

VirusScan® Command Line

version 5.30.0

McAfee®
System Protection

Industry-leading intrusion prevention solutions

McAfee®

COPYRIGHT

Copyright © 2008 McAfee, Inc. All Rights Reserved.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means without the written permission of McAfee, Inc., or its suppliers or affiliate companies.

TRADEMARK ATTRIBUTIONS

ACTIVE FIREWALL, ACTIVE SECURITY, ACTIVESECURITY (AND IN KATAKANA), ACTIVESHIELD, CLEAN-UP, DESIGN (STYLIZED E), DESIGN (STYLIZED N), ENTERCEPT, EPOLICY ORCHESTRATOR, FIRST AID, FOUNDSTONE, GROUPSHIELD, GROUPSHIELD (AND IN KATAKANA), INTRUSHIELD, INTRUSION PREVENTION THROUGH INNOVATION, MCAFEE, MCAFEE (AND IN KATAKANA), MCAFEE AND DESIGN, MCAFEE.COM, MCAFEE VIRUSSCAN, NET TOOLS, NET TOOLS (AND IN KATAKANA), NETSCAN, NETSHIELD, NUTS & BOLTS, OIL CHANGE, PRIMESUPPORT, SPAMKILLER, THREATSCAN, TOTAL VIRUS DEFENSE, VIREX, VIRUS FORUM, VIRUSCAN, VIRUSSCAN, VIRUSSCAN (AND IN KATAKANA), WEBSKAN, WEBSHIELD, WEBSHIELD (AND IN KATAKANA) are registered trademarks or trademarks of McAfee, Inc. and/or its affiliates in the US and/or other countries. The color red in connection with security is distinctive of McAfee brand products. All other registered and unregistered trademarks herein are the sole property of their respective owners.

LICENSE INFORMATION

License Agreement

NOTICE TO ALL USERS: CAREFULLY READ THE APPROPRIATE LEGAL AGREEMENT CORRESPONDING TO THE LICENSE YOU PURCHASED, WHICH SETS FORTH THE GENERAL TERMS AND CONDITIONS FOR THE USE OF THE LICENSED SOFTWARE. IF YOU DO NOT KNOW WHICH TYPE OF LICENSE YOU HAVE ACQUIRED, PLEASE CONSULT THE SALES AND OTHER RELATED LICENSE GRANT OR PURCHASE ORDER DOCUMENTS THAT ACCOMPANIES YOUR SOFTWARE PACKAGING OR THAT YOU HAVE RECEIVED SEPARATELY AS PART OF THE PURCHASE (AS A BOOKLET, A FILE ON THE PRODUCT CD, OR A FILE AVAILABLE ON THE WEB SITE FROM WHICH YOU DOWNLOADED THE SOFTWARE PACKAGE). IF YOU DO NOT AGREE TO ALL OF THE TERMS SET FORTH IN THE AGREEMENT, DO NOT INSTALL THE SOFTWARE. IF APPLICABLE, YOU MAY RETURN THE PRODUCT TO MCAFEE OR THE PLACE OF PURCHASE FOR A FULL REFUND.

Attributions

This product includes or may include:

