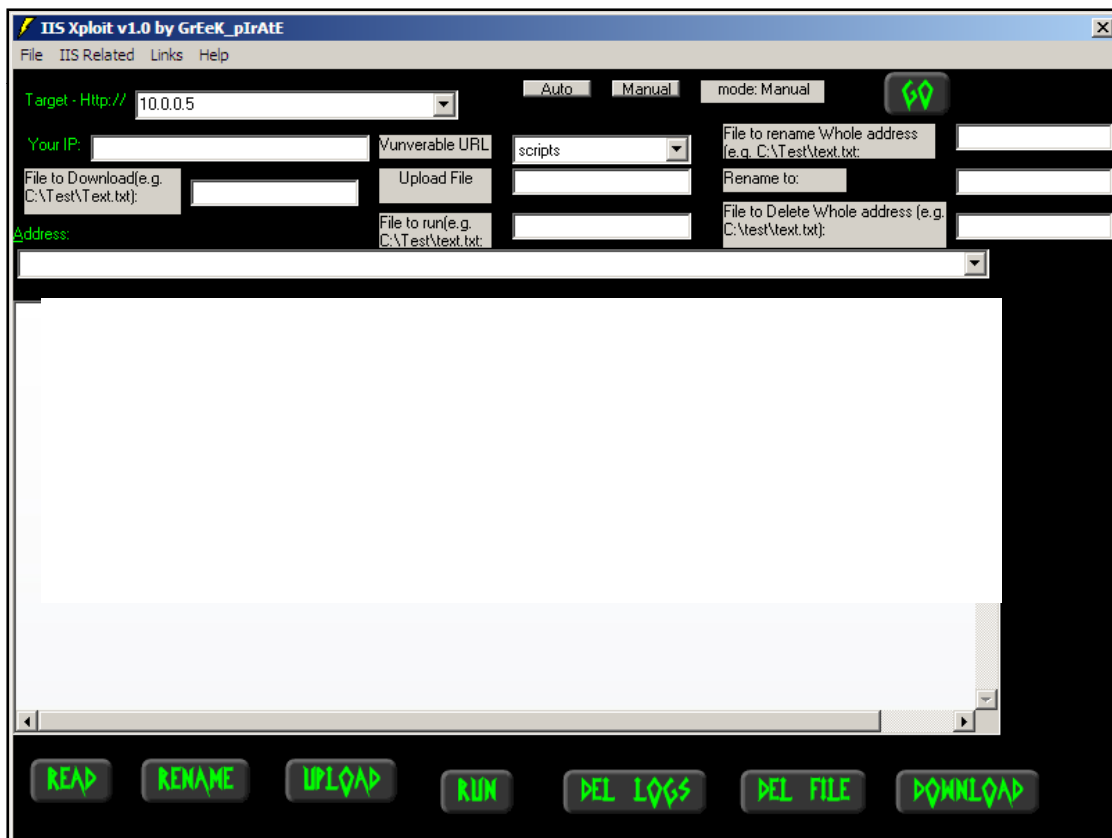
This outdated vulnerability has been presented here as a proof of concept to demonstrate how privilege escalation attack works

Hacking Tool: IISxploit.exe

This tool automates the directory traversal exploit in IIS



It created the Unicode string for exploitation



Msw3prt IPP Vulnerability

The ISAPI extension responsible for IPP is
msw3prt.dll

An oversized print request containing a valid
program code can be used to perform a new
function or load a different separate
program and cause buffer overflow



Warning

**This outdated vulnerability has been presented here as a proof of
concept to demonstrate how a buffer overflow attack works**

RPC DCOM Vulnerability

It exists in Windows Component Object Model (COM) subsystem, which is a critical service used by many Windows applications

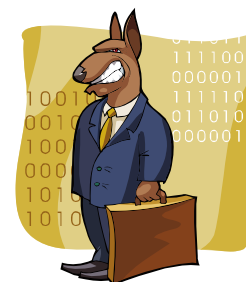
DCOM service allows COM objects to communicate with one another across a network and is activated by default on Windows NT, 2000, XP, and 2003

Attackers can reach for the vulnerability in COM via any of the following ports:

- TCP and UDP ports 135 (Remote Procedure Call)
- TCP ports 139 and 445 (NetBIOS)
- TCP port 593 (RPC-over-HTTP)
- Any IIS HTTP/HTTPS port if COM Internet Services are enabled

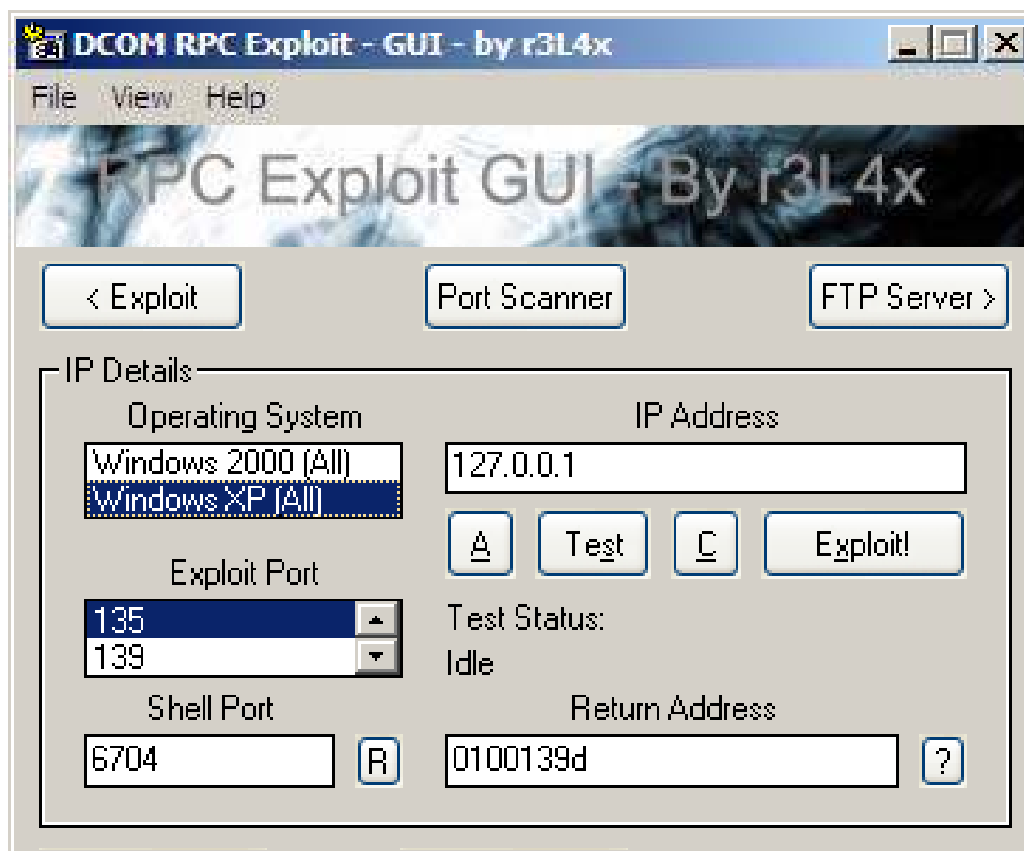
Warning

This outdated vulnerability has been presented here as a proof of concept to demonstrate how a buffer overflow works



RPC DCOM Vulnerability (cont'd)

RPC Exploit-GUI **Hacking Tool**

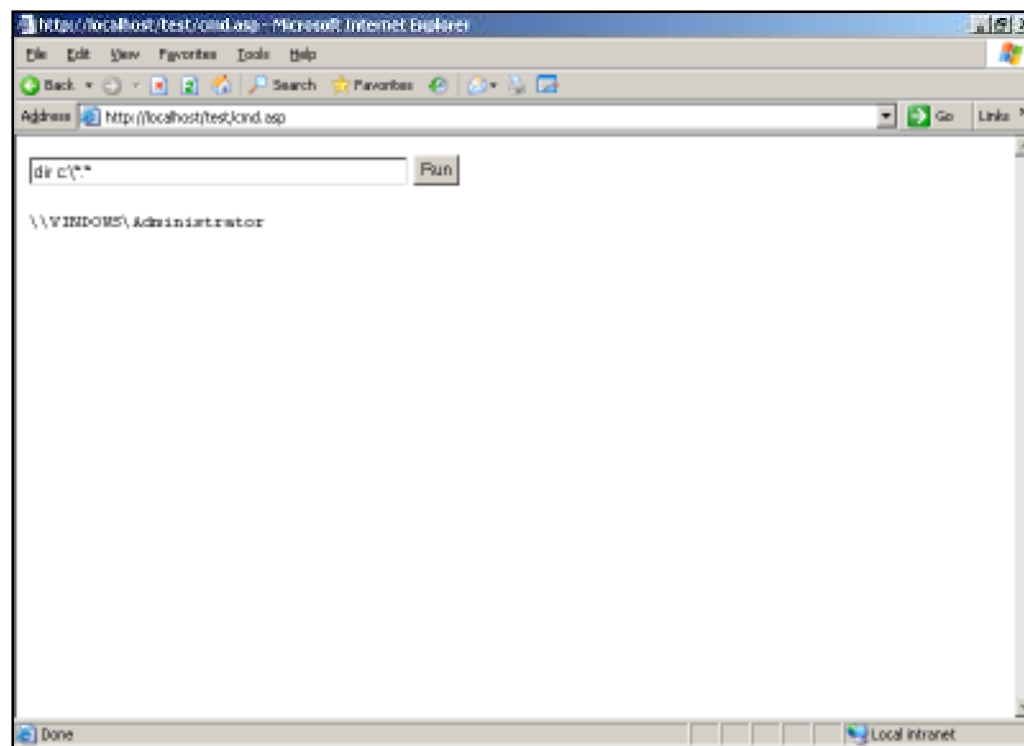


ASP Trojan (cmd.asp)

ASP Trojan is a small script which when uploaded to a Web Server, gives you complete control of the remote PC



ASP Trojan can be easily attached to shrink wrap applications thereby creating a backdoor

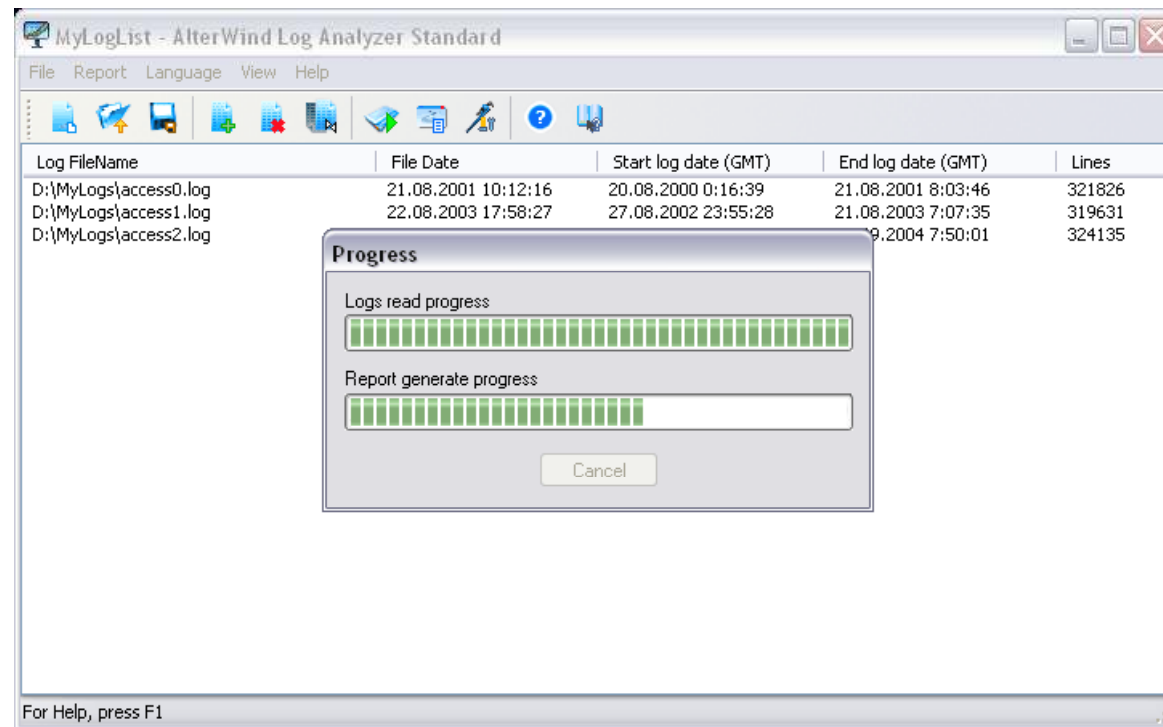


- ⦿ IIS logs all the visits in log files. The log file is located at:
`<%systemroot%\logfiles`
- ⦿ If proxies are not used, then IP can be logged
- ⦿ This command lists the log files: `http://victim.com/scripts/..%c0%af../..%c0%af../..%c0%af../..%c0%af../..%c0%af../..%c0%af../winnt/system32/cmd.exe?/c+dir+C:\Winnt\system32\Logfiles\W3SVC1`



Network Tool: Log Analyzer

Log Analyzer tool helps to grab web server logs and build graphically rich self-explanatory reports on website usage statistics, referring sites, traffic flow, search phrases, etc.



Hacking Tool: CleanIISLog

CleanIISLog tool clears the log entries in the IIS log files filtered by an IP address



An attacker can easily cover his/her trace by removing entries based on his/her IP address in W3SVC Log Files

```
Untitled - Notepad
File Edit Format View Help
Jun 10 12:53:37.845 4.5.6.7 op=GET arg=http://Target
IP/msadc/..%255c../..%255c../..255c../winnt/system32/cmd.exe?/c+dir+c:\\*.cif/s/b
result="500 Server Error"
Jun 10 12:53:39.675 4.5.6.7 op=GET arg=http://Target
IP/a.asp/..%c1%lc../..%c1%lc../winnt/repair/sam result="404 Object Not Found"
Jun 10 12:53:43.578 4.5.6.7 op=GET arg=http://Target
IP/a.asp/..%c1%9c../..%c1%9c../winnt/repair/sam result="404 Object Not Found"
```

IIS Security Tool: Server Mask

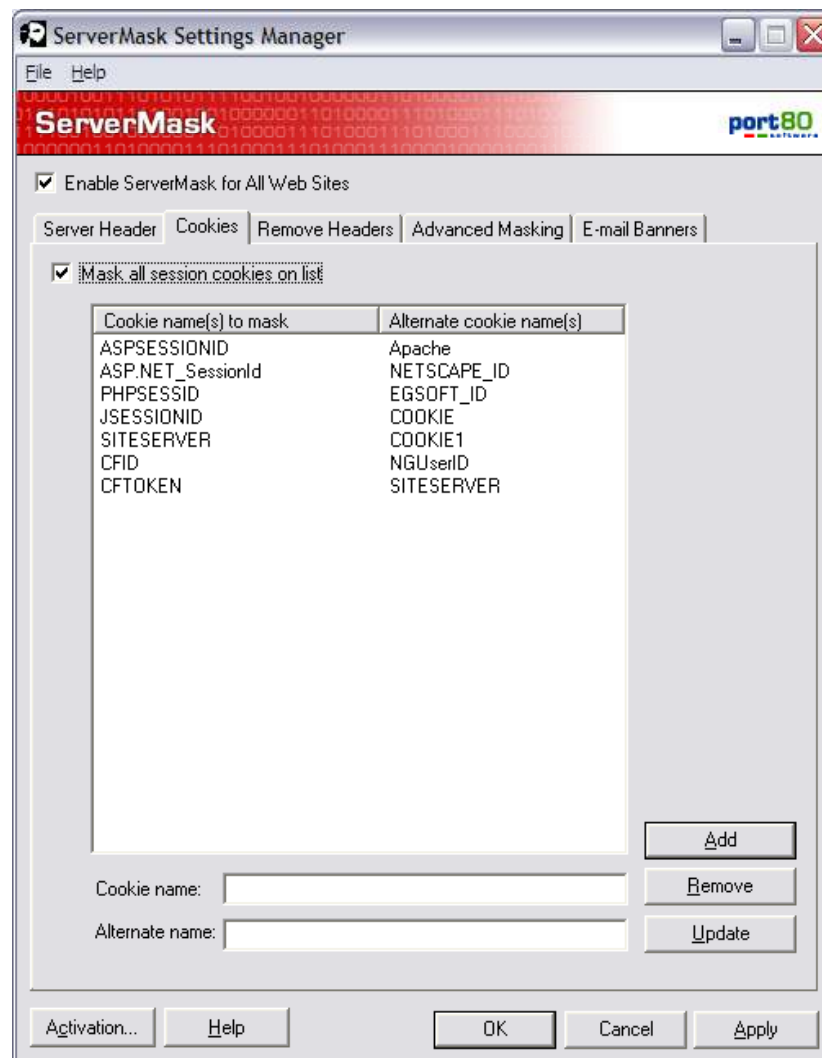
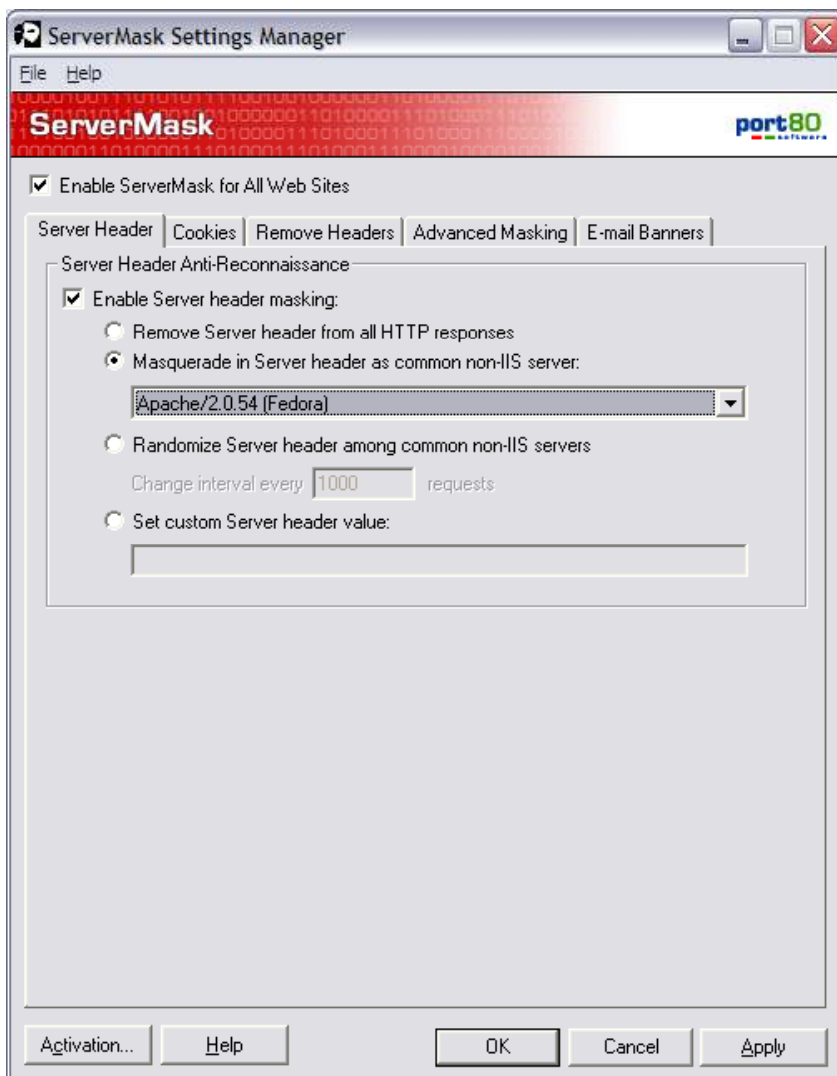
ServerMask changes or obscures the identity of your IIS Web server by safely and easily removing or modifying the unnecessary Server header in HTTP responses