- Software originally written by Philip Hazel, Copyright (c) 1997-2008 University of Cambridge. A copy of the license agreement for this software can be found at www.pcre.org/license.txt.
- Software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>).
- Cryptographic software written by Eric A. Young and software written by Tim J. Hudson.
- Some software programs that are licensed (or sublicensed) to the user under the GNU General Public License (GPL) or other similar Free Software licenses which, among other rights, permit the user to copy, modify and redistribute certain programs, or portions thereof, and have access to the source code. The GPL requires that for any software covered under the GPL which is distributed to someone in an executable binary format, that the source code also be made available to those users. For any such software covered under the GPL, the source code is made available on this CD. If any Free Software licenses require that McAfee provide rights to use, copy or modify a software program that are broader than the rights granted in this agreement, then such rights shall take precedence over the rights and restrictions herein.
- Software originally written by Henry Spencer, Copyright 1992, 1993, 1994, 1997 Henry Spencer.
- Software originally written by Robert Nordier, Copyright © 1996-7 Robert Nordier.
- Software written by Douglas W. Sauder.
- Software developed by the Apache Software Foundation (<http://www.apache.org/>). A copy of the license agreement for this software can be found at www.apache.org/licenses/LICENSE-2.0.txt.
- International Components for Unicode ("ICU") Copyright ©1995-2002 International Business Machines Corporation and others.
- Software developed by CrystalClear Software, Inc., Copyright ©2000 CrystalClear Software, Inc.
- FEAD™ Optimizer™ technology, Copyright Netopsystems AG, Berlin, Germany.
- Outside In™ Viewer Technology ©1992-2001 Stellent Chicago, Inc. and/or Outside In™ HTML Export, © 2001 Stellent Chicago, Inc.
- Software copyrighted by Thai Open Source Software Center Ltd. and Clark Cooper, © 1998, 1999, 2000.
- Software copyrighted by Expat maintainers.
- Software copyrighted by The Regents of the University of California, © 1996, 1989, 1998-2000.
- Software copyrighted by Gunnar Ritter.
- Software copyrighted by Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A., © 2003.
- Software copyrighted by Gisle Aas. © 1995-2003.
- Software copyrighted by Michael A. Chase, © 1999-2000.
- Software copyrighted by Neil Winton, ©1995-1996.
- Software copyrighted by RSA Data Security, Inc., © 1990-1992.
- Software copyrighted by Sean M. Burke, © 1999, 2000.
- Software copyrighted by Martijn Koster, © 1995.
- Software copyrighted by Brad Appleton, © 1996-1999.
- Software copyrighted by Michael G. Schwern, ©2001.
- Software copyrighted by Graham Barr, © 1998.
- Software copyrighted by Larry Wall and Clark Cooper, © 1998-2000.
- Software copyrighted by Frodo Looijgaard, © 1997.
- Software copyrighted by the Python Software Foundation, Copyright © 2001, 2002, 2003. A copy of the license agreement for this software can be found at www.python.org.
- Software copyrighted by Beman Dawes, © 1994-1999, 2002.
- Software written by Andrew Lumsdaine, Lie-Quan Lee, Jeremy G. Siek © 1997-2000 University of Notre Dame.
- Software copyrighted by Simone Bordet & Marco Cravero, © 2002.
- Software copyrighted by Stephen Purcell, © 2001.
- Software developed by the Indiana University Extreme! Lab (<http://www.extreme.indiana.edu/>).
- Software copyrighted by International Business Machines Corporation and others, © 1995-2003.
- Software developed by the University of California, Berkeley and its contributors.
- Software developed by Ralf S. Engelschall <rse@engelschall.com> for use in the mod_ssl project (<http://www.modssl.org/>).
- Software copyrighted by Kevlin Henney, © 2000-2002.
- Software copyrighted by Peter Dimov and Multi Media Ltd. © 2001, 2002.
- Software copyrighted by David Abrahams, © 2001, 2002. See <http://www.boost.org/libs/bind/bind.html> for documentation.
- Software copyrighted by Steve Cleary, Beman Dawes, Howard Hinnant & John Maddock, © 2000.
- Software copyrighted by Boost.org, © 1999-2002.
- Software copyrighted by Nicolai M. Josuttis, © 1999.
- Software copyrighted by Jeremy Siek, © 1999-2001.
- Software copyrighted by Daryle Walker, © 2001.
- Software copyrighted by Chuck Allison and Jeremy Siek, © 2001, 2002.
- Software copyrighted by Samuel Krempp, © 2001. See <http://www.boost.org> for updates, documentation, and revision history.
- Software copyrighted by Doug Gregor (gregod@cs.rpi.edu), © 2001, 2002.
- Software copyrighted by Cadenza New Zealand Ltd., © 2000.
- Software copyrighted by Jens Maurer, ©2000, 2001.
- Software copyrighted by Jaakko Järvi (jaakko.jarvi@cs.utu.fi), ©1999, 2000.
- Software copyrighted by Ronald Garcia, © 2002.
- Software copyrighted by David Abrahams, Jeremy Siek, and Daryle Walker, ©1999-2001.
- Software copyrighted by Stephen Cleary (shammah@voyager.net), ©2000.
- Software copyrighted by Housemarque Oy <<http://www.housemarque.com>>, © 2001.
- Software copyrighted by Paul Moore, © 1999.
- Software copyrighted by Dr. John Maddock, © 1998-2002.
- Software copyrighted by Greg Colvin and Beman Dawes, © 1998, 1999.
- Software copyrighted by Peter Dimov, © 2001, 2002.
- Software copyrighted by Jeremy Siek and John R. Bandela, © 2001.
- Software copyrighted by Joerg Walter and Mathias Koch, © 2000-2002.
- Software copyrighted by Carnegie Mellon University © 1989, 1991, 1992.
- Software copyrighted by Cambridge Broadband Ltd., © 2001-2003.
- Software copyrighted by Sparta, Inc., © 2003-2004.
- Software copyrighted by Cisco, Inc. and Information Network Center of Beijing University of Posts and Telecommunications, © 2004.
- Software copyrighted by Simon Josefsson, © 2003.
- Software copyrighted by Thomas Jacob, © 2003-2004.
- Software copyrighted by Advanced Software Engineering Limited, © 2004.
- Software copyrighted by Todd C. Miller, © 1998.
- Software copyrighted by The Regents of the University of California, © 1990, 1993, with code derived from software contributed to Berkeley by Chris Torek.

Contents

1	Introducing VirusScan® Command Line	5
	Product features	5
	What's new in this release	6
	Using this guide	6
	Audience	6
	Conventions	7
	Getting product information	8
	Contact information	9
2	Installing VirusScan® Command Line	10
	Installation requirements	10
	Installing the software	11
	Validating your files	13
	Testing your installation	14
	Removing the program	15
3	Using the Command-Line Scanner	16
	What can you scan?	17
	Scanning diskettes	17
	Scanning files in remote storage	18
	Scanning NTFS streams	18
	Scanning protected files	18
	Using memory caches	19
	Scanning processes in memory	20
	Running an on-demand scan	20
	Command-line conventions	21
	General hints and tips	21
	Configuring scans	22
	Creating a list of infected files	23
	Using heuristic analysis	24
	Producing reports	24
	Choosing the options	25
	Scanning options	25
	Response and notification options	30
	Report options	32
	General options	33
	Options in alphabetic order	34
	Error levels	36
	Handling error messages	36
4	Removing Infections	38
	If the scanner detects a virus	40
	Removing a virus found in a file	40
	Running additional virus-cleaning tasks	41
5	Preventing Infections	42
	Detecting new and unidentified viruses	42
	Why do I need new DAT files?	42

Updating your DAT files 43

Index **44**

1

Introducing VirusScan® Command Line

The command-line scanner is a program that you can run from a command-line prompt. It provides an alternative to scanners that use a graphical user interface (GUI). Both types of scanner use the same scanning engine. This section describes:

- Product features
- What's new in this release
- Using this guide
- Getting product information
- Contact information

Product features

When installed on your Microsoft Windows system, VirusScan® Command Line becomes an effective solution against viruses, Trojan-horse programs, and other types of potentially unwanted software.

The command-line scanner enables you to search for viruses in any directory or file in your computer *on demand*— in other words, at any time. The command-line scanner also features options that can alert you when the scanner detects a virus or that enable the scanner to take a variety of automatic actions.

When kept up-to-date with the latest virus definition (DAT) files, the scanner is an important part of your network security. We recommend that you set up a security policy for your network that incorporates as many protective measures as possible. The scanner acts as an interface to the powerful scanning engine — the engine common to all our security products.

What's new in this release

This release of VirusScan® Command Line includes the following new features or enhancements:

- Support for Office version 12: Providing enhanced support of detection and repair for Office 12 documents as well as improved .ZIP file support.
- Reduced memory usage: We have looked at malware trends and have delivered significantly lower memory usage across all platforms when compared to previous McAfee anti-virus scanning engines.
- More protection: Automatic identification and removal of viruses delivering the next generation of best-of-breed anti-virus scanning engines. It offers improved protection against existing, new and potential threats and increases the depth and breadth of the protection we provide.
- It's faster than before: We've listened to our customers who asked for a faster Engine and it delivers superior performance to current McAfee Anti-Virus products on all supported platforms.
- 100% drop-in compatibility with existing McAfee Anti-Virus products and DAT files. It's easy to upgrade; just replace your existing Engine with the new version and you're protected. No worrying about compatibility.

Using this guide

This guide provides information on installing, configuring and using your product. For system requirements, refer to the Release Notes. The following topics are included:

- [Introducing VirusScan® Command Line on page 5.](#)
An overview of the product, including a description of new or changed features; an overview of this guide; McAfee contact information.
- [Installing VirusScan® Command Line on page 10.](#)
- [Using the Command-Line Scanner on page 16.](#)
The command options organized as functions and in alphabetic order.
- [Removing Infections on page 38.](#)
- [Preventing Infections on page 42.](#)





Audience

This information is intended primarily for two audiences:

- Network administrators who are responsible for their company's anti-virus and security program.
- Users who are responsible for updating virus definition (DAT) files on their workstations, or configuring the software's detection options.

Conventions

This guide uses the following conventions:

Bold	All words from the interface, including options, menus, buttons, and dialog box names.
Condensed	Example: Type the User name and Password of the appropriate account.
Courier	The path of a folder or program; text that represents something the user types exactly (for example, a command at the system prompt). Examples: The default location for the program is: C:\Program Files\McAfee\EPO\3.5.0 Run this command on the client computer: scan --help
<i>Italic</i>	For emphasis or when introducing a new term; for names of product documentation and topics (headings) within the material. Example: Refer to the <i>VirusScan Enterprise Product Guide</i> for more information.
Blue	A web address (URL) and/or a live link. Example: Visit the McAfee web site at: http://www.mcafee.com
<TERM>	Angle brackets enclose a generic term. Example: In the console tree, right-click <SERVER>.
	Note: Supplemental information; for example, another method of executing the same command.
	Tip: Suggestions for best practices and recommendations from McAfee for threat prevention, performance and efficiency.
	Caution: Important advice to protect your computer system, enterprise, software installation, or data.
	Warning: Important advice to protect a user from bodily harm when using a hardware product.

Getting product information

Unless otherwise noted, product documentation comes as Adobe Acrobat .PDF files, available on the product CD or from the McAfee download site.

Product Guide — Product introduction and features, detailed instructions for installing and configuring the software, information on deployment, recurring tasks, and operating procedures.

Help — Brief descriptions of the most common options, accessed from the software application.

Release Notes — *ReadMe*. Product information, resolved issues, any known issues, and last-minute additions or changes to the product or its documentation. *A text file is included with the software application and on the product CD.*

License Agreement — The McAfee License Agreement booklet that includes all of the license types you can purchase for your product. The License Agreement presents general terms and conditions for use of the licensed product.

Contacts — Contact information for McAfee services and resources: technical support, customer service, Security Headquarters (AVERT), beta program, and training. *A text file is included with the software application and on the product CD.*

Contact information

Threat Center: McAfee Avert® Labs http://www.mcafee.com/us/threat_center/default.asp

Avert Labs Threat Library

<http://vil.nai.com>

Avert Labs WebImmune & Submit a Sample *(Logon credentials required)*

<https://www.webimmune.net/default.asp>

Avert Labs DAT Notification Service

http://vil.nai.com/vil/signup_DAT_notification.aspx

Download Site <http://www.mcafee.com/us/downloads/>

Product Upgrades *(Valid grant number required)*

Security Updates (DATs, engine)

HotFix and Patch Releases

- **For Security Vulnerabilities** *(Available to the public)*

- **For Products** *(ServicePortal account and valid grant number required)*

Product Evaluation

McAfee Beta Program

Technical Support <http://www.mcafee.com/us/support/>

KnowledgeBase Search

<http://knowledge.mcafee.com/>

McAfee Technical Support ServicePortal *(Logon credentials required)*

https://mysupport.mcafee.com/eservice_enu/start.swe

Customer Service

Web

<http://www.mcafee.com/us/support/index.html>

<http://www.mcafee.com/us/about/contact/index.html>

Phone — US, Canada, and Latin America toll-free:

+1-888-VIRUS NO or **+1-888-847-8766** Monday – Friday, 8 a.m. – 8 p.m., Central Time

Professional Services

Enterprise: <http://www.mcafee.com/us/enterprise/services/index.html>

Small and Medium Business: <http://www.mcafee.com/us/smb/services/index.html>

2

Installing VirusScan® Command Line

We distribute the VirusScan® Command Line software in two ways — on a CD, and as an archived file that you can download from our web site or from other electronic services.

Review the [Installation requirements](#) to verify that the software will run on your system, then follow the installation steps.