You can change the header to any string you want



Server Mask: Screenshot



ServerMask ip 100

ServerMask ip100 appliance stops TCP/IP fingerprinting

It stops end spoofing by adding authentication to the unprotected TCP/IP packets

It uses anomaly detection and dynamic blacklisting at the network level to stop DoS, IP spoof, session hijack, and DNS cache poisoning attacks

It has patent-pending technology that tags TCP/IP packets coming into and going out of the network layer transparently within a valid SYN/ACK response



Tool: CacheRight

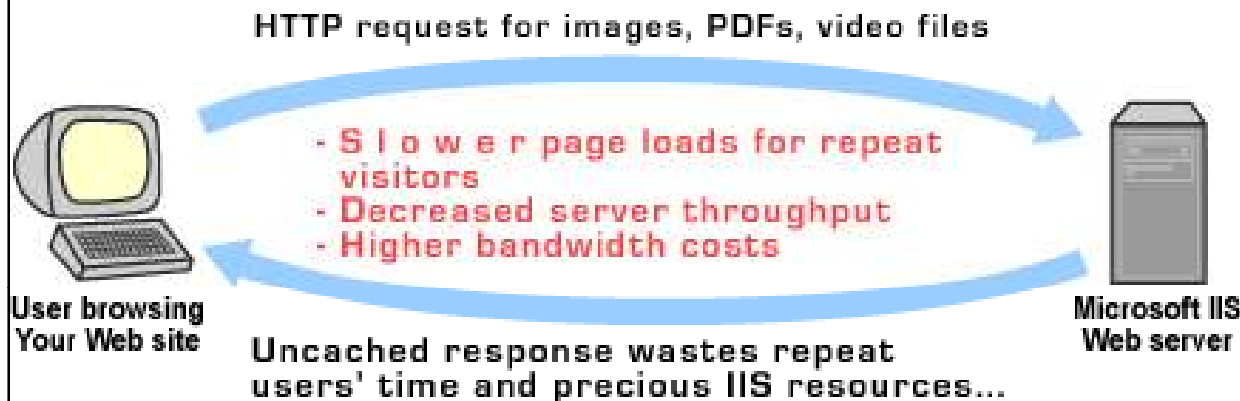
CacheRight allows developers to easily craft and administer effective cache control policies for every website resource through a single rules file, dramatically speeding up sites, reducing bandwidth consumption, and eliminating unnecessary requests and server strain

Features and Benefits:

- Manages all cache control rules for a site together in a single text file, promoting caching of binary objects like images, PDFs, and multimedia files
- Requires no MMC access to apply cache control to IIS websites and applications
- Intuitive, easy-to-master rule statements (a sample rules file is provided with detailed examples for developers)
- Reduces page load time, making for a better user experience and increased visitor retention
- Eliminates unnecessary chatter and bandwidth on server and network due to excessive conditional GET requests and 304 responses
- Saves time to deploy cache control by centralizing rules in one file and exposing cache control to developers, freeing up admins for other tasks

Tool: CacheRight (cont'd)

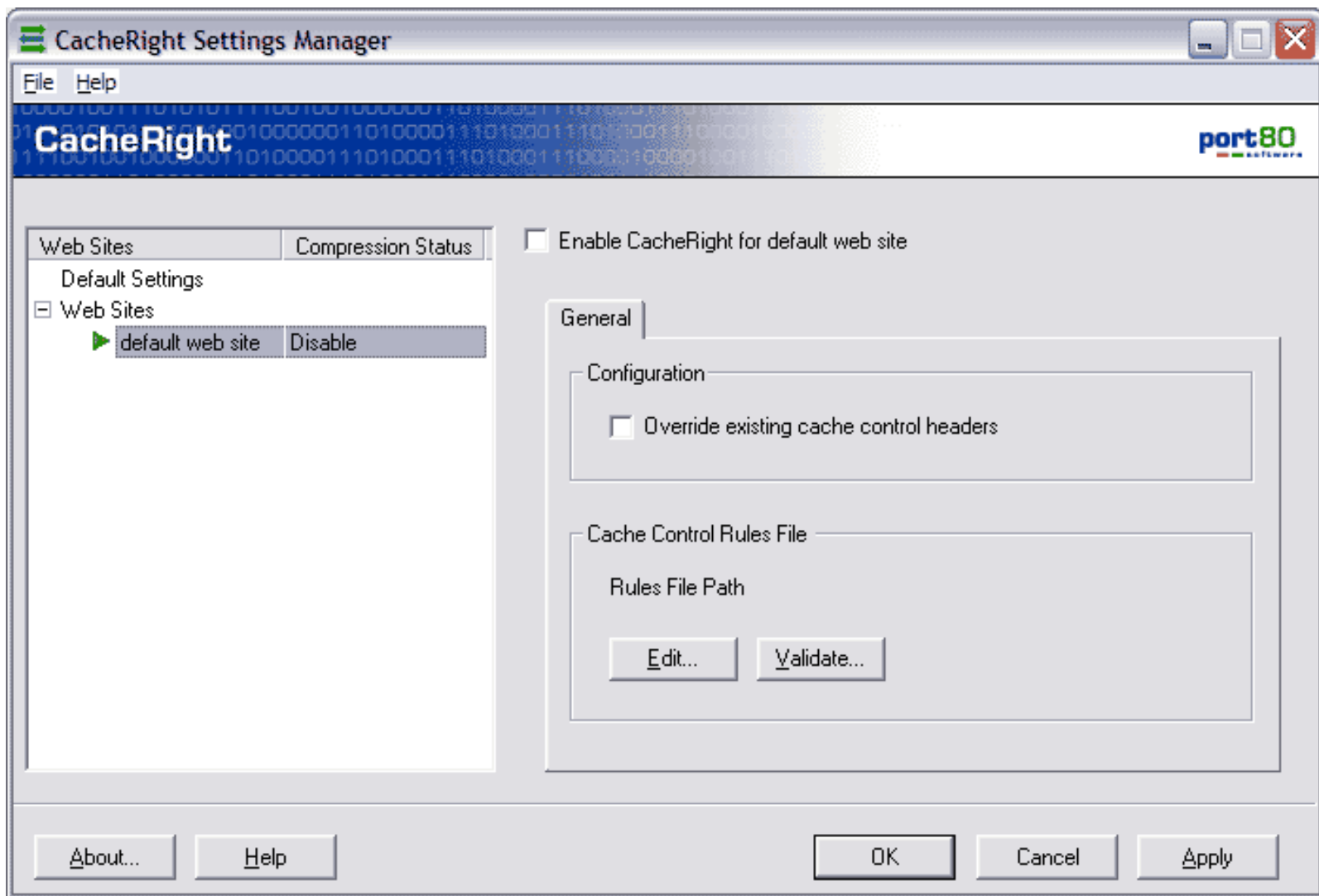
Without CacheRight



With CacheRight



CacheRight: Screenshot



Tool: CustomError

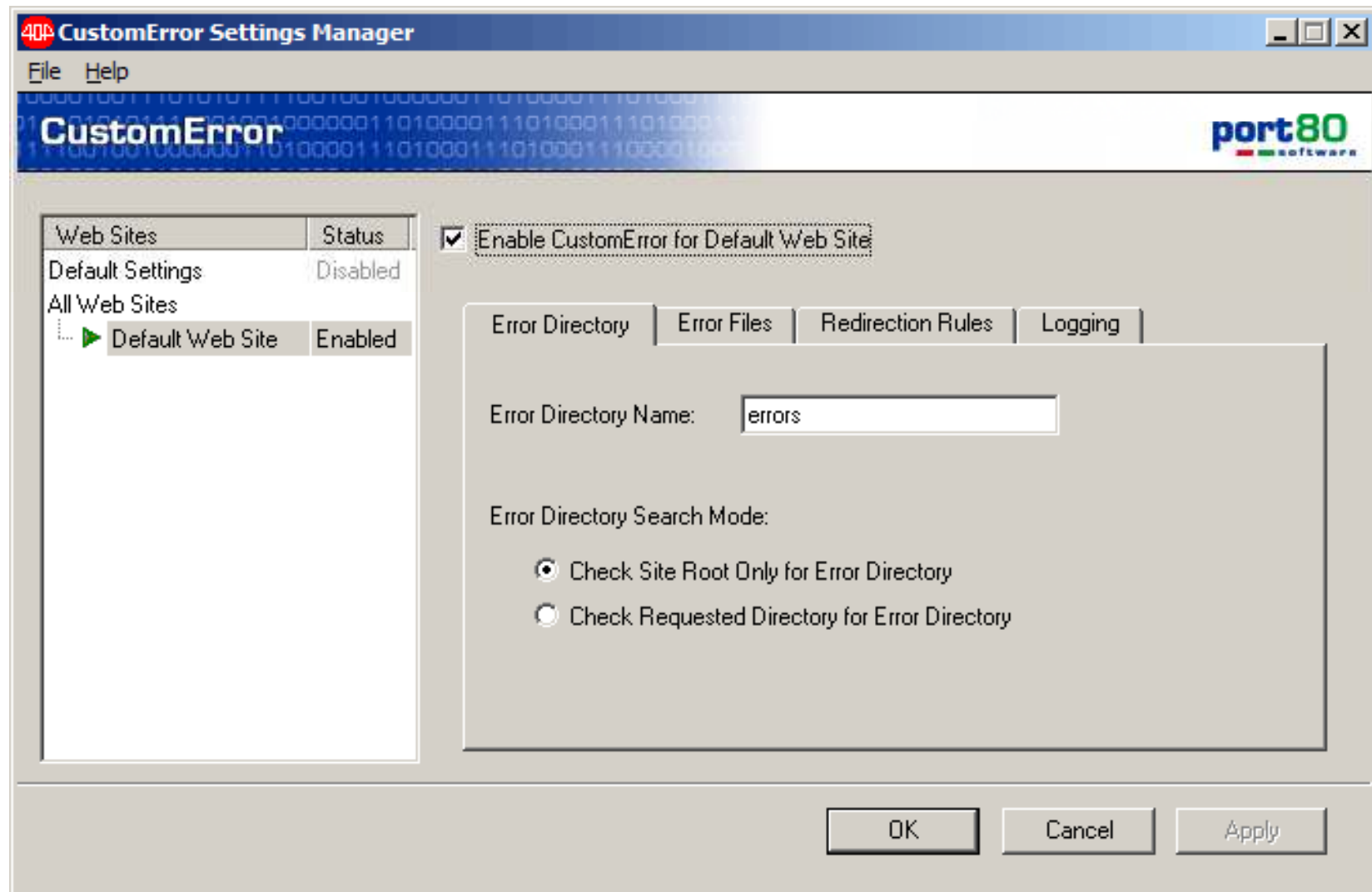
CustomError for IIS allows developers and admins to easily create customized 404 and other default error pages

It requires no administrator intervention

Benefits:

- Empowers web developers to deploy custom error pages on their sites, enhancing security and user experience
- Transforms dead, broken links into good traffic with 404 redirection management that is easy to manage
- Offloads error page mapping and broken link redirection chores to developers or website managers
- Works with virtual servers, so hosting vendors can offer custom errors to their clients without administrative or security hassles
- Works with error handling mechanisms in ASP, ASP.NET, and ColdFusion

CustomError: Screenshot



Tool: HttpZip

httpZip is an IIS server module for ISAPI-based compression on IIS 4, 5, and 6.0 Web servers

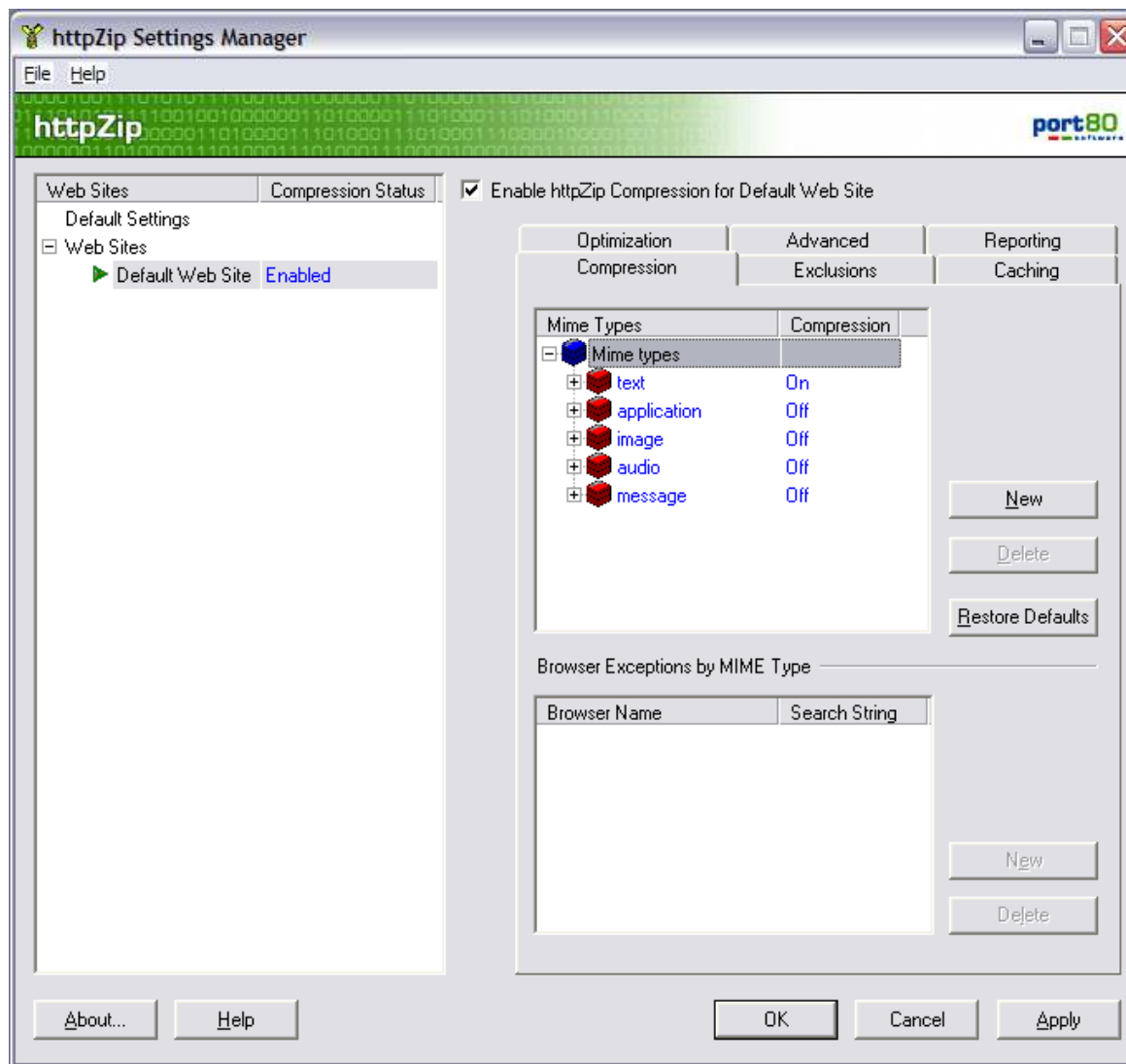
It compresses static and dynamic web content using encoding algorithms supported by all modern browsers, with flawless decompression secured by real-time browser compatibility checking

It takes compression even farther with optional HTML and CSS code optimization to improve performance and combat hackers' source sifting

Static and dynamic files can be accessed in pre-compressed format to minimize recompression processing with its built-in caching feature

Detailed httpZip reporting shows your files reduced to as little as 2% of their original size

HttpZip: Screenshot



Tool: LinkDeny

LinkDeny's powerful access control features allow you to transparently stop bandwidth pirates and potential hackers