Installation requirements

To install and run the software, you need the following:

- An IBM-compatible personal computer with a Pentium or compatible processor.
- 64 MB of free hard disk space for a full installation.
- For Microsoft Windows Vista and Microsoft Windows Server 2008 systems, a minimum of 512 MB RAM is required, 1024 MB is recommended.
- For all other supported Microsoft Windows systems, a minimum of 128 MB RAM is required, 256 MB is recommended.
- The 64-bit version requires an AMD64 processor, running a 64-bit Microsoft Windows operating system.
- A CD drive, if you are not downloading the software from a web site.

Other recommendations

To take full advantage of the regular updates to DAT files from our web site, you need an Internet connection, either through your local area network, or via a high-speed modem and an Internet Service Provider.

Installing the software

If you suspect your computer is already infected, see [Removing Infections on page 38](#) before you install the scanner software.

- 1 Create a directory for the software on your hard disk. If you are using the command-line, you may use `MKDIR`.
- 2 Depending on the source of your command-line program files, do one of the following:
 - **CD**
Insert the CD into your CD drive, then copy the files from the CD to the directory that you created in [Step 1](#).
 - **Files downloaded from a web site**
Download the file to the directory that you created in [Step 1](#), and decompress the zipped files into that directory.



We recommend that you use the `-d` option to extract command-line files and preserve their directory structure. Type `CD` to change to the directory to which you extracted the program files.

- 3 Add the directory you created in [Step 1](#) to the `PATH` environment variable.

To run the scanner before a workstation logs on to a Novell NetWare server

To enable the scanner to run on a personal computer before it can logon to a Novell NetWare server, use the following steps immediately after installation

- 1 Rename `LOGIN.EXE` (in the `SYS:\LOGIN` folder on the NetWare server) to `LOGIN1.EXE`, then remove any references to the scanning software from the file.
- 2 Create a batch file named `LOGIN.BAT`. See also [Sample batch file on page 12](#).
- 3 At the first line of the batch file, add a call to the scanner, with the options you want to include. For example:

```
SCAN /ADL /SECURE /NOBREAK
```

- 4 Add a call to the file `LOGIN1.EXE` to a subsequent line of the batch file. For example:

```
LOGIN1.EXE %1 %2 %3
```

The previous steps prevent `LOGIN.EXE` and `SCAN.EXE` from loading into memory at the same time. This allows the scanner to run before your computer tries to get access to the network.

Sample batch file

The following code is provided only as a suggestion, for you to use and modify to suit your own purposes. It has not been thoroughly tested. This sample batch file assumes that SCAN and the DAT files are in the current directory. It enables the login to the Network server only if the scan finds no viruses on the workstation. All local drives are scanned, and the user cannot press CTRL BREAK to quit the scan.

```
@ECHO OFF

SCAN /ADL /SECURE /NOBREAK

    IF ERRORLEVEL 102 GOTO ERR102
    IF ERRORLEVEL 21 GOTO ERR21
    IF ERRORLEVEL 20 GOTO ERR20
    IF ERRORLEVEL 19 GOTO ERR19
    IF ERRORLEVEL 15 GOTO ERR15
    IF ERRORLEVEL 13 GOTO ERR13
    IF ERRORLEVEL 10 GOTO ERR10
    IF ERRORLEVEL 8 GOTO ERR8
    IF ERRORLEVEL 6 GOTO ERR6
    IF ERRORLEVEL 2 GOTO ERR2
    IF ERRORLEVEL 0 GOTO ERR0

:ERR102
    ECHO User exited.
    GOTO EXIT

:ERR21
    ECHO Clean on reboot. Please restart this PC to complete cleaning.
    GOTO EXIT

:ERR20
    ECHO Frequency error (Don't scan N hours after the previous scan).
    GOTO EXIT

:ERR19
    ECHO All cleaned.
    GOTO EXIT

:ERR15
    ECHO Self-integrity check failed
    GOTO EXIT

:ERR13
    ECHO Virus found!
    GOTO EXIT

:ERR10
    ECHO A virus was found in memory!
    GOTO EXIT

:ERR8
    ECHO DAT file not found.
    GOTO EXIT

:ERR6
    ECHO There has been a problem [not a virus] with scan.
    GOTO EXIT

:ERR2
    ECHO DAT file integrity check failed.
    GOTO EXIT

:ERR0
    ECHO Scan completed successfully. No viruses found.
    LOGIN1.EXE %1 %2 %3

:EXIT
```

Validating your files

When you download or copy files from any outside source, your computer is at risk of virus infection — even if the risk is small. Downloading our scanning software is no exception. It is important to verify that the software is authentic, unaltered, and not infected. Strict, extensive security measures ensure that the products you purchase and download from our web site and other electronic services are safe, reliable, and free from virus infections. However, scanning software attracts the attention of virus writers and Trojan-horse writers, and some find it amusing to post infected copies of commercial software, or use the same file names to camouflage their own work.

Download the software package from our web site. If you download a file from any other source, it is important to verify that it is authentic, unaltered, and not infected. The software package includes a utility program called `VALIDATE.EXE` that you can use to ensure that your version of the software is authentic. When you receive a new version of this software, you can run `VALIDATE.EXE` on all of its program files and DAT files.

To ensure that you have exactly the same files as the original software, you need to compare the validation codes that `VALIDATE.EXE` generates against the packing list supplied with your copy of the software. The packing list is a text file that contains the validation codes that were generated from a cyclical redundancy check (CRC) when the software was packaged for delivery.

To validate your files:

- 1 Install the software as described in [page 11](#).
- 2 In the Microsoft Windows task bar, choose a Command Prompt.
- 3 In the window that appears, change directory to the directory that contains the VirusScan® Command Line files. (Using a command-line, you can use the `CD` command.)
- 4 At the command prompt, type:

```
VALIDATE *.*
```

The program examines all of the files in the program directory, then generates a file list that includes the following information:

- The name of each file.
- The size of each file, in bytes.
- The creation date and time of each file.
- Two validation codes in separate columns for each file.

For example:

```
AVVSCAN DAT 242681 03-26-04 4:40a 35B2 4690 AVVSCAN.DAT
```

- 5 Print this output so that you can review it easily. Direct the output to a file, and print the file directly from any text editor, such as Microsoft Notepad. At the command prompt, type:

```
VALIDATE *.* > FILENAME
```

- 6 Print the file, `PACKING.LST` directly from any text editor, such as Microsoft Notepad.

7 Compare the output from `VALIDATE.EXE` and `PACKING.LST`.

The sizes, creation dates and times, and validation codes for each file name must match *exactly*. If they do not, delete the file immediately. Do not open the file or examine it with any other utility; this may cause virus infection.

Checking your installation with `VALIDATE.EXE` does not guarantee that your copy is free from defects, copying errors, virus infections or tampering, but the program's security features make it extremely unlikely that anyone has tampered with files that have correct validation codes.

Testing your installation

After it is installed, the program is ready to scan your computer for infected files. You can run a test to determine that the program is installed correctly and can properly scan for viruses. The test was developed by the European Institute of Computer Anti-virus Research (EICAR), a coalition of anti-virus vendors, as a method of testing any anti-virus software installation.

To test your installation:

- 1 Open a standard MS-DOS or Windows text editor, then type the following character string as *one line, with no spaces or line breaks*:

```
X5O!P%@AP[4\PZX54(P^)7CC)7}$EICAR-STANDARD-ANTIVIRUS-TEST-FILE!$H+H*
```



The line shown above should appear as *one line* in your text editor window, so be sure to maximize your text editor window and delete any line breaks. Also, be sure to type the letter O, not the number 0, in the "X5O..." that begins the test message.

If you are reading this manual on your computer, you can copy the line directly from the Acrobat PDF file and paste it into Notepad. You can also copy this text string directly from the "Testing your installation" section of the README.TXT file, which is in your scanner's program directory. If you copy the line from either of these sources, be sure to delete any carriage returns or spaces.

- 2 Save the file with the name `EICAR.COM`. The file size will be 68 or 70 bytes.
- 3 Start your scanning software and allow it to scan the directory that contains `EICAR.COM`. When the software examines this file, it reports `Found EICAR test file NOT a virus`.



This file is *not a virus* — it cannot spread or infect other files, or otherwise harm your computer. Delete the file when you have finished testing your installation to avoid alarming other users. Please note that products that operate through a graphical user interface do *not* return this same EICAR identification message.

Removing the program

To remove the product from your system:

- 1 Change your command prompt to point to the directory that contains the VirusScan® Command Line files (as set up in [Step 1](#) under *Installing the software on page 11*).
- 2 Delete all files in the directory.



Removing the software leaves your computer unprotected against virus attack. Remove the product only when you are sure that you can upgrade quickly to a new version.

If you are an administrator, ensure that your users cannot accidentally remove their VirusScan® Command Line software.

3

Using the Command-Line Scanner

The command-line scanner is a program that you can run from a command prompt. If the scanner installation directory has been added to the `PATH` environment variable or is in the current directory, you can run a scan by typing `SCAN` at the command prompt with the options you want. For a complete list of options, see [page 25](#).

You should scan any file that is new to your computer, especially any newly downloaded or installed files. If your computers are susceptible to infection, you should scan as often as once a day. The scanner operates with minimal use of system resources.

The following features offer optimum protection for your computer and network:

- On-demand scanning options let you start a scan immediately or schedule automatic scans.
- Advanced heuristic analysis detects previously unknown macro viruses and program viruses.
- Updates to virus definition files and upgrades to program components ensure that the program has the most current scanning technology to deal with threats as they emerge.

Later sections in this guide describe each of these features in detail.

The command-line scanner also includes options for administrators that help to ensure that the scanner is being used most efficiently. For example, the `/FREQUENCY` option (on [page 27](#)) sets a mandatory period between scans, which helps to minimize resources when the network is most busy.

What can you scan?

■ File types scanned by default.

The following file types and many other common file types that are susceptible to infection are scanned by default: .BIN, .COM, .DLL, .DOC, .DOT, .EXE, .HTM, .INI, .OVL, .RTF, .SYS, .VBS, .VXD, .XLA, .XLS, and .XLT.

■ Archived and compressed files recognized by the scanner.

You can scan compressed and archive file formats which include .ARC, .ARJ, .CAB, Diet, .GZIP, LZEXE, .LZH, PKLite, .RAR, .TAR, and .ZIP files.

The scanner detects and reports any infections found in any compressed or archive file. The scanner can also clean files in .ZIP archive format. If you have access to Windows, you can clean certain infections from compressed files using VirusScan for Windows software.

You can use the options /UNZIP and /NOCOMP to configure the scanner to handle compressed files. These and other scanning options are described in the tables from [page 25](#) to [page 30](#).

■ Any potentially unwanted software, cookies and registry entries.

The scanner detects and reports these items, enabling you to remove them if necessary.

Scanning diskettes

Diskettes pose a threat because many viruses infect computers when a computer 'boots' from an infected disk, or when users copy, run, or install programs or files that are infected. If you scan all new disks *before first use*, you can prevent new viruses entering any computer system.

Always scan all disks you use. Do not assume that disks received from friends, co-workers, and others are virus-free. Disks can also pose a threat even if they are not bootable. Therefore, we recommend that you check that your disk drives are empty before you turn on your computer. Then your computer will not pick up a boot-sector virus from an infected disk that was inadvertently left in a disk drive.