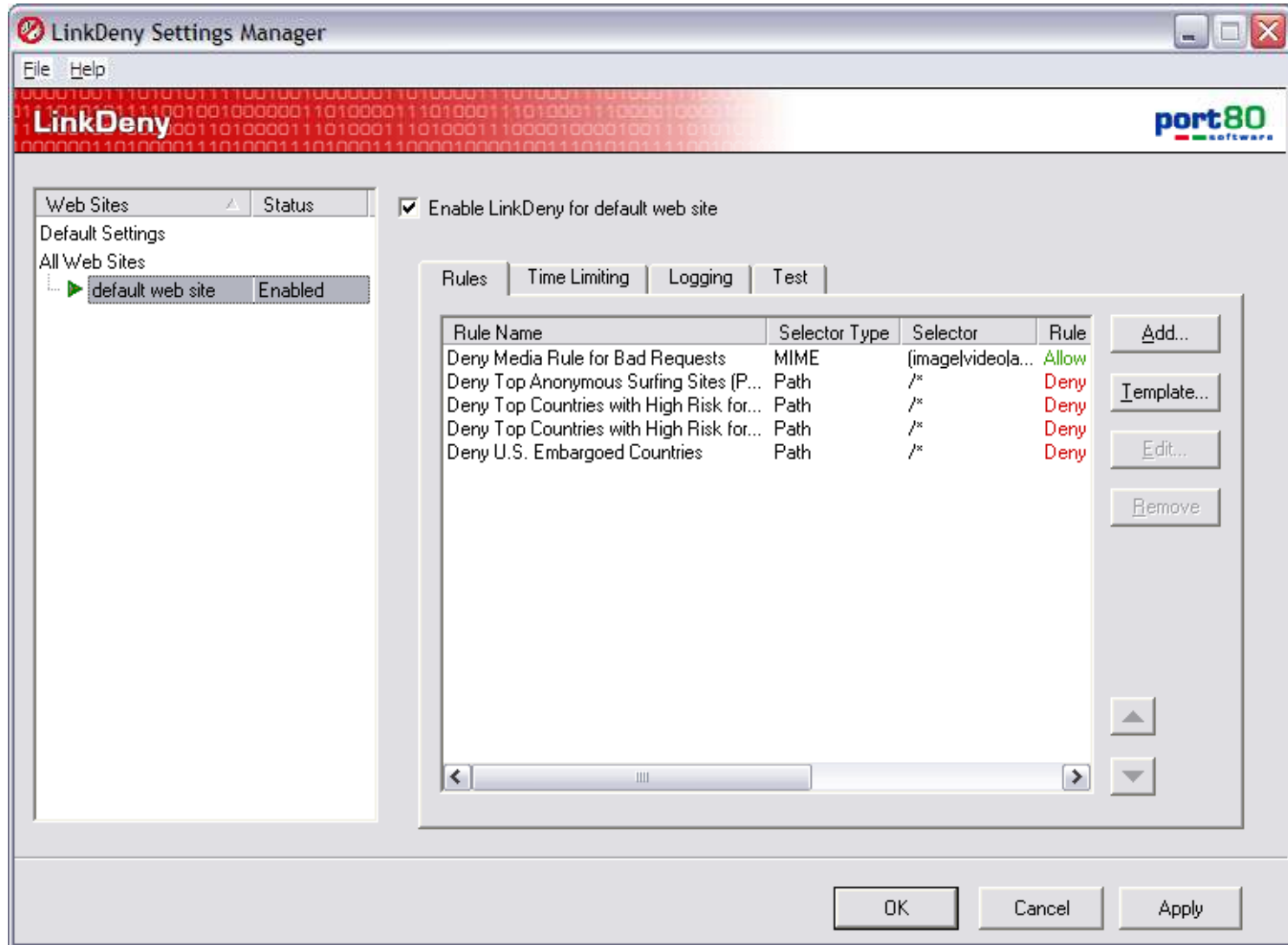
It addresses all sorts of common site problems from simple security to traffic management

It controls access to sensitive, private, proprietary, paid, or copyrighted files and downloads

It limits the access of hackers via a Web request's:

- IP address
- Referring URL
- Country or geographic location
- Demographics
- Length of user session
- Type of Web browser
- Existence of cookie
- HTTP request header type and content

LinkDeny: Screenshot

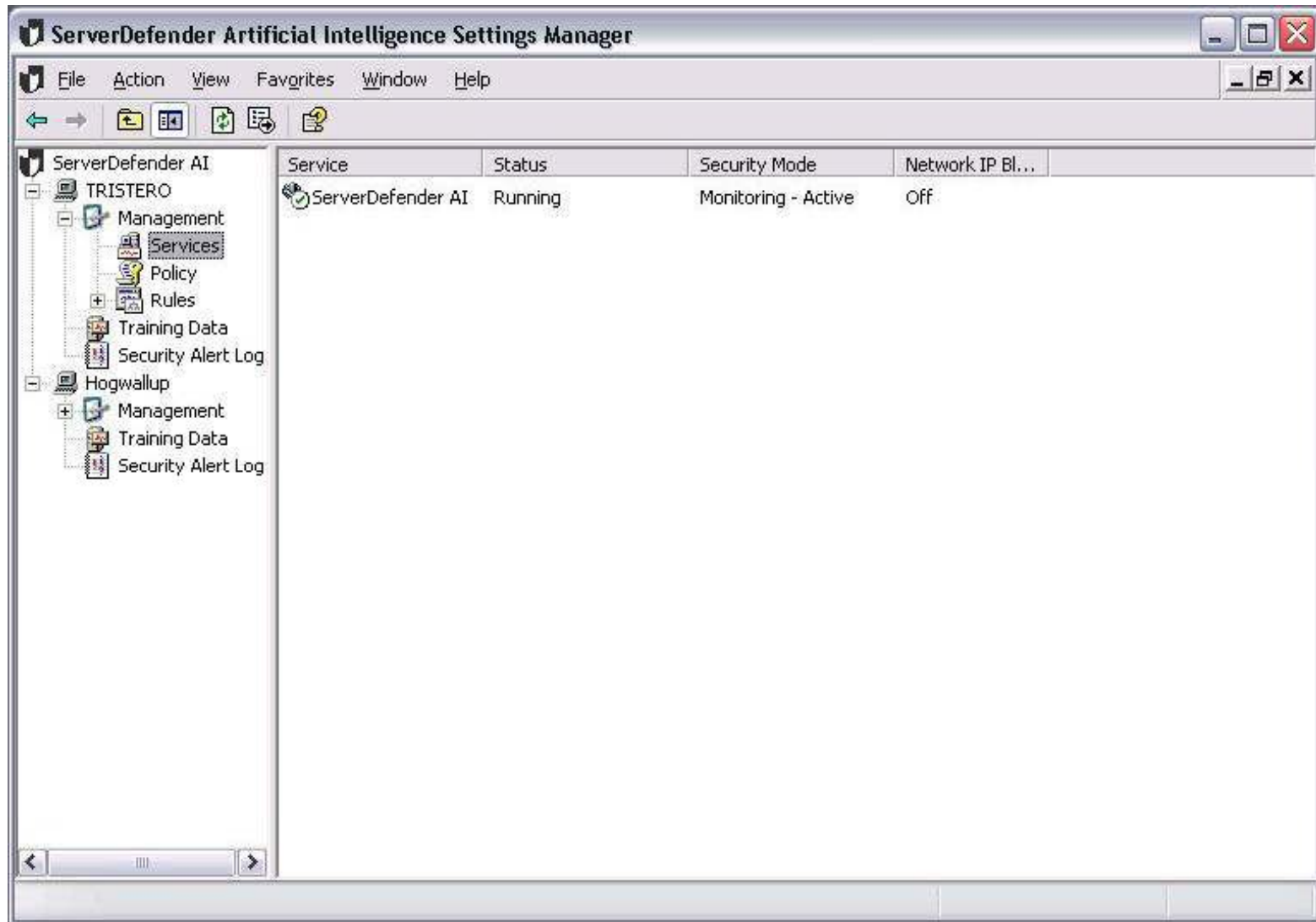


ServerDefender Artificial Intelligence (AI) is a web application firewall

Benefits:

- Protects against known and unknown HTTP and HTTPS attacks and exploits with real-time alerts and countermeasures
- Goes beyond the limited pattern matching and policy-based systems to profile your web traffic for trusted and untrusted web request events
- Protects from patches, older/ third party code, poorly coded web applications, and zero day attacks
- Bolsters regulatory compliance with internal and external standards like PCI
- Manages web application security for multiple IIS web servers on a local area network from one console

ServerDefender AI: Screenshot



Tool: ZipEnable

ZipEnable allows you to easily extract the absolute of IIS 6 built-in compression

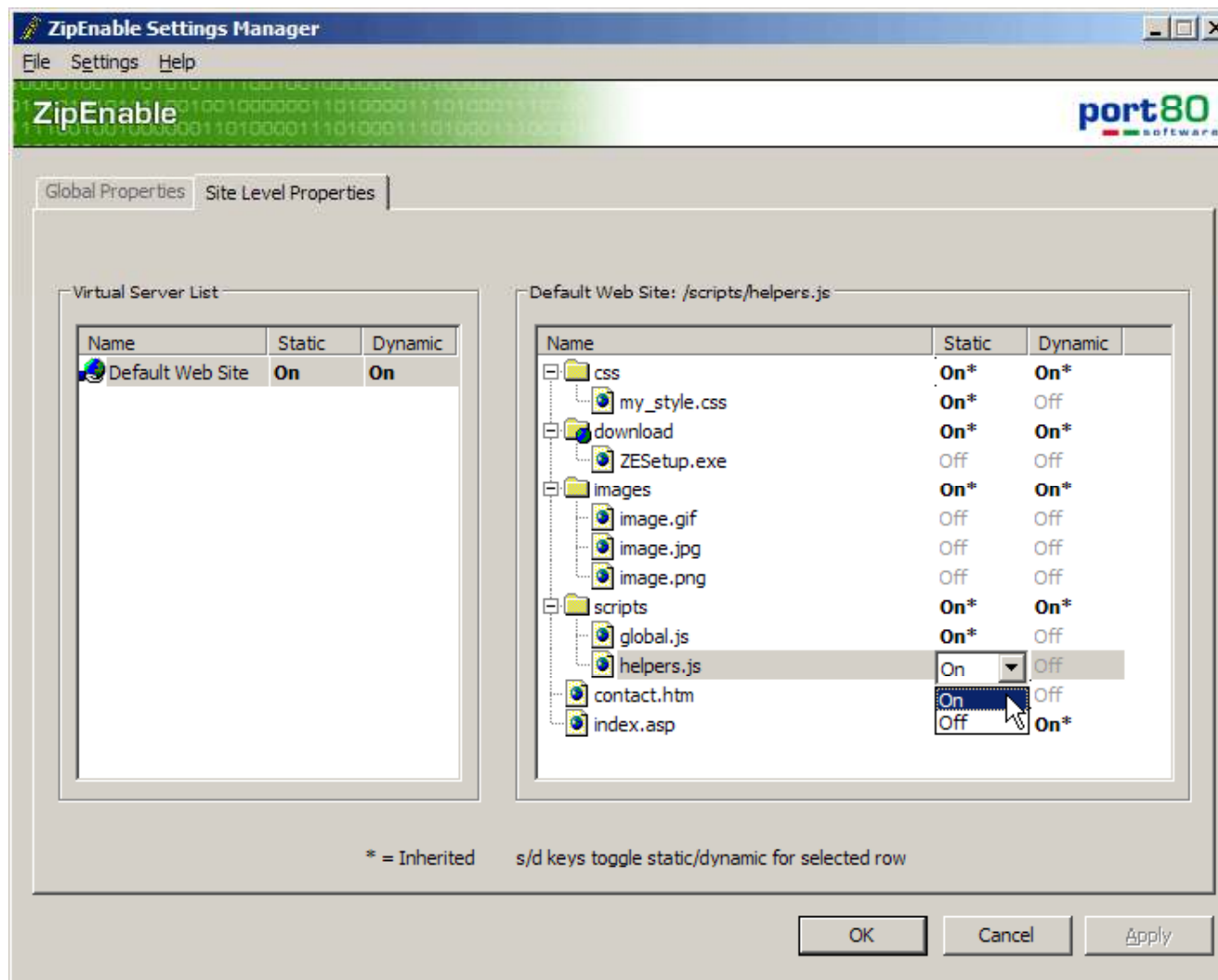
It is the best ISAPI compression solution for windows web servers

It is used to configure compression on all static and dynamic files

Features:

- Global compression configuration
- Configures compression at directory and file levels for individual virtual servers (sites)
- Browser Compatibility Detection
- CPU Roll-off option
- Manages cache directory, size, and location
- Sets priority of default Gzip and Deflate compression schemes

ZipEnable: Screenshot



Tool: W3compiler

w3compiler optimizes all or selected (X)HTML, CSS, JavaScript, ASP, CFM, and PHP files in your site

It removes redundant structures from your code before you load files on the server

Features:

- Reduces page load time
- Speeds up your site
- Secures your code
- Works with common web development best practices using staging and production sites
- Makes easy deployment tasks by copying entire or selected sites
- Delivers verifiable optimization through dashboard metrics and side-by-side preview interface

W3compiler: Screenshot

w3compiler - T:\inetpub\wwwroot\w3compiler\w3compiler.wcp

File Edit View Action Options Help

Target Files	File Type	Last Modified	Original Size	Optimized Size	% Saved	Status
httpzipreport	File Folder	Mon Nov 03 13:39:34 2003				
images	File Folder	Mon Nov 03 13:39:28 2003				
includes	File Folder	Mon Nov 03 13:39:32 2003				
javascript	File Folder	Mon Nov 03 13:39:30 2003				
CVS	File Folder	Mon Nov 03 13:39:30 2003				
BuyForm.js	JScript Script ...	Tue Nov 04 17:52:56 2003	1416	1162	17.94	Previously Optimized
display_next_pop.js	JScript Script ...	Tue Nov 04 17:52:56 2003	560	428	23.57	Previously Optimized
formcheck.js	JScript Script ...	Mon Nov 10 18:33:36 2003	20502	6987	65.92	Optimized
global_functions_level1.js	JScript Script ...	Tue Nov 04 17:52:58 2003	1644	1288	21.65	Previously Optimized
global_functions_leveln.js	JScript Script ...	Tue Nov 04 17:52:58 2003	1874	1518	19.00	Previously Optimized
global_functions_root.js	JScript Script ...	Tue Nov 04 17:52:58 2003	1614	1258	22.06	Previously Optimized
global_functions_secure.js	JScript Script ...	Tue Nov 04 17:52:58 2003	2034	1678	17.50	Previously Optimized
pop_try.js	JScript Script ...	Tue Nov 04 17:52:58 2003	91	50	45.05	Previously Optimized
print_css_level1.js	JScript Script ...	Tue Nov 04 17:52:58 2003	463	389	15.98	Previously Optimized
print_css_root.js	JScript Script ...	Tue Nov 04 17:52:58 2003	457	383	16.19	Previously Optimized
print_css_secure.js	JScript Script ...	Tue Nov 04 17:52:58 2003	541	467	13.68	Previously Optimized
notrack	File Folder	Mon Nov 03 13:39:28 2003				

Project Source Project Target

GENERAL STATISTICS

- Files Evaluated: 1
- Bytes Saved: 13515
- Percentage Saved: 65.92%
- Files Optimized: 1
- Files Unmodified: 0

General Statistics File Remapping Variable Remapping Errors/Warnings Project Log

1 Optimized Files: 65.92% Saved, 13515 Bytes Saved

Tool: Yersinia

Yersinia is a network tool designed to take advantage of some weakness in different network protocols

It pretends to be a solid framework for analyzing and testing the deployed networks and systems

Attacks for the following network protocols are implemented:

- Spanning Tree Protocol (STP)
- Cisco Discovery Protocol (CDP)
- Dynamic Trunking Protocol (DTP)
- Dynamic Host Configuration Protocol (DHCP)
- Hot Standby Router Protocol (HSRP)
- IEEE 802.1Q
- IEEE 802.1X
- Inter-Switch Link Protocol (ISL)
- VLAN Trunking Protocol (VTP)



```
/home/tomac/work/proj... Inbox for tomac@wasa... Correo S21sec /home/tomac<1> /home/tomac/work/proj... The GIMP /home/tomac/work/proje...
prodigy:/home/tomac/work/projects/yersinia-sf/yersinia/yersinia/src# telnet localhost 12000
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.

Welcome to yersinia version 0.5.5.1.
Copyright 2004 Slay & Tomac.

login: root
password:

MOTD: Do you have a Lexicon LX-7? Share it!! ;)

yersinia> en
Password:
yersinia# sh
  attacks  Show running attacks
  cdp      Cisco Discovery Protocol (CDP) information
  dhcp     Dynamic Host Configuration Protocol (DHCP) information
  dot1q    802.1Q information
  dtp      Dynamic Trunking Protocol (DTP) information
  history  Display the session command history
  hsrp     Hot Standby Router Protocol (HSRP) information
  interfaces Interface status
  stats    Show statistics
  stp      Spanning Tree Protocol (STP) information
  users    Display information about terminal lines
  version  System hardware and software status
  vtp      Virtual Trunking Protocol (VTP) information
yersinia# sh ver
Chaos Internetwork Operating System Software
yersinia (tm) Software (i686). Version 0.5.5.1, RELEASE SOFTWARE
Copyright (c) 2004-2004 by tomac & Slay, Inc.
Compiled Sun 07-Aug-2005 21:10 by someone

yersinia uptime is 51 seconds

Running Multithreading Image on Linux 2.6.12.3 supporting:
01 console terminal(s)
02 tty terminal(s)
05 vty terminal(s)

yersinia# sh users
  User      Terminal      From          Since
  ---      -
* root      vty0          127.0.0.1:60715 Sun Aug 7 23:51:01 2005

yersinia#
```


Tool: Metasploit Framework

Metasploit framework is an advanced open-source platform for developing, testing, and using exploit code