1 Using the `CD` command, change to the directory where the scanner was installed.

2 Type: `SCAN A: /MANY`

3 Insert a disk into the A drive, and press ENTER.

The program scans the disk and displays the names of any infected files.



If the scanner detects a virus on this disk, it runs the command-line option that you chose for dealing with the virus. See [page 40](#) for details on removing viruses.

4 Remove the scanned disk from the A drive.

Repeat [Step 3](#) and [Step 4](#) for all disks that you need to scan.

Scanning files in remote storage

Under some Microsoft Windows systems, files that are not in frequent use can be stored in a remote storage system, such as the Hierarchical Storage Management (HSM) system. However, when the files are scanned using the `/DOHSM` option, those files become *in use* again. To prevent this effect, you can include the `/NORECALL` option. In combination, these options request the stored file for scanning, but the file continues to reside in remote storage. The file is not transported back to local storage.

Scanning NTFS streams

Some known methods of file infection add the virus body at the beginning or the end of a host file. However, a *stream* virus exploits the NTFS multiple data streams feature in Windows NT and more recent Windows operating systems. In NTFS, users can create any number of data streams within the file — independent executable program modules, as well as various service streams such as file access rights, encryption data, and processing time.

Unfortunately, some streams might contain viruses. The scanner can detect a stream virus in one of two ways; you can specify the full stream name, or you can include `/STREAMS` and specify either no stream name, or a part of a stream name using the wildcard characters `?` and `*`.

The following table shows the effect of different commands on a stream called `FILE:STREAM` that contains a virus.

Table 3-1 Scanning streams

Command	Action
SCAN /ALL /STREAMS FILE	All streams were scanned. The virus is detected.
SCAN /ALL FILE:STREAM	The exact stream name was specified. The virus is detected.
SCAN /ALL /STREAMS FILE:STREAM	The exact stream name was specified. The virus is detected.
SCAN /ALL FILE:STR*	An exact stream name was <i>not</i> specified. The virus is not detected.
SCAN /ALL /STREAMS FILE:STR*	All streams beginning with “str” are scanned. The virus is detected.
SCAN /ALL FILE	No streams were named. The virus is not detected.

Scanning protected files

The scanner normally scans files such as other users’ profiles and recycle bins. To prevent this type of scanning in Windows NT or later systems, use `/NOBKSEM`.

Using memory caches

When scanning a file for viruses and other potentially unwanted software, the scanner reads the file into computer memory in amounts determined by the operating system. Although changes are not normally necessary, you can improve the scanning speed by increasing the amount of memory that the scanner uses. This can be controlled by the following options:

- `/OCRS`
- `/OCMAX`
- `/AFC`

Options `/OCRS` and `/OCMAX` are intended for use with offline or remote storage, such as Hierarchical Storage Management (HSM). The `/AFC` option can improve scanning performance in some cases.

OCRS

Typically the scanner reads only a few kilobytes of a file at a time, therefore a large number of reads might be required per file. The `/OCRS` option causes the scanner to use a larger internal “cache” for each file read instead. The size of reads for this cache is determined by a value in the range 0 through 4, as follows:

```
/OCRS=0 — 128KB
/OCRS=1 — 256KB
/OCRS=2 — 512KB
/OCRS=3 — 1MB
/OCRS=4 — 2MB
```

OCMAX

The `/OCMAX` option changes the maximum size of the internal cache for file reads. By default, the scanner typically caches up to *eight* reads per file and uses a cache read size of 128KB — and therefore a maximum cache size of 1M, which is 128KB x 8).

When setting the maximum size explicitly, you must specify the value of `/OCMAX` as a number of Megabytes. See the following examples for `/OCRS` and `/OCMAX`.

- Use 512KB read size. This *implies* a maximum cache size (`OCMAX`) of 4MB (8 x 512KB).

```
SCAN C:\ /OCRS=2
```

- Use 1MB read size. This *implies* a maximum cache size (`OCMAX`) of 8MB (8 x 1MB).

```
SCAN C:\ /OCRS=3
```

- Use a 1MB read size, but limit the cache size to 4MB.

```
SCAN C:\ /OCRS=3 /OCMAX=4
```

- Use a 2MB read size, but limit the cache size to 8MB.

```
SCAN C:\ /OCRS=4 /OCMAX=8
```

AFC

When scanning files, the scanner places the contents into computer memory (or *file cache*) before scanning them. This option allows you to vary the amount of cache that the scanner uses.

The cache is allocated “per file”, so the scanner uses a large amount of cache if there are many nested files. A larger cache size normally improves scanning speeds unless the computer has very low memory.

A range of cache sizes — 8MB to 512MB — is permitted. If you specify a value outside this range, the minimum or maximum value is assumed as appropriate. If you do not use this option, the scanner uses the default value of 12MB.

Scanning processes in memory

Viruses such as CodeRed do not exist as files on disk but rather as executable code in the memory space of an infected process. To protect against this threat, you can include the `/WINMEM` option. The process is scanned in memory together with any files or DLLs associated with it.



When using the `/WINMEM` option, specify at least one file for scanning as well.

Examples

<code>SCAN EXAMPLE.EXE /WINMEM</code>	Scans the file <code>EXAMPLE.EXE</code> and all processes running on the computer.
<code>SCAN *.EXE /WINMEM</code>	Scans all files with a “.EXE” file name extension in the current directory, and all processes running on the computer.
<code>SCAN *.* /WINMEM</code>	Scans all files in the current directory and all processes running on the computer.
<code>SCAN AA.EXE /WINMEM=1234</code>	Scans the file, <code>AA.EXE</code> in the current directory and the specified process, 1234. The parameter is the process identifier or <i>PID</i> . If the process is not running, the scanner issues a message.