A tool for penetration testing, exploit development, and vulnerability research

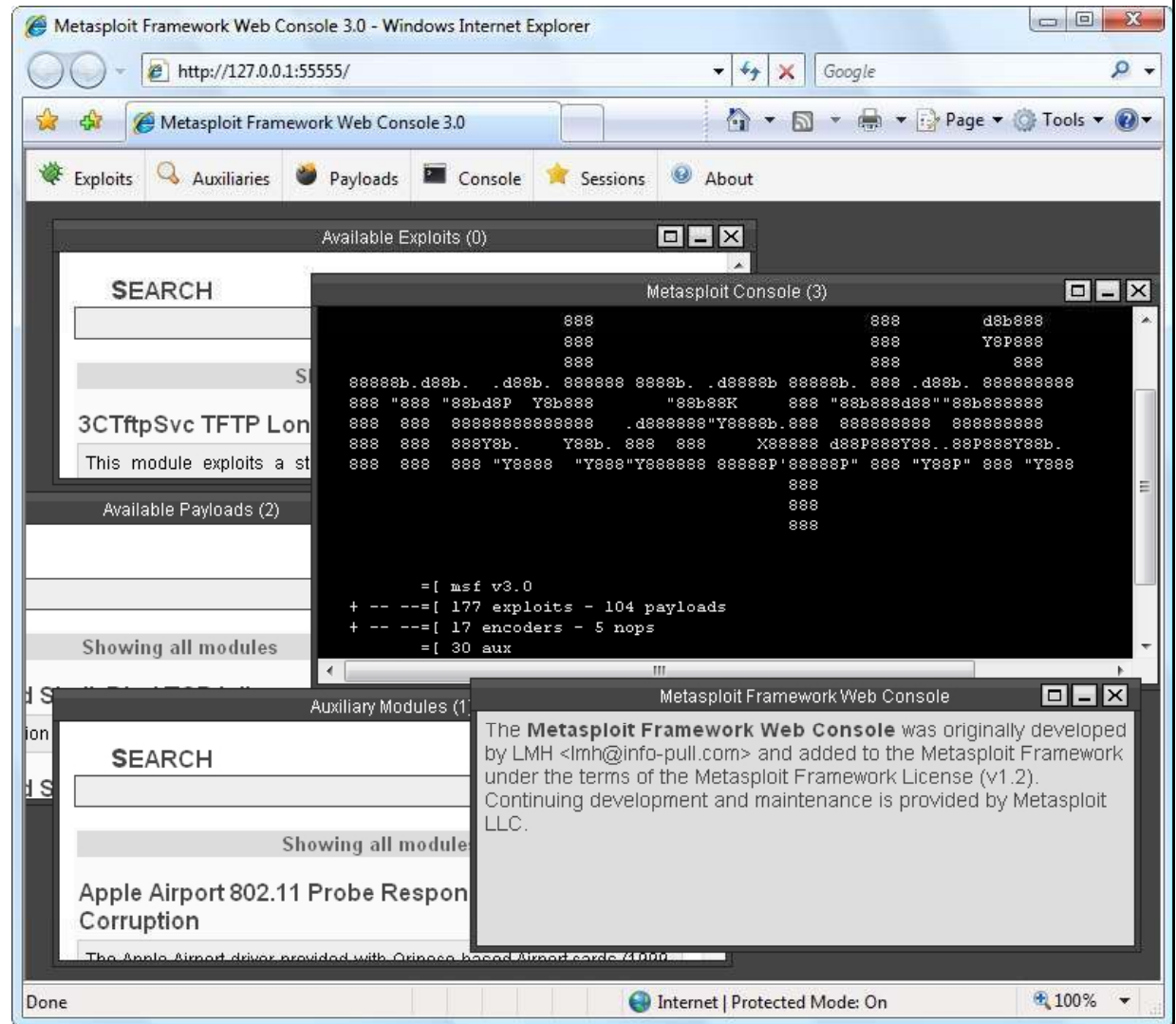
The framework was composed in Perl scripting language and consists of several components written in C, assembler, and Python

It runs on any UNIX-like system under its default configuration

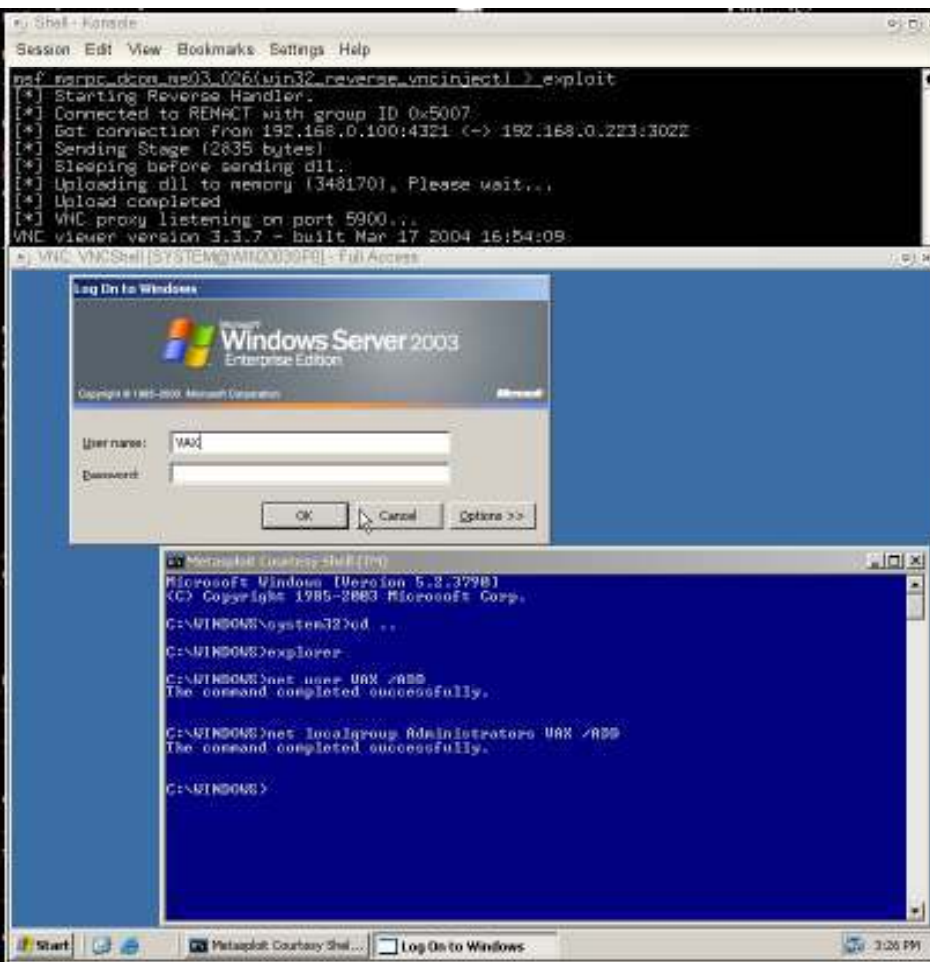
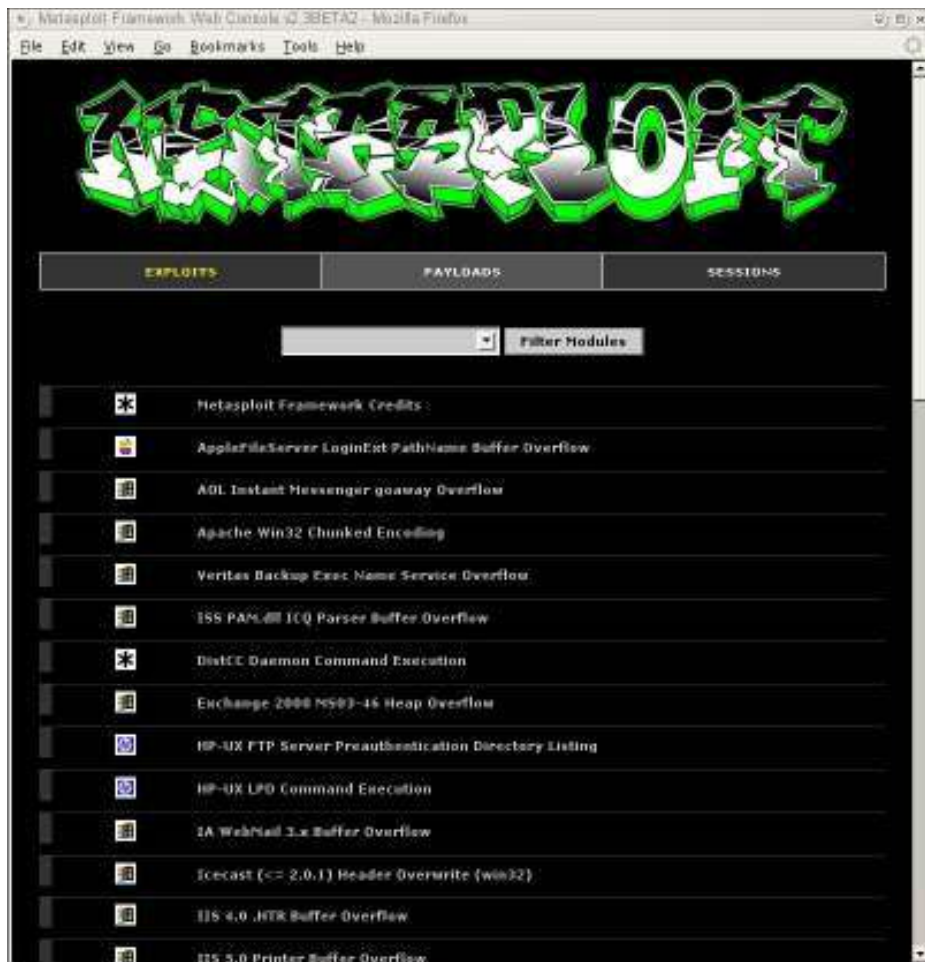
A customized Cygwin environment for windows OS users

<http://www.metasploit.com>

Metasploit Framework: Screenshot



Metasploit Framework: Screenshot



Tool: Immunity CANVAS Professional

Immunity's CANVAS makes hundreds of exploits, an automated exploitation system, and a comprehensive, reliable exploit development framework available to penetration testers and security professionals worldwide

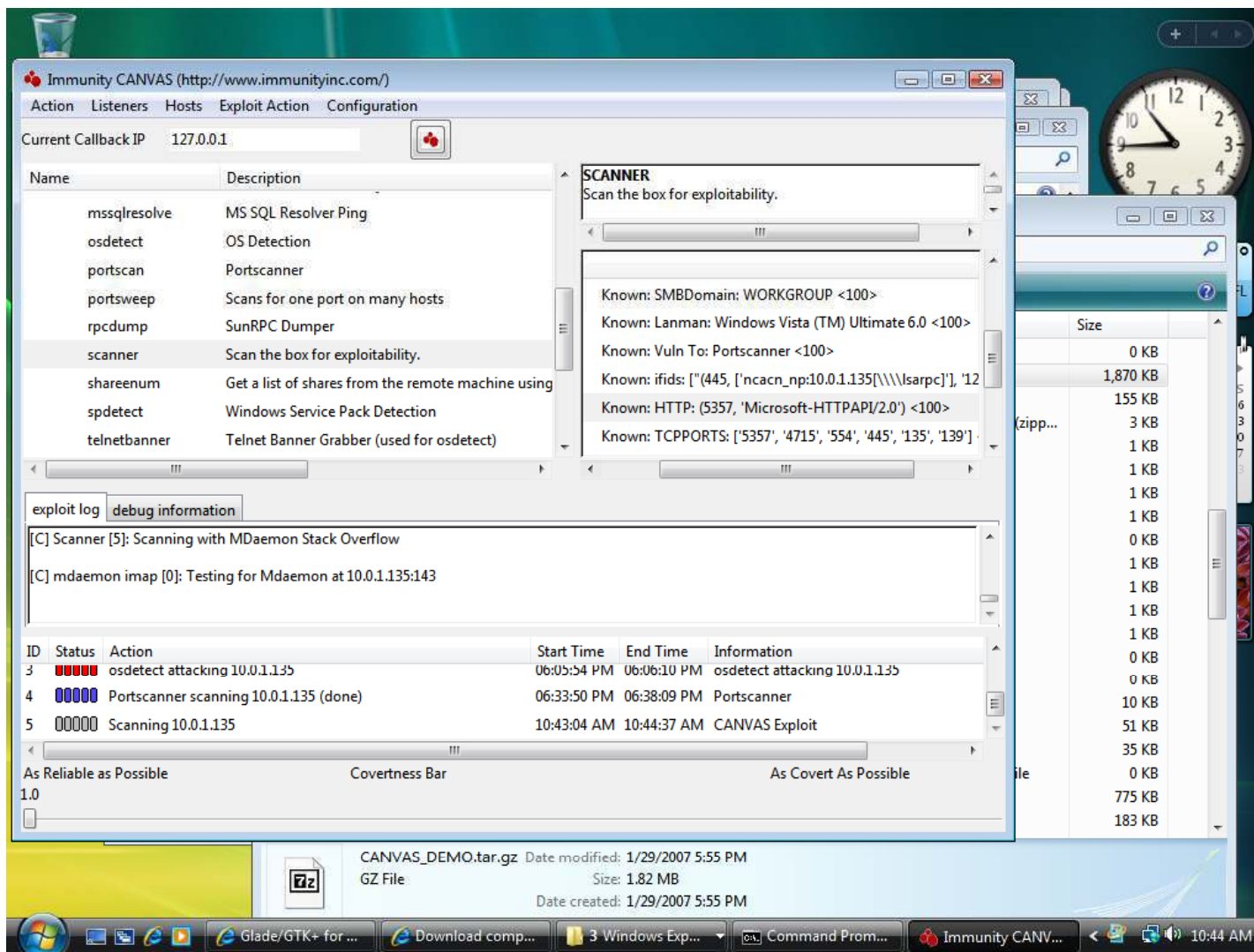
CANVAS Professional's completely open design allows a team to adapt it to their environment and needs

CANVAS Professional supports Windows, Linux MacOSX, and other Python environments

One license costs \$ 1244 and one license allows up to 10 users/installations

Source: <http://www.immunitysec.com/products-canvas.shtml>

Immunity CANVAS Professional: Screenshot 1



Immunity CANVAS Professional: Screenshot 2

Immunity CANVAS (http://www.immunitysec.com/CANVAS)

Action Helium Listeners Logging Network Dump Hosts

Current Local IP Address: 192.168.1.101

Name	Description
Current	Attacks against the current host
cachefsd_lpd	cachefsd_cfs_mnt File Stack Overflow (requires in.lpd for file upload)
cmsd_xdrarray	rpc.cmsd xdr_array heap overflow
dtspcd	dtspcd heap overflow
in_lpd	in.lpd command execution (Solaris 8)
kcms_server	kcms_server file retrieval
portscan	Portscanner
rpcdump	SunRPC Dumper
sadmin	Sadmin Remote Exploit for Solaris
samba_nttrans	Samba Nttrans Overflow
samba_trans2	Samba Trans2 Stack Overflow
snmpXdmid	snmpXdmid Buffer Overflow
sunlogin	Solaris Login Overflow
sunlogin_pamh	Solaris Login pamh Overflow
ttdb_xdrarray	rpc.ttdbserverd xdr_array Heap Overflow
Exploits	CANVAS Exploit Modules

References: <http://xforce.iss.net/alerts/advise101.php> <http://www.kb.cert.org>
 CVE Name: CVE-2001-0803
 Date public: Nov 06, 2001
 CERT Advisory: <http://www.cert.org/advisories/CA-2001-31.html>

ID	Status	Information
0	00000	Scanning 192.168.1.101 (done)
1	00000	Scanning 192.168.1.25 (done)
2	00000	dtspcd attacking 192.168.1.25:6112 (succeeded)
3	00000	Shell at [(192.168.1.25', 6112)]

Listener Shell

Download To: Browse Go

Upload Browse Go

cd Go

Spawn Process Go

Dir Go

pwd (Gets Current Working Directory) Go

Piped Command Go

unlink Go

Command 'id -a' returned: 'uid=0(root) gid=0(root)'

Command 'echo "owned!'" returned: 'owned!'

Host	OS	Status
192.168.1.101	Linux	Not owned
192.168.1.25	Solaris 8	Not owned

As Reliable as Possible Covertness Bar As Covert As Possible

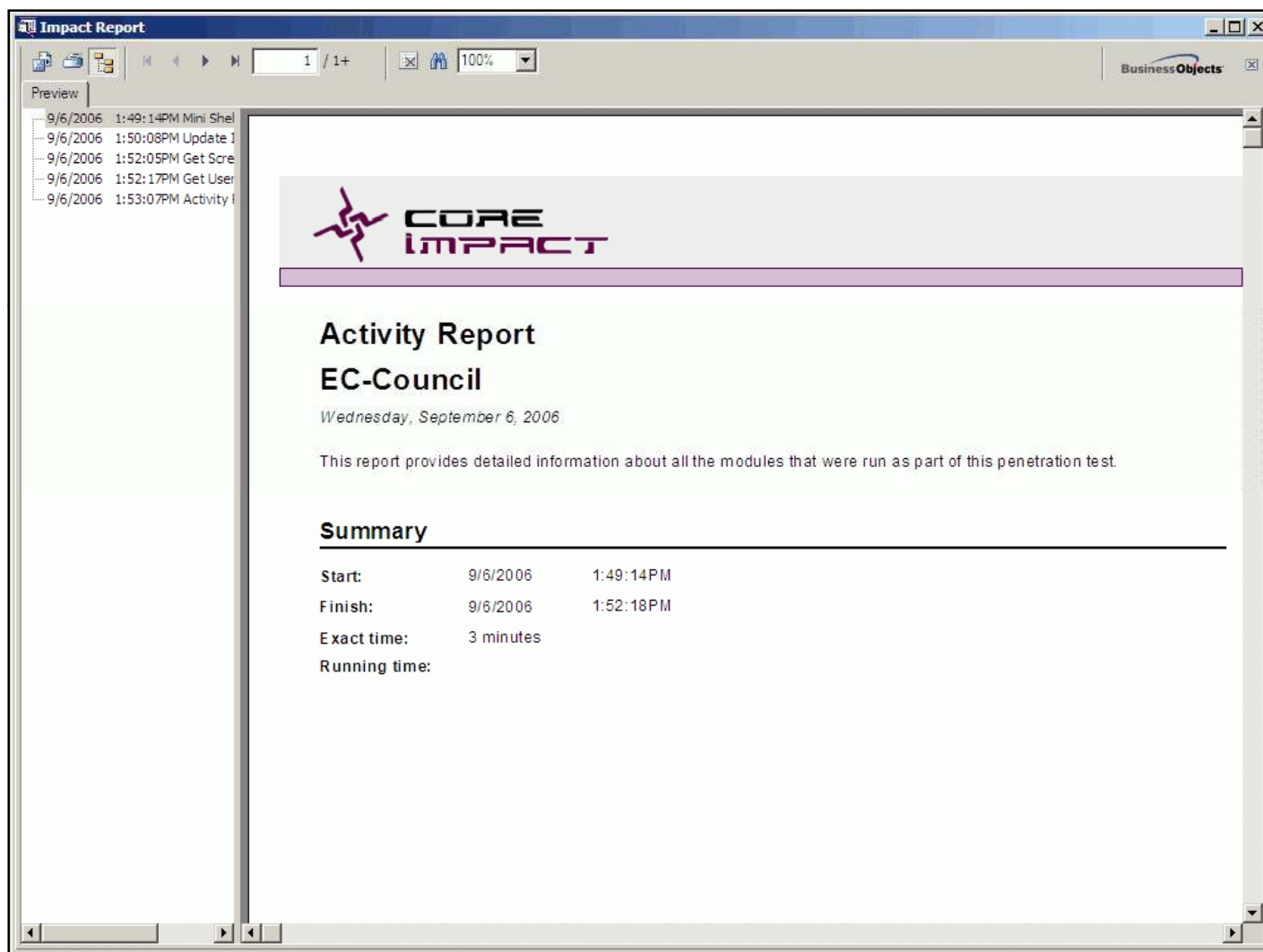
Tool: Core Impact

CORE IMPACT is the first automated, comprehensive penetration testing product for assessing specific information security threats to an organization

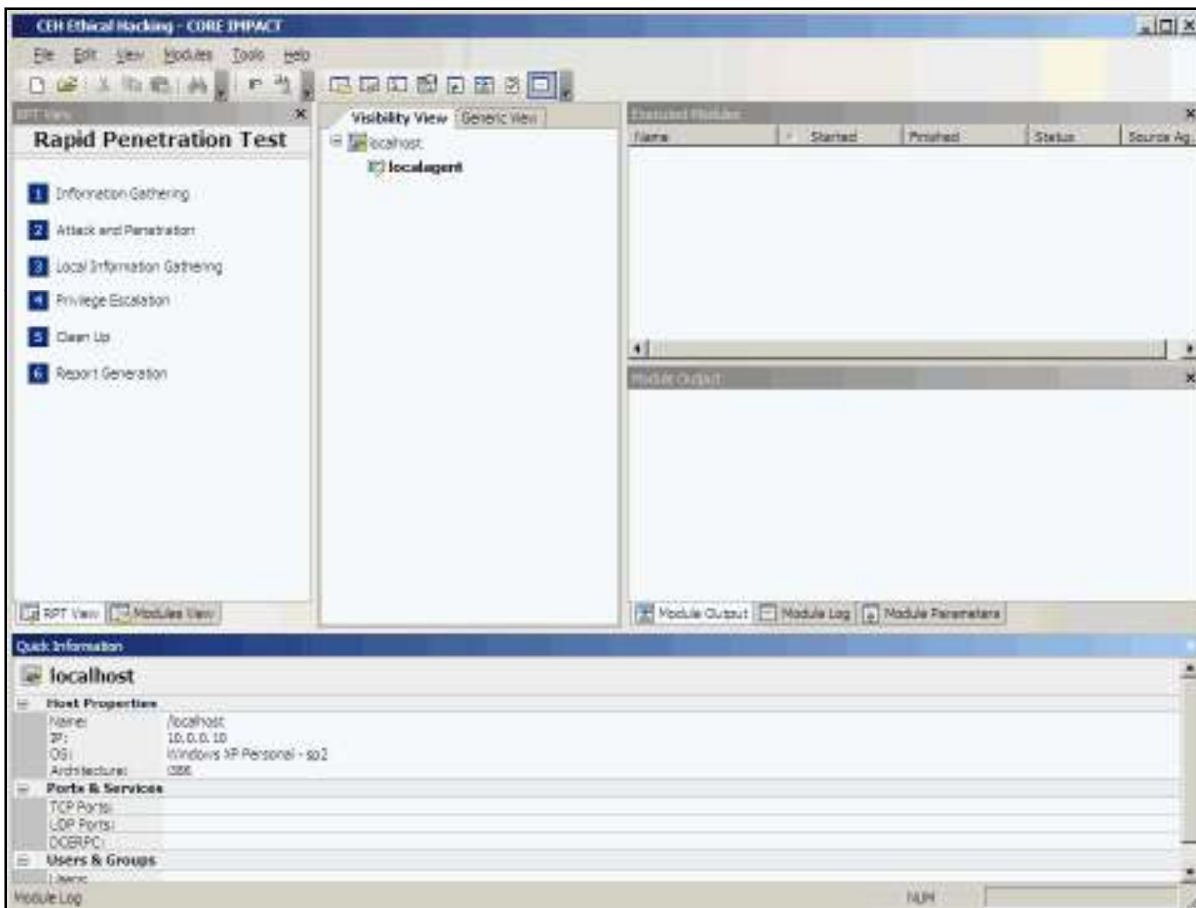
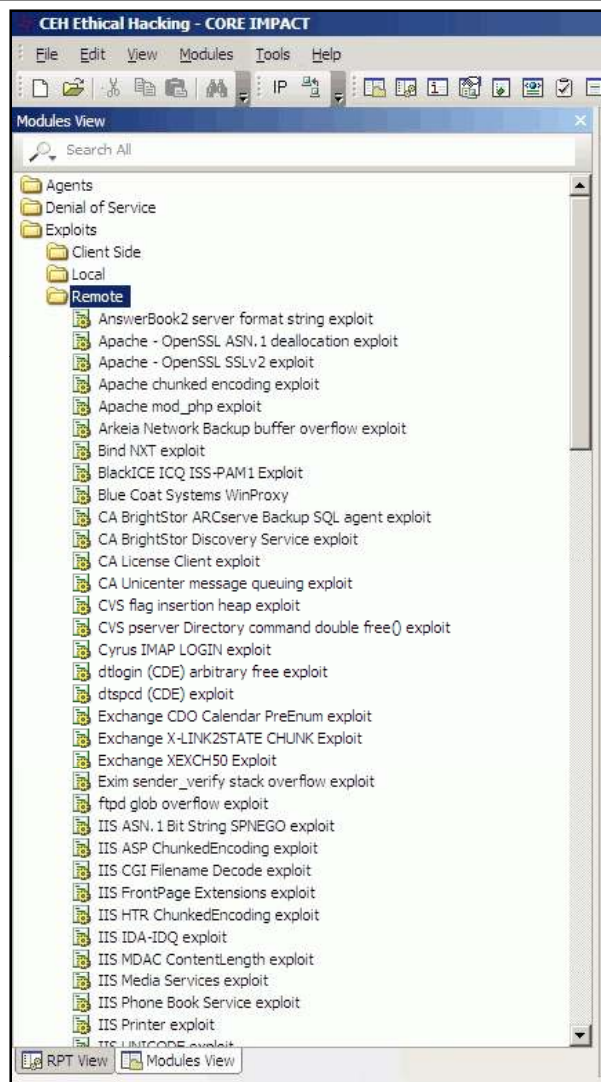
By safely exploiting vulnerabilities in your network infrastructure, the product identifies real, tangible risks to information assets while testing the effectiveness of your existing security investments



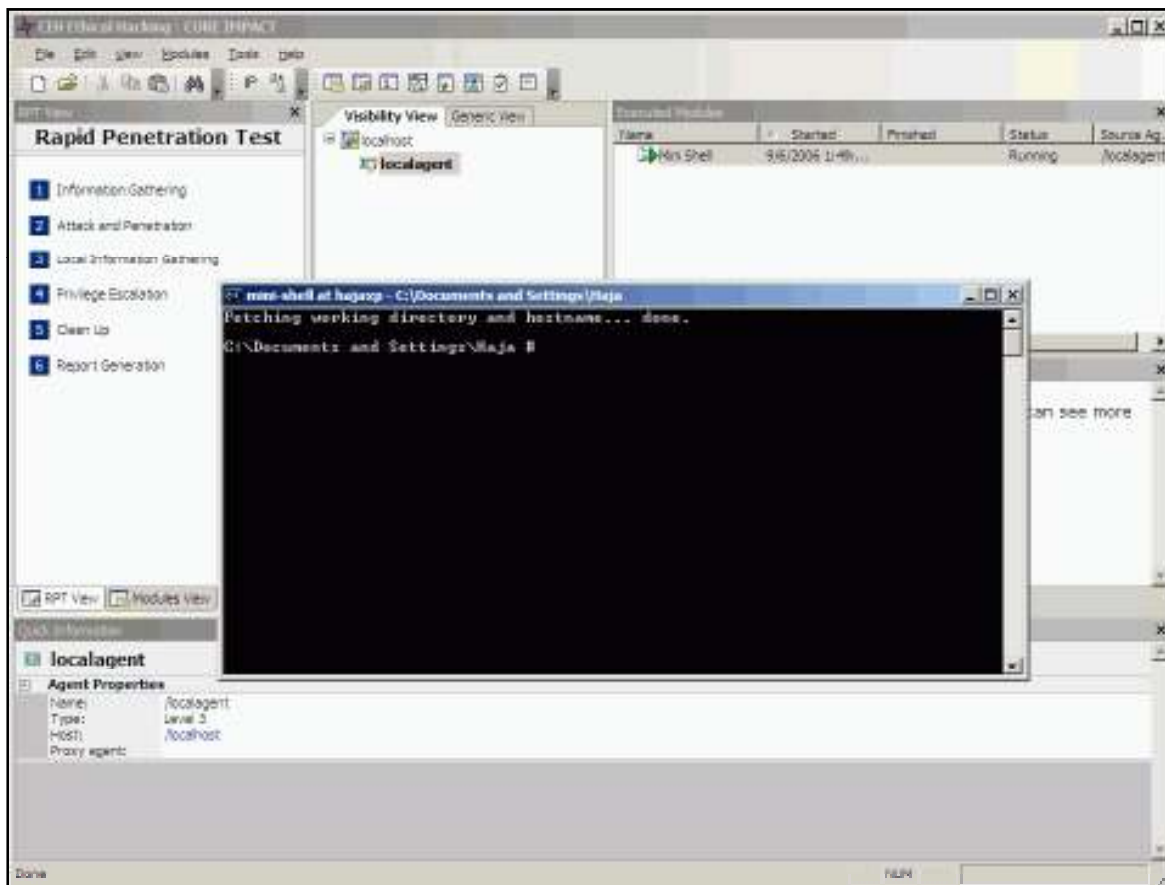
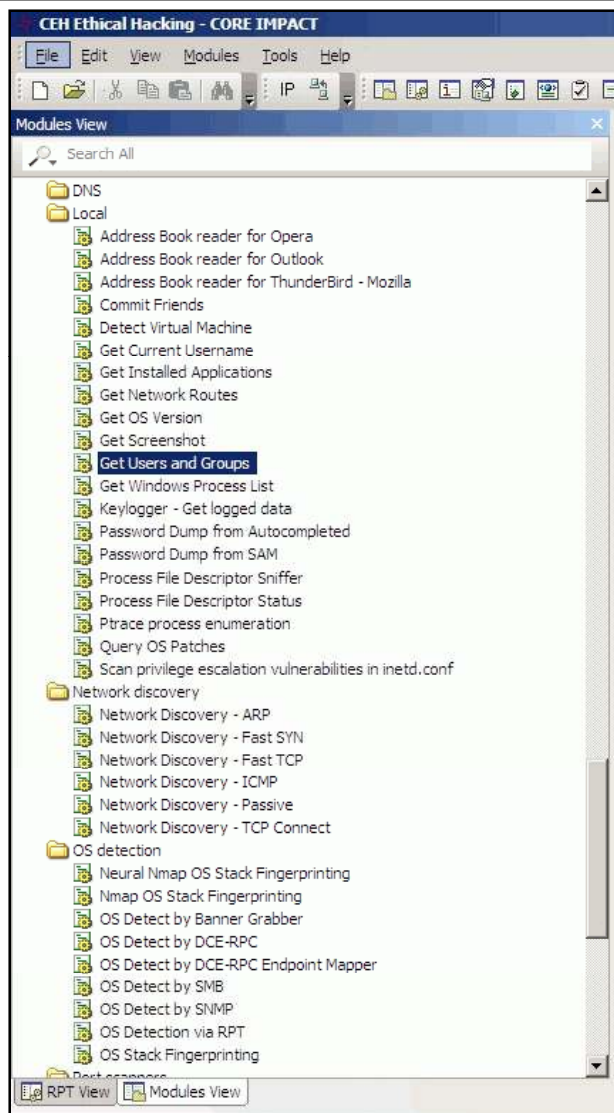
Core Impact: Screenshot 1



Core Impact: Screenshot 2



Core Impact: Screenshot 3



The screenshot displays two windows from the Core Impact application. The left window, titled 'Impact Report', shows a 'Detailed activity report' for the 'Get Users and Groups' module. The right window, titled 'Preview', shows an 'Executive Report' for 'EC-Council' dated Wednesday, September 6, 2006.

Detailed activity report (Left Window):

Technology: PACT\reports\reports_2006_09_02_08.gz to C:\Program Files\ODRE Security Technology\pact\reports\reports_2006_09_02_08.bmp
 Removing remote screen capture program...
 Screenshot of that successfully
 ...
 Module finished execution after 5 secs.

Module	Get Users and Groups
Start:	9/6/2006 1:52:17PM
Finish:	9/6/2006 1:52:18PM
Status:	Finished
Agent:	localagent
Parameters:	

Log

Module 'Get Users and Groups' (v1.0.2.1) started execution on Wed Sep 06 13:52:17 2006.
 Couldn't open 'netpipe.exe'
 Couldn't open 'netshadow'
 ipname: pass@hash on go pass@ hash shell
 Couldn't open 'netgroups'
 groupname: pass@hash go Discus
 ...
 Module finished execution after 1 secs.

Module	Activity Report
Start:	9/6/2006 1:53:07PM
Finish:	
Status:	Running
Agent:	localagent
Parameters:	GET_USERS_GROUPS, LOCAL_AGENT

Log

Module 'Activity Report' (v1.41) started execution on Wed Sep 06 13:53:07 2006.
 Generating reports, please wait.
 This operation may take some minutes.

Executive Report (Right Window):

Executive Report
EC-Council
 Wednesday, September 6, 2006

This report provides summarized information about all the different hosts and vulnerabilities that were successfully exploited by CORE IMPACT during this test.

Start: 9/6/2006 1:49:14PM
 Finish: 9/6/2006 1:54:59PM
 Exact time: 5 minutes
 Running time:

Summary of Exploited Vulnerabilities

Total amount of vulnerabilities successfully exploited	0
Total amount of unique vulnerabilities successfully exploited	0
Total amount of compromised hosts (hosts with known vulnerabilities)	0
Average number of compromised hosts per vulnerability (Total amount of compromised hosts / Total amount of vulnerabilities successfully exploited)	0.00

Summary of discovered hosts

Total amount of hosts:	0
Total compromised hosts: (hosts with known vulnerabilities)	0
Average number of exploited vulnerabilities per compromised host:	0.00

CEH Ethical Hacking - CORE IMPACT

File Edit View Modules Tools Help

Modules View

Search All

- Information gathering
 - Client Side
 - DNS
 - Local
 - Address Book reader for Opera
 - Address Book reader for Outlook
 - Address Book reader for Thunderbird - Mozilla
 - Commit Friends
 - Detect Virtual Machine
 - Get Current Username
 - Get Installed Applications
 - Get Network Routes
 - Get OS Version
 - Get Screenshot
 - Get Users and Groups
 - Get Windows Process List
 - Keylogger - Get logged date
 - Password Dump from AutoCompleted
 - Password Dump from SAM
 - Process File Descriptor Sniffer
 - Process File Descriptor Status
 - Process process enumeration
 - Query OS Patches
 - Scan privilege escalation vulnerabilities in netcat.conf
- Network discovery
 - Network Discovery - ARP
 - Network Discovery - Fast SYN
 - Network Discovery - Fast TCP
 - Network Discovery - ICMP
 - Network Discovery - Passive
 - Network Discovery - TCP Connect
- OS detection
 - Neural/heap OS Stack Fingerprinting
 - Heap OS Stack Fingerprinting
 - OS Detect by Banner Grabber
 - OS Detect by DCE-RPC
 - OS Detect by DCE-RPC Endpoint Mapper
 - OS Detect by SMB
 - OS Detect by SNMP

Quick Information

Vulnerability Report

Module Properties

Brief: Creates the Vulnerability report.

Category: Reports

Author: CORE Security Technologies

Version: 1.41

Description: The vulnerability report provides detailed information about all the vulnerabilities that were successfully exploited during this penetration test.

Note: This module will run from localagent.

Parameters: **BLACK AND WHITE CHARTS:** Print black & white charts.