Running an on-demand scan

You can scan any file or directory on your file system from the command line by adding options to the basic command. When executed without options, the program simply displays a brief summary of its options. When executed with only a directory name specified, the program scans every file in that directory only, and issues a message if any infected files are found. The options fall into the following main groups:

- **Scanning options** — determine how and where the scanner looks for infected files. See [page 25](#).

- **Response and notification options** — determine how the scanner responds to infected files. See [page 30](#).
- **Report options** — determine how the scanner displays the results of the scan. See [page 32](#).
- **General options** — for such things as user help. See [page 33](#).

Each group of options appears in its own table with a description of its function. See [Choosing the options on page 25](#) for details.

Command-line conventions

Use the following conventions to add options to the command line:

- Separate each option with spaces.
- Do not use any option more than once on the command line.
- Follow the syntax correctly.
- To start the program, at the command prompt, type:

```
SCAN
```

(This example assumes that the scanner is available in your search path.)

- To have the program examine a specific file or list of files, add the target directories or files to the command line after `SCAN`. You can limit your scan by excluding certain files from scans with the `/EXCLUDE` option. See [page 26](#) for details.

General hints and tips

The following examples assume that the scanner is available in your search path.

- To display a list of all the options, each with a short description of their features, type the command:

```
SCAN /HELP
```

- To display a list of all the viruses that the program detects, type the command:

```
SCAN /VIRLIST
```

- To display information about the version of the program, type the command:

```
SCAN /HELP
```

- To run a full scan on all drives, type the command:

```
SCAN /AD
```

- To run a full scan on the network drives, type the command:

```
SCAN /ADN
```

To ensure maximum protection from virus attack, you must regularly update your DAT files. See [Preventing Infections on page 42](#) for details.

Configuring scans

Instead of running each scan with all its options directly from the command line, you can keep the options in a separate text file, known as a *task file*. In the file, you can specify the actions that the scanner must take when a virus is detected. This allows you to run complete scans with ease, and at any time; you need only specify the files or directories that you want to scan.

To configure a scan:

- 1 Choose the command options that you want to use.

See [Choosing the options on page 25](#) for a description of available options.
- 2 Type the command options into a text editor just as you might on the command line.
- 3 Save the text as a file.
- 4 Type the following at the command prompt:

```
SCAN /LOAD <FILENAME> <TARGET>
```

Here, <FILENAME> is the name of the text file you created in steps [Step 2](#) and [Step 3](#), and <TARGET> is the file or directory you want to scan.

If the scanner detects no virus infections, it displays no output.

To learn how to specify the options, see [Command-line conventions on page 21](#).

The following examples show how you can configure scans using task files. The examples assume the scanner is available in the search path.

Example 1

To scan files in the C:\WINDOWS directory according to the settings you stored in the task file C:\TASKS\CONFIG1.TXT, type the command:

```
SCAN /LOAD C:\TASKS\CONFIG1.TXT C:\WINDOWS
```

The contents of the file C:\TASKS\CONFIG1.TXT are:

```
/MOVE C:\VIRUSES /NOCOMP /MAXFILESIZE 4
```

They instruct the scanner to move any infected files to C:\VIRUSES, to ignore compressed executables created with LZEXE or PkLite, and to examine only files smaller than 4MB.

As an alternative, you can arrange the contents of the task file as single lines:

```
/MOVE C:\VIRUSES  
/NOCOMP  
/MAXFILESIZE 4
```

Example 2

To scan only files smaller than 4MB and to ignore compressed executables created with LZEXE or PkLite in three separate directories, type the command:

```
SCAN /LOAD C:\TASKS\CONFIG2.TXT /CHECKLIST C:\CHECKS\CHECK1.TXT
```

The contents of the task file C:\TASKS\CONFIG2.TXT are:

```
/NOCOMP
/MAXFILESIZE 4
```

The contents of the checklist file C:\CHECKS\CHECK1.TXT are:

```
C:\WINDOWS
C:\BIN
C:\PERL
```

Creating a list of infected files

Although a summary report can be useful, you can also create a simple list that contains only the names of the infected files. You can create and control this list using the options, /BADLIST, /APPENDBAD, and /CHECKLIST.

For example, the following command scans the directory DIR1 and all its subdirectories, and produces information on-screen:

```
SCAN C:\DIR1\*.* /SUB
```

To produce a simple list of infected files, you can add the /BADLIST option:

```
SCAN C:\DIR1\*.* /SUB /BADLIST BAD1.TXT
```

The contents of BAD1.TXT might look like this list:

```
C:\DIR1\GAMES\HOTGAME.EXE ... Found Acid.674 virus!
C:\DIR1\SCANTEST\VTEST.COM ... Found: EICAR test file NOT a virus.
```

You can add to the list of infected files by using the /APPENDBAD option. For example, the following command scans the directory DIR2, and any infected files found here are added to the existing list:

```
SCAN C:\DIR2\*.* /SUB /BADLIST BAD1.TXT /APPENDBAD
```

Then, the contents of BAD1.TXT might look like this:

```
C:\DIR1\GAMES\HOTGAME.EXE ... Found Acid.674 virus!
C:\DIR1\SCANTEST\VTEST.COM ... Found: EICAR test file NOT a virus.
C:\DIR2\PRICES.DOC ... Found: virus or variant W97M/Concept!
C:\DIR2\COSTS\MAY2005.DOC ... Found the W97M/Ethan virus!
```

Using the /CHECKLIST option, you can refer to that list, and scan the same files again later:

```
SCAN /CHECKLIST BAD1.TXT
```

Using heuristic analysis

A scanner uses two techniques to detect viruses — signature matching and heuristic analysis.