Done RUN

Visibility View

localhost

localagent

Completed Modules

Name	Started	Finished	Status	Source Ag...
Win Shell	9/6/2006 1:49:...	9/6/2006 1:49:...	Finished	localagent
Update DPA...	9/6/2006 1:50:...	9/6/2006 1:50:...	Finished	localagent
Get Screenshot	9/6/2006 1:52:...	9/6/2006 1:52:...	Finished	localagent
Get Users and...	9/6/2006 1:52:...	9/6/2006 1:52:...	Finished	localagent
Activity Report	9/6/2006 1:53:...	9/6/2006 1:54:...	Finished	localagent
Executive Re...	9/6/2006 1:55:...	9/6/2006 1:55:...	Finished	localagent
Vulnerability R...	9/6/2006 1:55:...	9/6/2006 1:55:...	Finished	localagent
Simple HTTP B...	9/6/2006 1:56:...	9/6/2006 1:56:...	Finished	localagent
Vulnerability R...	9/6/2006 1:56:...	9/6/2006 1:57:...	Finished	localagent
Get Windows ...	9/6/2006 1:57:...	9/6/2006 1:57:...	Finished	localagent

Module Output

Get Windows Process List

Active processes

160	C:\Program Files\McAfee\MSK\MSKServer.exe
348	C:\Program Files\Internet Explorer\iexplore.exe
412	C:\WINDOWS\system32\svchost.exe
548	c:\PROGRAM-1\mcafee.com\agent\mcagent.exe
556	\SystemRoot\system32\smss.exe
660	C:\WINDOWS\system32\winlogon.exe
708	C:\WINDOWS\system32\services.exe
720	C:\WINDOWS\system32\lsass.exe
808	C:\WINDOWS\system32\svchost.exe
896	C:\Program Files\WFW\bin\jfw.exe
920	c:\program file\mcafee\mact\mcpdupd.exe
1032	C:\Program Files\CORE Security Technologies\IMPACT\bin\impact.exe
1056	C:\WINDOWS\system32\svchost.exe
1156	C:\Program Files\Logitech\MouseWare\system\em_exec.exe
1380	C:\Program Files\Bonjour\mDNSResponder.exe
1452	C:\WINDOWS\system32\spoolsv.exe
1544	C:\WINDOWS\system32\csrss.exe
1616	C:\Program Files\Common Files\McAfee\HackerWatch\HWIAP.exe
1648	C:\PROGRAM-1\McAfee\MSK\mcslogon.exe
1684	C:\PROGRAM-1\McAfee\MSK\mcpdmg.exe
1732	c:\program file\common file\mcafee\mml\monawvc.exe
1800	C:\PROGRAM-1\McAfee\MSK\mcp\bin\mcp.exe
1844	C:\DOCUMENT-1\Haja\LOCALS-1\Temp\Adobe\m_CleanUp.0001
1912	C:\PROGRAM-1\McAfee\MSK\mcskshd.exe
1952	C:\PROGRAM-1\McAfee\MSK\mcsurmgr.exe
2008	c:\PROGRAM-1\COMMON-1\mcafee\redirisvc\redirisvc.exe
2012	C:\Program Files\Common Files\Microsoft Shared\WS70EBUG\MDN.EXE
2032	C:\Program Files\McAfee\MPF\MPFSrv.exe

Module Output Module Log Module Parameters

Tool: MPack

MPack is a powerful web exploitation tool that claims about 50 percent success in attacks silently launched against web browsers

Mpack or Web Attacker II is a collection of PHP software components designed to be hosted and run from a PHP server running a database on the backend

The kit uses techniques similar to previous attacks, which leverage legitimate web sites that have been compromised to redirect visitors to the malicious download sites

The software uses HTTP header information to send exploits that target the victim's specific browser



Mpack include exploits for:

- Animated cursor
- ANI overflow
- MS06-014, MS06-006, MS06-044
- XML Overflow
- WebViewFolderIcon Overflow
- WinZip ActiveX Overflow
- QuickTime Overflow

Server time/date snapshot: 5-May-2007 10:18:46
(United States)

MPack v0.90 stats

Attacked hosts (total - uniq)		Traffic (total - uniq)	
IE XP ALL	114721 - 96104	Total traff	159073 - 129089
QuickTime	2175 - 2048	Exploited	44804 - 35574
Win2000	7033 - 6260	Loads count	17408 - 15968
Firefox	12885 - 12514	Loader's response	38.85% - 44.89%
Opera7	1271 - 1264	Efficiency 10.94% - 12.37%	

Browser stats (total)		Modules state	
MSIE	4 0%	Statistic type	MySQL-based
Opera	1 0%	User blocking	OFF
		Country blocking	OFF

Country	Traff	Loads	Efficiency
RU - Russian federation	112793 70.9%	12653 72.7%	11.22%
UA - Ukraine	16666 10.5%	1670 9.6%	10.02%
IT - Italy	7045 4.4%	593 3.4%	8.42%
GE - Georgia	5775 3.6%	673 3.9%	11.65%
BY - Belarus	5419 3.4%	657 3.8%	12.12%
KZ - Kazakstan	3098 1.9%	376 2.2%	12.14%
US - United states	1117 0.7%	50 0.3%	4.48%
AZ - Azerbaijan	1060 0.7%	128 0.7%	12.08%
MD - Moldova, republic of	683	101	14.79%

Tool: Neosploit

NeoSploit is a toolkit which is packed with security exploits to launch the attack

It can do the following activities:

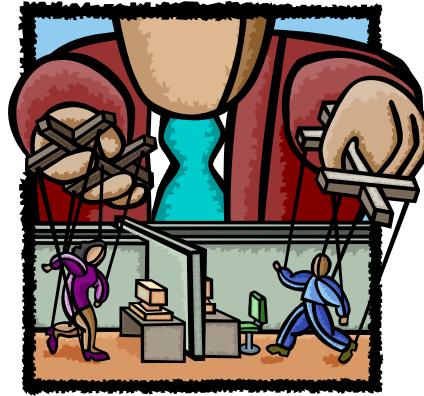
- Install programs
- Deletes programs
- Invoke dll components
- Create Run Keys.Runs other programs
- Hijack running processes
- Create known malware
- Create copies of itself



Neosploit: Screenshot



NEOSPLOIT FORCE EXPLOITS



Patch Management

Hotfixes and Patches

A hotfix is a code that fixes a bug in a product. The users may be notified through emails or through the vendor's website

Hotfixes are sometimes packaged as a set of fixes called a combined hotfix or service pack

A patch can be considered as a repair job in a piece of programming problem. A patch is the immediate solution that is provided to users



What is Patch Management

“Patch management is a process used to ensure that the appropriate patches are installed on a system”

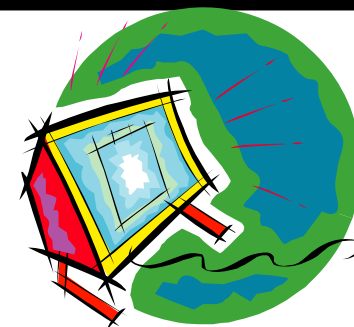
It involves the following:

- Choosing, verifying, testing, and applying patches
- Updating previously applied patches with current patches
- Listing patches applied previously to the current software
- Recording repositories, or depots, of patches for easy selection
- Assigning and deploying the applied patches



Solution: UpdateExpert

UpdateExpert is a windows administration program that helps you to secure your systems by remotely managing service packs and hotfixes



Microsoft constantly releases updates for the OS and mission critical applications, which fix security vulnerabilities and system stability problems

UpdateExpert enhances security, keeps systems up-to-date, eliminates sneaker-net, improves system 'sreliability, and QoS

Patch Management Tool: qfecheck

Qfecheck allows customers to diagnose and eliminate the effects of anomalies in the packaging of hotfixes for Microsoft Windows

Qfecheck.exe determines which hotfixes are installed by reading the information stored in the following registry key:

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Updates



```
G:\CEH\Haja\patch>qfecheck /v
Windows 2000 Hotfix Validation Report for \\SYSTEM5
Report Date: 5/17/2005 2:23pm
Current Service Pack Level: Service Pack 4
Hotfixes Identified:
Q327194: Current on system.
KB820888: Current on system.
KB822831: Current on system.
KB823182: Current on system.
KB823559: Current on system.
KB824105: Current on system.
KB825119: Current on system.
KB826232: Current on system.
KB828035: Current on system.
KB828741: Current on system.
KB828749: Current on system.
KB835732: Current on system.
KB837001: Current on system.
KB839645: Current on system.
KB840315: Current on system.
KB840987: Current on system.
KB841356: Current on system.
KB841533: Current on system.
KB841872: Current on system.
KB841873: Current on system.
KB842526: Current on system.
KB842773: Current on system.
KB871250: Current on system.
KB873333: Current on system.
KB873339: Current on system.
KB885250: Current on system.
KB885835: Current on system.
KB885836: Current on system.
KB888113: Current on system.
KB890047: Current on system.
KB890175: Current on system.
KB890859: Current on system.
KB891711: Current on system.
KB891781: Current on system.
KB893066: Current on system.
KB893086: Current on system.
KB893803: Current on system.
Q818043: Current on system.
```

Patch Management Tool: HFNetChk

HFNetChk is a command-line tool that enables the administrator to check the patch status of all the machines in a network remotely

It does this function by referring to an XML database that Microsoft constantly updates

```
C:\WINNT\System32\cmd.exe
MICRON
-----
WINDOWS 2000 SP2
Patch NOT Found MS00-077      Q299796
Patch NOT Found MS00-079      Q276471
Patch NOT Found MS01-007      Q285851
Patch NOT Found MS01-013      Q285156
WARNING           MS01-022      Q296441
Patch NOT Found MS01-025      Q296185
Patch NOT Found MS01-037      Q302755
Patch NOT Found MS01-041      Q298012

Internet Information Services 5.0
Patch NOT Found MS01-025      Q296185

Internet Explorer 5.5 SP2

INFORMATION
All necessary hotfixes have been applied
```

caccls.exe Utility

Built-in Windows 2000 utility (caccls.exe) can set access control list (ACLs) permissions globally

To change permissions on all executable files to System:Full, Administrators:Full

- `C:\>caccls.exe c:\myfolder*.exe /T /G System:F Administrators:F`



```
Command Prompt
C:\Snort>caccls.exe *.exe /T /G System:F Administrators:F
Are you sure (Y/N)?y
processed file: C:\Snort\snort.exe
C:\Snort>
```



Vulnerability Scanners

Vulnerability Scanners

The different types of vulnerability scanners according to their availability are:

- Online Scanners : e.g. www.securityseers.com
- Open Source scanners: e.g. Snort, Nessus Security Scanner, and Nmap
- Linux Proprietary Scanners: The resource for scanners on Linux is SANE (Scanner Access Now Easy). Besides SANE there is XVScan, Parallel Port Scanners under Linux, and USB Scanners on Linux
- Commercial Scanners: You can purchase these from the vendors





Online Vulnerability Search Engine

Sponsored by DHS National Cyber Security Division/US-CERT

NIST National Institute of Standards and Technology

National Vulnerability Database

automating vulnerability management, security measurement, and compliance checking

Vulnerabilities	Checklists	Product Dictionary	Impact Metrics	Data Feeds	Statistics	
Home	ISAP/SCAP	SCAP Validated Tools	SCAP Events	About	Contact	Vendor Comments

Mission and Overview

NVD is the U.S. government repository of standards based vulnerability management data. This data enables automation of vulnerability management, security measurement, and compliance (e.g. FISMA).

There are **126** matching records. Displaying matches **1** through **20**.

[Next 20 Matches](#)

CVE-2007-1748 [TA07-128A](#) [TA07-103A](#) [YU#555920](#)
[oval:org.mitre.oval:def:1228](#)

Summary: Stack-based buffer overflow in the RPC interface in the Domain Name System (DNS) Server Service in Microsoft Windows 2000 Server SP 4, Server 2003 SP 1, and Server 2003 SP 2 allows remote attackers to execute arbitrary code via a long zone name containing character constants represented by escape sequences.
Published: 4/13/2007
CVSS Severity: 10.0 (High)

CVE-2006-7052

Summary: Multiple PHP remote file inclusion vulnerabilities in DotWidget For Articles (dotwidgeta) 0.2 allow remote attackers to execute arbitrary code via a URL in the (1) file_path parameter to (a) index.php, (b) showcatpicks.php, and (c) showarticle.php; and the (2) admin_header_file and (3) admin_footer_file parameters to (d) admin/authors.php, (e) admin/index.php, (f) admin/categories.php, (g) admin/editconfig.php, and (h) admin/articles.php.
Published: 2/23/2007
CVSS Severity: 10.0 (High)

CVE-2006-6199

Resource Status

NVD contains:

- 29705 [CVE Vulnerabilities](#)
- 150 [Checklists](#)
- 132 [US-CERT Alerts](#)
- 2152 [US-CERT Vuln Notes](#)
- 3171 [OVAL Queries](#)
- 13723 [Vulnerable Products](#)

Last updated: 02/25/08

Network Tool: Whisker

Whisker is an automated vulnerability scanning software that scans for the presence of exploitable files on remote web servers

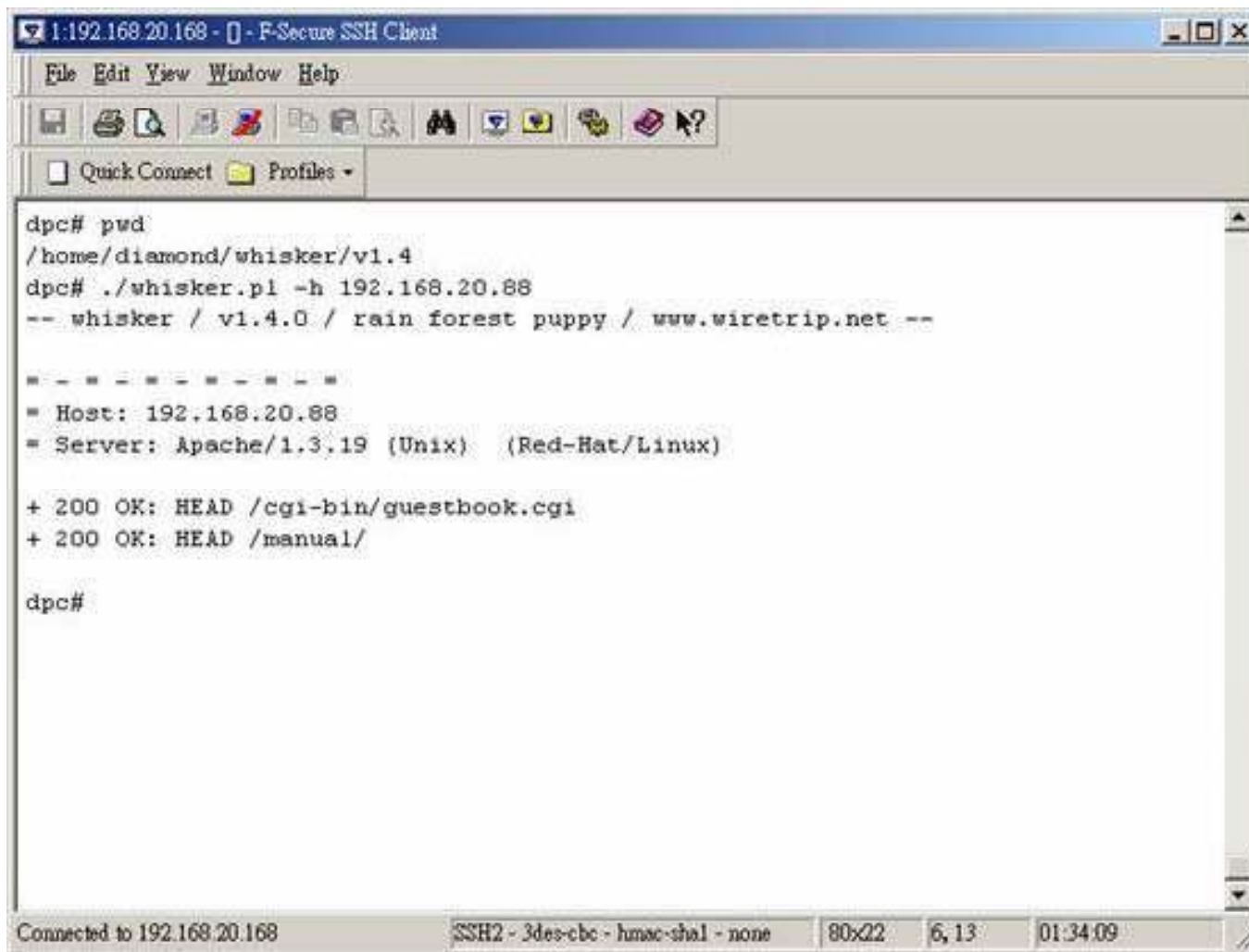
It refers to the output of this simple scan below and you will see that Whisker has identified several potentially dangerous files on this IIS5Server

```
c:\>whisker.pl -h victim.com -s scan.db

=====
= Host: victim.com
= Server: Microsoft-IIS/5.0
+ 200 OK: GET /whisker.ida
+ 200 OK: GET /whisker.idg
+ 200 OK: HEAD /_vti_inf.html
+ 200 OK: HEAD /_vti_bin/shtml.dll
+ 200 OK: HEAD /_vti_bin/shtml.exe
```



Whisker: Screenshot



```
1:192.168.20.168 - F-Secure SSH Client
File Edit View Window Help
Quick Connect Profiles
dpc# pwd
/home/diamond/whisker/v1.4
dpc# ./whisker.pl -h 192.168.20.88
-- whisker / v1.4.0 / rain forest puppy / www.wiretrip.net --

- - - - -
= Host: 192.168.20.88
= Server: Apache/1.3.19 (Unix) (Red-Hat/Linux)

+ 200 OK: HEAD /cgi-bin/guestbook.cgi
+ 200 OK: HEAD /manual/

dpc#
Connected to 192.168.20.168      SSH2 - 3des-cbc - hmac-sha1 - none      80x22      6, 13      01:34:09
```


Network Tool: N-Stealth HTTP Vulnerability Scanner

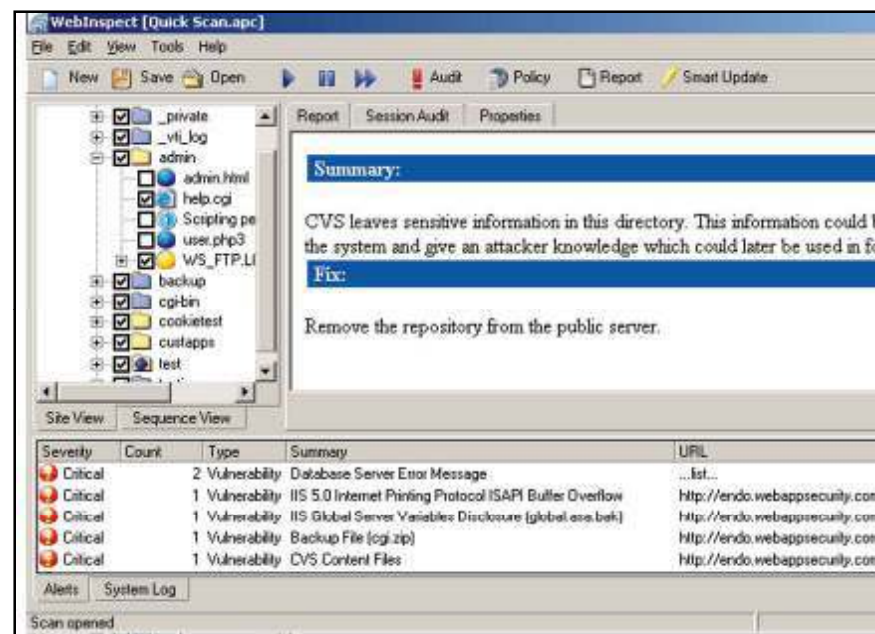
The image displays two overlapping windows from the N-Stealth HTTP Security Scanner. The background window is a Microsoft Internet Explorer browser showing an N-Stealth report for IP 127.0.0.1. The report features a pie chart with a single segment labeled '100 %'. The foreground window is the 'N-Stealth HTTP Security Scanner - Free Edition' application. It has a menu bar with 'Scanner', 'Database', 'Options', 'Reports', 'Language', and 'Buy Now'. A sidebar on the left contains 'Scanner', 'Events', 'Preferences', and 'Vulnerabilities Checks'. The main area is titled 'General Options' and contains several checkboxes: 'Use IDS Evasion' (unchecked), 'Include Denial-of-Service checks' (unchecked), 'Detect server misconfiguration' (checked), 'Try to identify effective security checks to run' (unchecked), 'Try to identify remote password files' (checked), and 'Common HTTP Security Test' (checked). Below this is a 'Special Security Checks' section with a scrollable list of tests, all of which are checked: 'IIS CGI Decode Test', 'IIS Extended Unicode Test', 'IIS File Parsing Test', 'FrontPage Security Test', 'FrontPage CGI Security Test', 'Domino Security Test', 'General CGI Security Test', 'NCSA Security Test', 'ColdFusion Security Test', and 'Cisco HTTP Security Test'. The footer of the application window includes the 'N-Stalker' logo and 'N-Stealth Security Scanner Version 5.8 | FREE Edition'.

Hacking Tool: WebInspect

WebInspect is an impressive web server and application-level vulnerability scanner that scans over 1,500 known attacks

It checks site contents and analyzes for rudimentary application-issues like smart guesswork checks, password guessing, parameter passing, and hidden parameter checks

It can analyze a basic web server in 4 minutes, cataloging over 1,500 HTML pages



Network Tool: Shadow Security Scanner

Security scanner is designed to identify known and unknown vulnerabilities, suggest fixes to identified vulnerabilities, and report possible security holes within a network's Internet, intranet, and extranet environments

Shadow Security Scanner includes vulnerability auditing modules for many systems and services

These include NetBIOS, HTTP, CGI and WinCGI, FTP, DNS, DoS vulnerabilities, POP3, SMTP,LDAP,TCP/IP, UDP, Registry, Services, users and accounts, password vulnerabilities, publishing extensions, MSSQL,IBM DB2,Oracle,MySQL, PostgressSQL, Interbase, MiniSQL, and more



Shadow Security Scanner: Screenshot

The screenshot shows the Shadow Security Scanner interface. The main window displays a list of scanned hosts and their vulnerabilities. A 'Report wizard' dialog box is open, allowing the user to select audits and sort modes for the report. The 'Report' dialog shows a table of audit results:

Category / Audit	Risk	Count
SSH Servers	Medium	10
Proxy	High	16
NetBIOS	Information, ...	93
Mail Servers	Low	2
IP Services	High	3
Registry	High	1

The 'Report wizard' dialog also includes options to 'Sort hosts by' (No sort) and 'Sort audits by' (Risk). Below the dialog, a detailed view of a vulnerability is shown:

NetBIOS : Microsoft Windows2003 DirectX DirectPlay Remote Malformed Packet Denial Of Service Vulnerability

Description: Microsoft DirectX DirectPlay is affected by a remote denial of service vulnerability. This issue is due to a failure of the affected library to properly handle malformed network data. An attacker can exploit this vulnerability to cause an application using the affected DirectPlay library to crash, denying service to legitimate users.

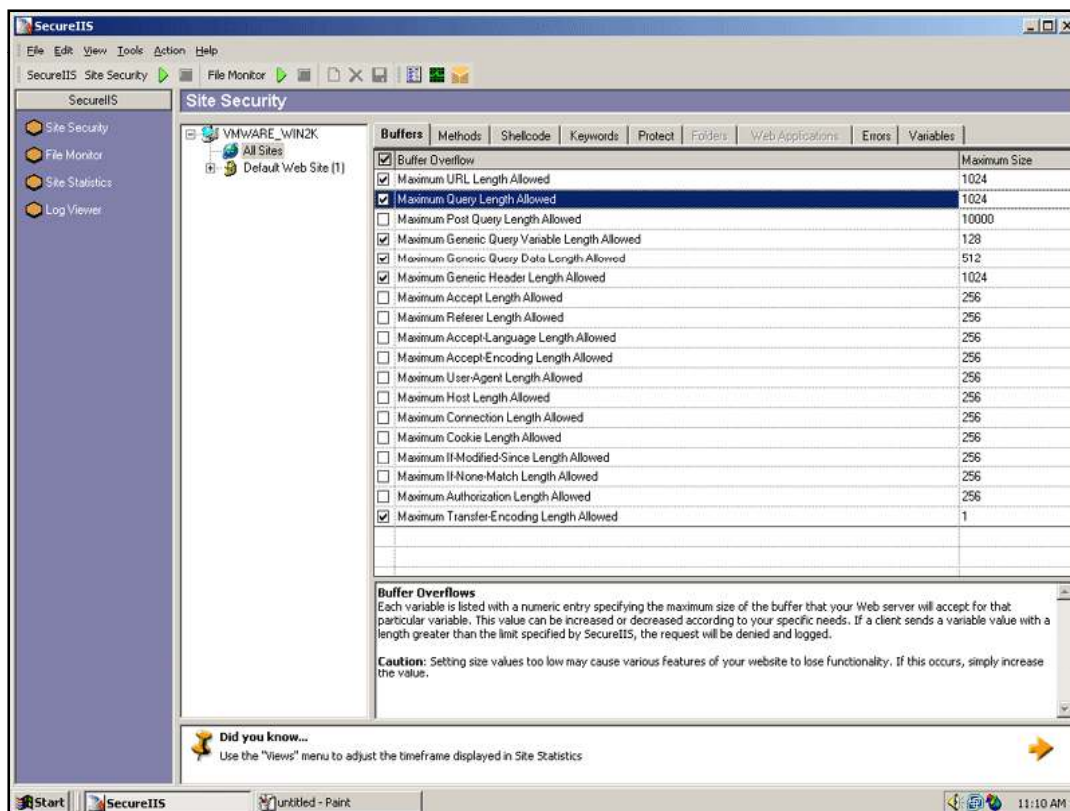
Hot to fix: Microsoft has released the patch.

Risk level: High

The status bar at the bottom indicates 'Scan complete. (100%)' and 'Total audits : 2994'.

Tool: SecureIIS

Developed by eEye Digital Security specifically for Windows-based web servers, SecureIIS operates within Microsoft's IIS to protect your servers against known and unknown attacks



Tool: ServersCheck Monitoring

ServersCheck Monitoring is a web based network monitoring software and server monitoring tool

It monitors your network for bandwidth, outages, and performance issues

When problems are detected, then it alerts you via cell phone text messages (SMS), e-mail, or MSN

It can even take corrective actions by restarting a server or service

ServersCheck Monitoring: Screenshot 1

DASHBOARD REPORTING NETWORK MESSAGE CONFIGURATION SUPPORT
 Device View Group View All Rules View Camera View


ServersCheck 7.8.4 - Dashboard - All Rules View

Monitoring Statistics



Rules defined: 14
 DOWN: 0
 WARNING: 1
 OK: 14
 HALTED: 0
 PAUSED: 0

Monitoring since: 8d 15:05
 Checks performed: 168793
 Current service level: 98.21%



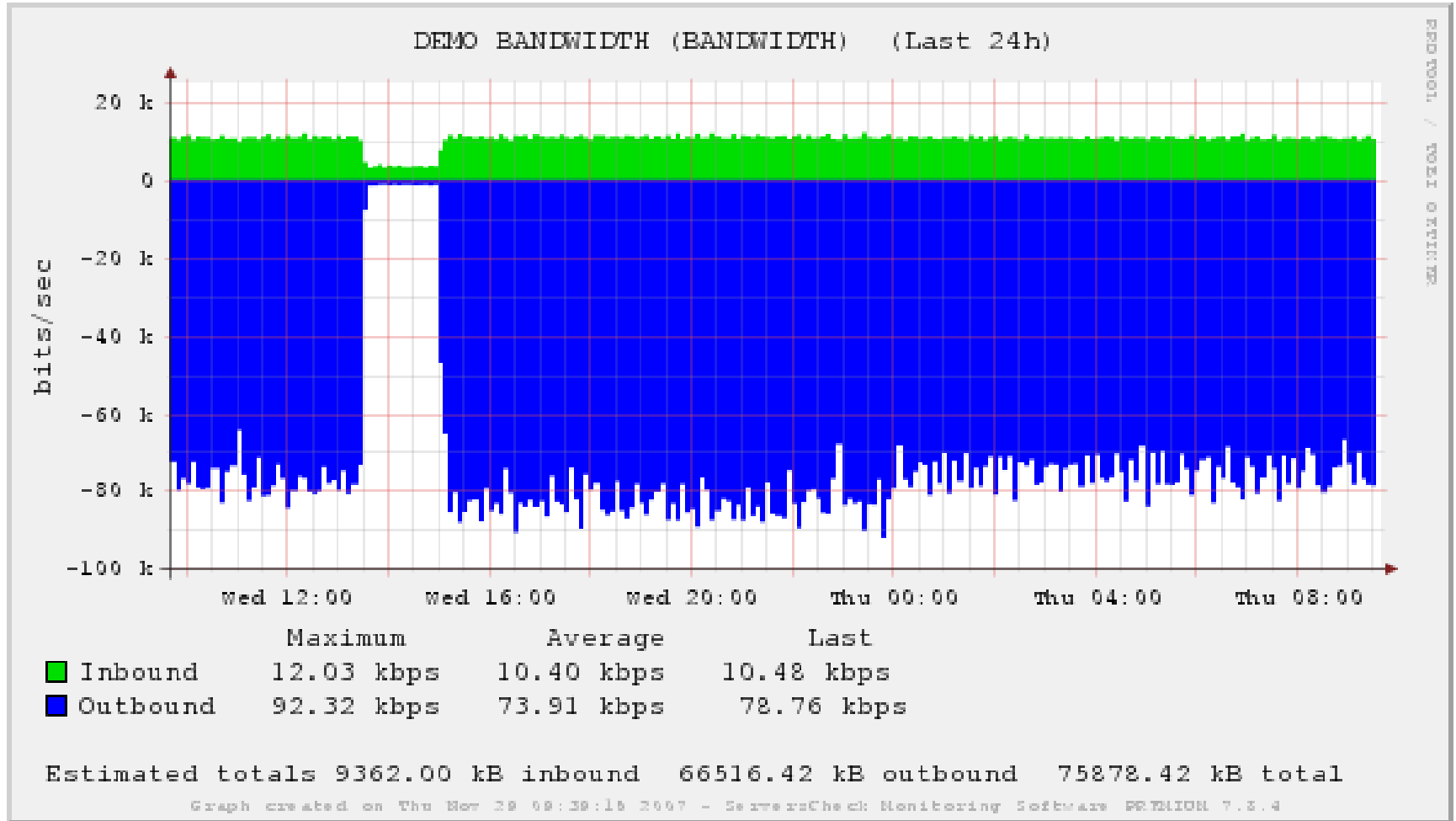
Today's events

ServersCheck.Com TCP (ServersCheck Web Server)	00:01:28	Error
--	----------	-----------------------

ADD NEW MONITORING RULE
SCAN NETWORK

Label*	Type*	Remarks	%	Checks	Down	Value	Last Up	Last Down*	Last Error	Downtime
Internet Connection Test	PING		99	464998	4640	13 ms	Nov 29 09:45:03	Nov 28 15:01:01	details	01:30:40
PBX Telephony	PING		99.96	318200	109	1 ms	Nov 29 09:44:33	Oct 3 18:45:52	details	00:06:09
Office Main Fax	PING		99.93	318397	204	1 ms	Nov 29 09:44:54	Oct 3 18:45:52	details	00:06:09
SNMPTRAP	SNMPTRAP									
Office Temperature	TEMPERATURE		99.87	311461	385	23.9°	Nov 29 09:44:58	Jun 20 03:20:30		00:03:28
Office Humidity	HUMIDITY		99.99	58242	8	40.9% RH	Nov 29 09:41:39	Oct 3 18:46:01		00:08:46
Linux Demo Server										
LINUXHEALTH	LINUXHEALTH		97.59	88510	2130	0 ms	Nov 29 09:44:43	Aug 28 19:23:11	details	04:44:54
ServersCheck Demo Server										
DEMO_SERVER_CPU	CPU		94.51	214182	11741	33%	Nov 29 09:44:18	Aug 27 08:38:49	details	12:09:52
DEMO_SERVER_MEMORY	MEMORY		100	234014	0	152 MB	Nov 29 09:44:50			
DEMO_BANDWIDTH	BANDWIDTH		100	299096	0	9795	Nov 29 09:43:35			
WINDOWSHEALTH	WINDOWSHEALTH		89.41	348850	36915	0 ms	Nov 29 09:44:16	Nov 18 11:06:25	details	00:12:05
DEMO_SERVER_DRIVESPACE	DRIVESPACE		99.96	587747	204	4472 MB	Nov 29 09:44:45	Oct 27 23:54:16	details	00:53:25
ServersCheck Web Server										
ServersCheck.com HomePage	URL		97.66	197554	4622	1552 ms	Nov 29 09:44:45	Nov 28 15:01:28	details	01:31:56
ServersCheck.Com TCP	TCP		98.89	412787	4559		Nov 29 09:44:43	Nov 29 00:01:28	details	00:00:41

ServersCheck Monitoring: Screenshot 2



Tool: GFI Network Server Monitor

GFI Network Server Monitor is a network monitoring software

It monitors all aspects of your Windows and Linux servers, workstations, and devices

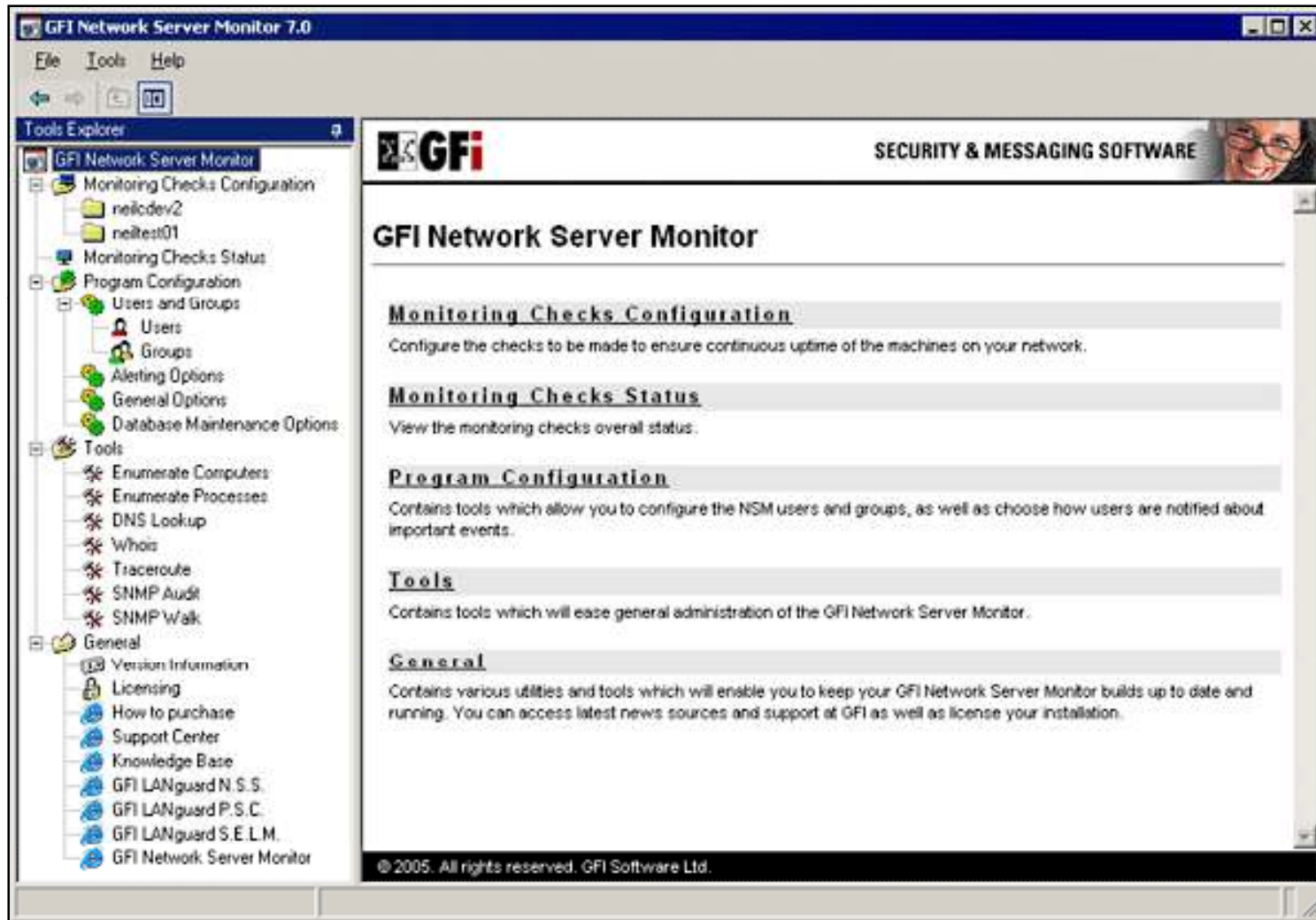
When a failure is detected, GFI's network monitor can alert you by email, pager, or SMS

It also takes corrective action by rebooting the machine, restarting the service, or running a script

Features:

- Includes checks for Exchange 2000/2003, ISA server, IIS
- Monitors terminal servers by actually logging in
- Monitors your database servers
- Monitors Linux servers

GFI Network Server Monitor: Screenshot 1




GFI Network Server Monitor: Screenshot 2

GFI Network Server Monitor - Detailed Report - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address C:\Program Files\GFI\Network Server Monitor 6.0\Reporter\NSM_report_200521493752.htm Go Links

GFI SECURITY & MESSAGING SOFTWARE 

Availability Report - Detailed **GFI Network Server Monitor**

From 11/02/2005 to 14/02/2005

— **TMJASON - Event Log Service**

Status	From	To	Duration	Reason
✓ Succeeded	11/02/2005 - 00:00:00	14/02/2005 - 09:37:55	81 hrs 38 min	EventLog service is running

— **TMJASON - ICMP - Ping**

Status	From	To	Duration	Reason
✓ Succeeded	11/02/2005 - 00:00:00	14/02/2005 - 09:37:55	81 hrs 38 min	[Reply from TMJASON: < 10 msec]

— **TMJASON - Norton AntiVirus 2005**

Status	From	To	Duration	Reason
✗ Failed	11/02/2005 - 00:00:00	14/02/2005 - 09:37:55	81 hrs 38 min	'Norton AntiVirus Auto-Protect Service' service is not running

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My Computer

GFI Network Server Monitor: Screenshot 3

New Check

HTTP/HTTPs
Check the availability of HTTP and HTTPs sites.

URL: http(s)://

Use server verification (https) for this site


Check for availability only

Check that the page

- contains the following text
- does not contain the following text

Use http web site authentication
NOTE: The credentials to be used are specified in the "Logon credentials" tab.

Use proxy server

 Use a URL string like 'domainname.com:1010' to connect to a port other than the default port (port 8080).
Click [here](#) to load a sample.

< Back Next > Cancel

Servers Alive is the server monitoring tool

It can monitor any WinSock service (TCP:FTP, HTTP, POP3, SMTP, IMAP4, DNS, and UDP: Radius and Quake II etc.)

The program offers a variety of notification options including SMS, email, pager, and even ICQ or MSN Messenger notifications

Servers Alive: Screenshot

Servers Alive

File Edit Register View Help

Servers Alive UP: 8 Down: 0 Maint: 0

Response	Roundtrip	Last checktime	Entries
100%	87.4 ms	2/16/2003 at 12:47:29 PM	<input checked="" type="checkbox"/> webattack.com (wa-ping) ping (timeout : 5)
Connection possible	110 ms	2/16/2003 at 12:47:30 PM	<input checked="" type="checkbox"/> screenfiles.webattack.com (screenfiles) P...
Got page and content is OK	1292 ms	2/16/2003 at 12:47:30 PM	<input checked="" type="checkbox"/> webattack.com (wa-load) URL : http://web...
Connection possible	90 ms	2/16/2003 at 12:47:36 PM	<input checked="" type="checkbox"/> webattack.com (wa) Port Connector (TCP)...
Got page and content is OK	1763 ms	2/16/2003 at 12:47:32 PM	<input checked="" type="checkbox"/> webattack.com (sw_categorypages) URL ...
Got page and content is OK	1703 ms	2/16/2003 at 12:47:34 PM	<input checked="" type="checkbox"/> webattack.com (fw_categorypages) URL : ...
Connection possible	40 ms	2/16/2003 at 12:47:37 PM	<input checked="" type="checkbox"/> webattack.com (wa) Port Connector (T...
			<input checked="" type="checkbox"/> bellsouth.net (BellSouth) Port Connector (TCP) ...

My Entries

Checks done every minutes (12:48:37 PM) Commands

(c) 1997-2003 Woodstone bvba

Webserver Stress Tool

Webserver Stress Tool is a HTTP-client/ server test application designed to pinpoint critical performance issues in your web site or web server

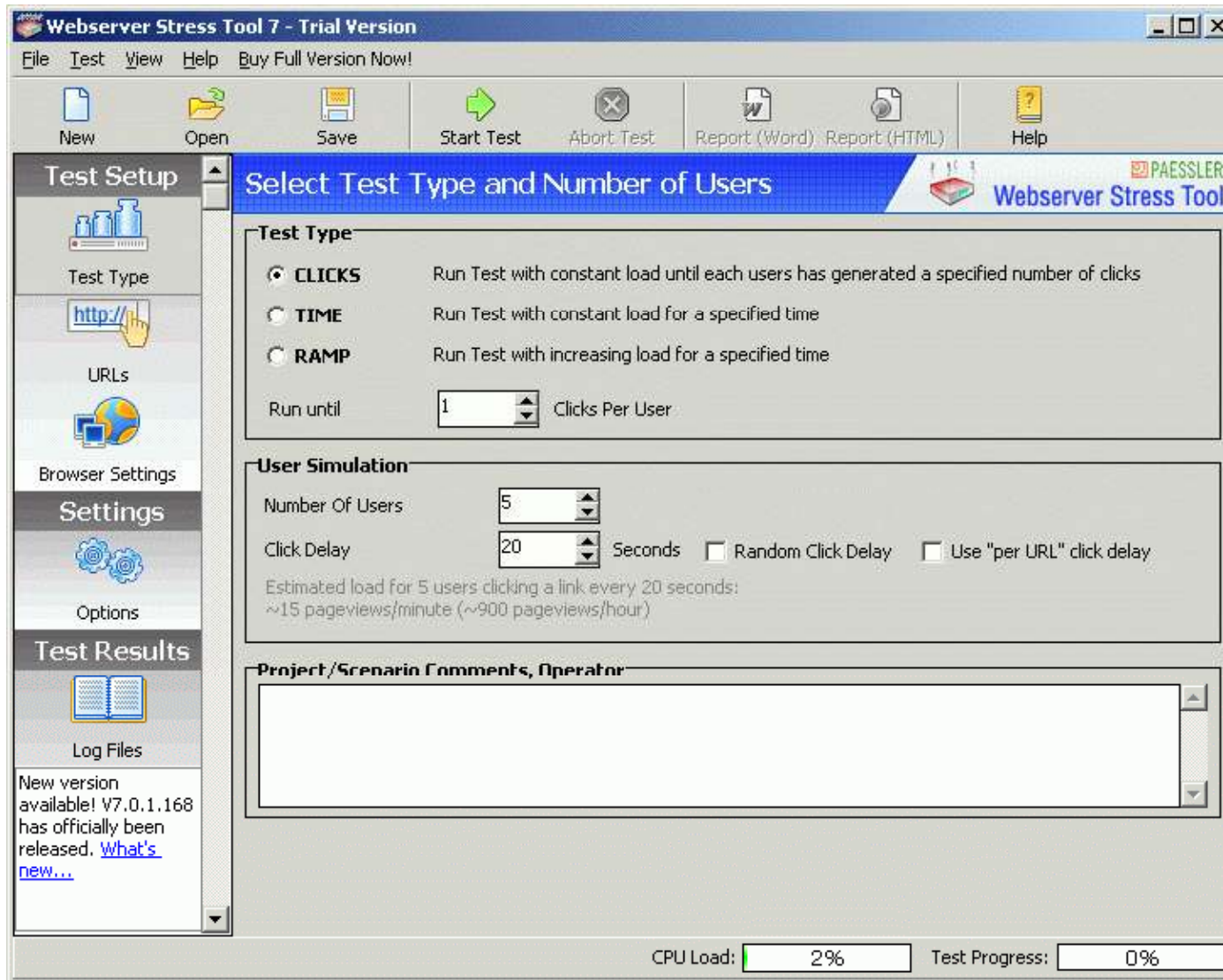
It simulates any number of users accessing your website at the same time

It can simulate upto 10.000 users who independently click their way through a set of URLs

Features:

- Resolve performance critical issues in your webserver
- Maximize performance
- Perform load tests and stress tests
- Can test any script—CGI, ASP, and PHP

Webserver Stress Tool: Screenshot



Monitoring Tool: Secunia PSI

Secunia PSI is an invaluable tool to use while assessing the security patch state of software installed on your system

It constantly monitors your system for insecure software installations and notifies you when an insecure application is installed

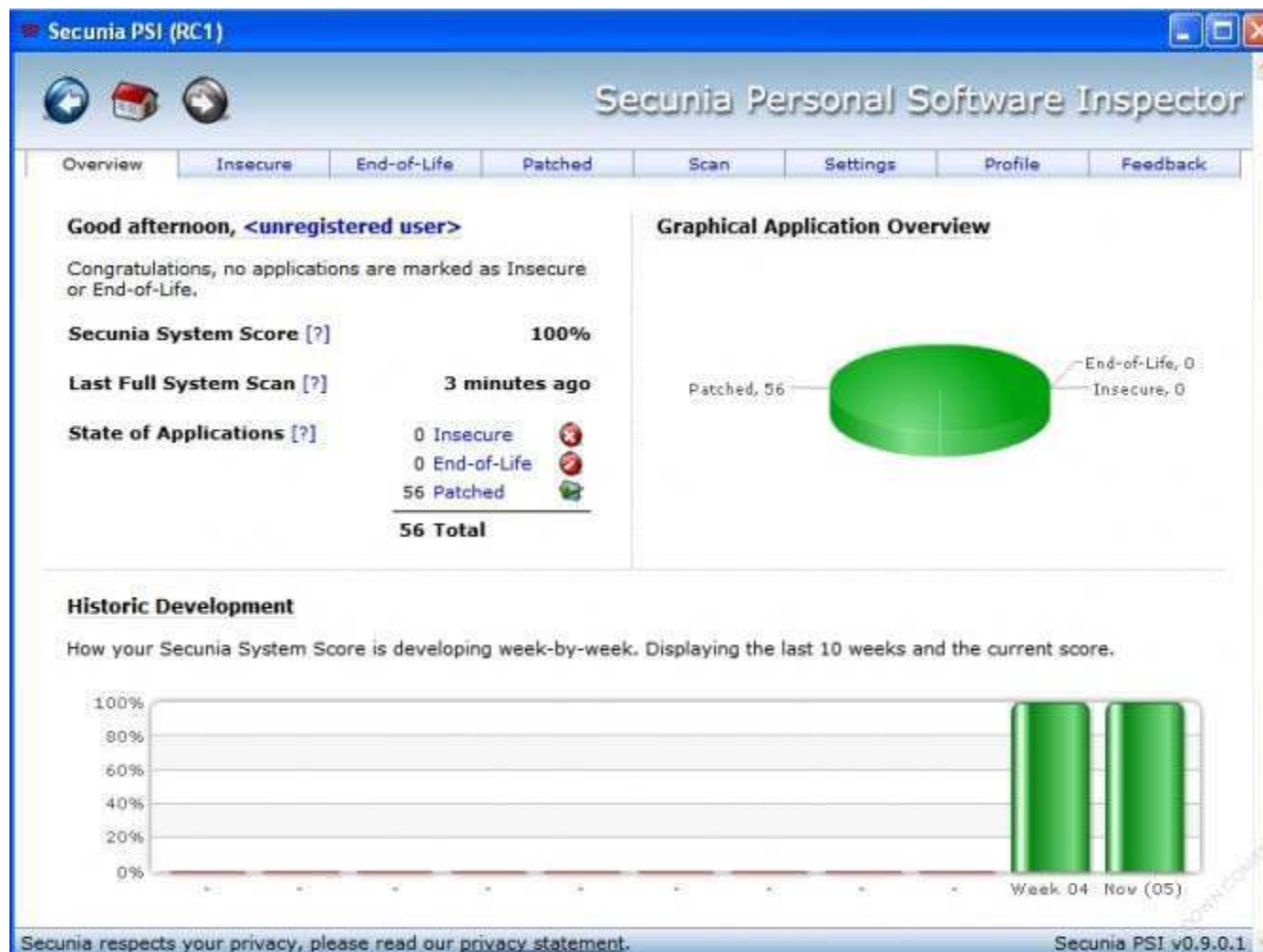
It provides you with detailed instructions for updating the application when available

It relies on the meta-data of executables and library files

It works by examining files on your computer (primarily .exe, .dll, and .ocx files)

This data is same for all users and originates from the installed programs on your computer and never from their configuration

Secunia PSI: Screenshot



IISLockdown:

- IISLockdown restricts anonymous access to system utilities as well as the ability to write to web content directories
- It disables Web Distributed Authoring and Versioning (WebDAV)
- It installs the URLScan ISAPI filter

URLScan:

- UrlScan is a security tool that screens all incoming requests to the server by filtering the requests based on rules that are set by the administrator

MBSA Utility:

- Microsoft Baseline Security Analyzer (MBSA) is an easy-to-use tool that determines the security state in accordance with Microsoft security recommendations and offers specific remediation guidance

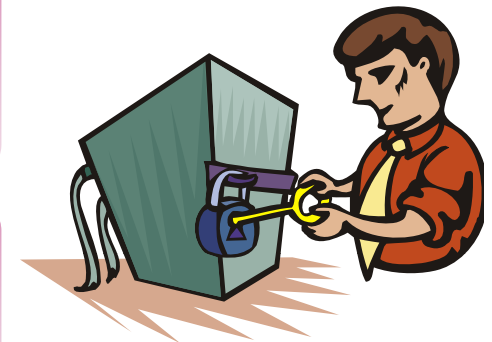
File System Traversal Countermeasures

Microsoft recommends setting the NTFS ACLS on cmd.exe and several other powerful executables to Administration and SYSTEM: Full Control only

Remove the sample files

Monitor the audit logs

Apply Microsoft patches and hotfixes regularly



Increasing Web Server Security

Use of Firewalls

Administrator Account Renaming

Disabling the Default Websites

Removal of Unused Application Mappings

Disabling Directory Browsing

Legal Notices

Service Packs, Hotfixes, and Templates

Checking for Malicious Input in Forms and Query Strings

Disabling Remote Administration



Web Server Protection Checklist

Patches and Updates

- Run MBSA utility on a regular interval to check for the latest operating system and components updates

Auditing and Logging

- Enable failed logon attempts in the log
- Relocate and secure IIS log files

IISLockdown

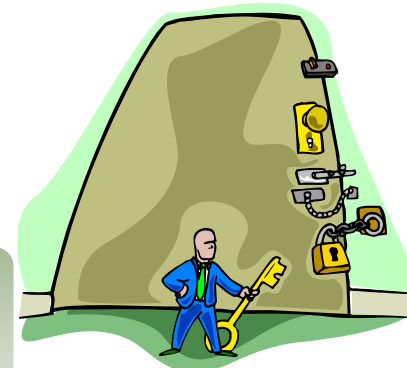
- Run IISLockdown and URLScan to lock down the servers
- Sites and Virtual Directories

Services

- Disable unnecessary Windows services
- Run essential services with the least privileges

Script Mappings

- Extensions not used by the application are mapped to 404.dll (.idq, .htw, .ida, .shtml, .shtm, .stm, .idc, .htr, .printer)



Web Server Protection Checklist (cont'd)

Protocols

- Disable WebDAV
- Disable NetBIOS and SMB (Block ports 137, 138, 139 and 445)



ISAPI Filters

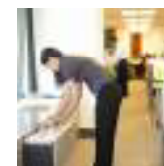
- Remove unused ISAPI Filters

Accounts

- Remove unused accounts
- Disable guest
- Rename administrator account
- Disable null user connections
- Enable administrator to log on locally

Files and Directories

- Files and directories are contained on NTFS volumes
- Web site content is located on a non-system NTFS volume
- Web site root directory has deny write for IUSR COMPUTERNAME



Web Server Protection Checklist (cont'd)

IIS Metabase

- Access to the metabase is restricted by using NTFS permissions

Server Certificates

- The certificate's public key is valid, all the way to a trusted root authority

Shares

- Administrative shares (C\$ and Admin\$) are removed

Machine.config

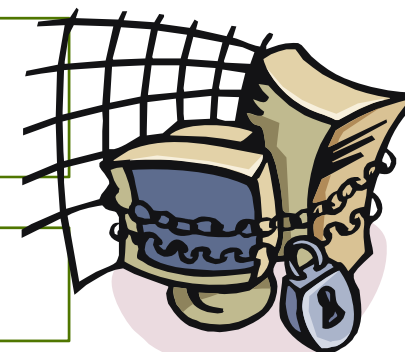
- Unused HttpModules are removed
- Tracing is disabled `<trace enable="false"/>`

Ports

- Web applications are restricted to use only port 80 and 443

Code Access Security

- Code access security is enabled on the server



What Happened Next

Jason Springfield, an Ethical Hacker was called in to investigate the matter. During his tests, Jason found that the website had all default configurations, and no precautionary steps were taken while building the website.

The test exposed lot of security loopholes in the website.

The defacement was possible as the website was built with all default configuration.

The web server was not updated and hot fixes were not installed.

There was a flaw in the Index.htm file of the website.

The attacker exploited this flaw, and defacing was a piece of cake for him!!

Jason fixed the holes and changed the default configurations. This incident made the management of SpeedCake4u realize the need for a professional web designer.

Web servers assume critical importance in the realm of Internet security

Vulnerabilities exist in different releases of popular web servers and respective vendors patch these often

The inherent security risks owing to the compromised web servers have impact on the local area networks that host these websites, even on the normal users of web browsers

Looking through the long list of vulnerabilities that had been discovered and patched over the past few years, it provides an attacker ample scope to plan attacks to unpatched servers

Different tools/exploit codes aid an attacker in perpetrating web server's hacking

Countermeasures include scanning for the existing vulnerabilities and patching them immediately, anonymous access restriction, incoming traffic request screening, and filtering

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**“Customers aren’t impressed by our web site anymore.
We need to put the ‘gee’ back in ‘technologiee!’”**

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www.glasbergen.com



**“Install a patch for the update of the new version.
If that doesn’t work, install the new version of
the update for the patch. If all else fails, install
a patch for the new version of the update.”**

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www.glasbergen.com



**“We back up our data on sticky notes because
sticky notes never crash.”**