A *virus signature* is simply a binary pattern that is found in a virus-infected file. Using information in the DAT files, the scanner searches for those patterns. However, this approach cannot detect a new virus because its signature is not yet known, therefore the scanner uses another technique — *heuristic analysis*.

Programs, documents or e-mail messages that carry a virus often have distinctive features. They might attempt unprompted modification of files, invoke mail clients, or use other means to replicate themselves. The scanner analyzes the program code to detect these kinds of computer instructions. The scanner also searches for “legitimate,” non-virus-like behavior, such as prompting the user before taking action, and thereby avoids raising false alarms.

In an attempt to avoid detection, some viruses are encrypted. Each computer instruction is simply a binary number, but the computer does not use all the possible numbers. By searching for unexpected numbers inside a program file, the scanner can detect an encrypted virus. By using these techniques, the scanner can detect both known viruses and many new viruses and variants. Options that use heuristic analysis include `/ANALYZE`, `/MANALYZE`, and `/PANALYZE`. See [Table 3-2, Scanning options on page 25](#).

Producing reports

The scanner can report its results in a log file that you create and name. In this example, the scanner creates its report in a log file called `WEEK40.TXT`, which appears in your current working directory.

To create a report:

- 1 If you do not already have the VirusScan installation directory included in your `PATH` environment variable, change the current directory to where you installed your VirusScan program files.

- 2 At the command prompt, type:

```
SCAN /ADN /REPORT WEEK40.TXT
```

The scanner scans all network drives and generates a text file of the results. The contents of the report are identical to the text you see on-screen as the scanner is running.

- 3 To create a running report of the scanner’s actions, use the `/APPEND` option to add any results of the scan to a file. At the command prompt, type:

```
SCAN /ADN /APPEND /REPORT WEEKLY.TXT
```

The scanner scans all network drives, and appends the results of the scan to the existing file, `WEEKLY.TXT`.

Choosing the options

The following sections describe the options that you can use to target your scans:

- [Scanning options.](#)
- [Response and notification options on page 30.](#)
- [Report options on page 32.](#)
- [General options on page 33.](#)

The options are also listed alphabetically with brief descriptions on [page 34](#).

In the descriptions, variables such as file names or path appear in chevrons (< >). To learn how to add these to the command line, see [Command-line conventions on page 21](#).

Scanning options

Scanning options describe how and where each scan looks for infected files. You can use a combination of these options to customize the scan to suit your needs.



To configure a scan, you must specify a target location for the scan, such as C:\, A:\, /ADL, /ADN.

The /ALL option overrides the /NODOC option, such that all files are scanned, but Microsoft Office files are not scanned for macros.

Table 3-2 Scanning options

Option	Limitations	Description
/AD	None.	Same as /ALLDRIVES.
/ADL	None.	Scan all local drives, including compressed and PC drives, in addition to any other drives specified on the command line. Do not scan removable media.
/ADN	None.	Scan all network drives, in addition to any other drives specified on the command line.
/AFC=<SIZE>		Specify the size of the file cache. By default, the cache size is 12MB. A larger cache size can improve scanning performance in some cases, unless the computer has low memory. The range of sizes allowed is 8MB to 512MB. Specify the size in megabytes. For example, to specify a 64MB cache, use /AFC=64. See also AFC on page 19 .
/ALL	See note on page 29 .	Scan all files regardless of extension. By default, only executable files are scanned. Using this option substantially increases the scanning time. Use it only if you find a virus or suspect you have one.
/ALLDRIVES	None.	Scan all drives. Scan all network drives and local drives, but not removable drives; these include disk drives, CD drives, and Zip drives. This is a combination of /ADN and /ADL.
/ALLOLE	None.	Check every file for OLE objects.

Table 3-2 Scanning options (continued)

Option	Limitations	Description
/ANALYZE /ANALYZE		Use heuristic analysis to find possible new viruses in “clean” files. This step occurs after the program has checked the file for other viruses and potentially unwanted software. See Using heuristic analysis on page 24 for details. For macro viruses only, use /MANALYZE. For program viruses only, use /PANALYZE.
/APPENDBAD	Use with /BADLIST.	Append names of infected files to an existing file, as specified by /BADLIST. See also Creating a list of infected files on page 23 .
/BADLIST <FILENAME>	None.	Create a list of infected files. See also Creating a list of infected files on page 23 .
/BOOT	Do not use with /NODDA.	Scan boot sector and master boot record only.
/BPRESTORE	None.	Restore sectors from backup after cleaning.
/CHECKLIST <FILENAME>	None.	Scan the files listed in the specified file. See also Creating a list of infected files on page 23 .
/DOHSM	On Windows NT and later versions only.	Scan files that are offline. These are files that Hierarchical Storage Management (HSM) has archived because they have not been accessed for some time. See also /NORECALL and Scanning files in remote storage on page 18 .
/DRIVER	None.	Specify the location of the DAT files: SCAN.DAT, NAMES.DAT, and CLEAN.DAT. If you do not specify this option in the command line, the program looks in the same directory from where it is executed. If it cannot find these data files, it issues exit code 6.
/EXCLUDE <FILENAME>	None.	Exclude the directories or files from the scan as specified in <FILENAME>. List the complete path to each directory or file on its own line. You may use wildcards, * and ?.
/EXTRA <FILENAME>	None.	Specify the location on any EXTRA.DAT file. An EXTRA.DAT is a small, supplemental virus-definition file that is released between regular DAT updates. If you do not use this option in the command line, the program looks in the same directory from where it was executed. If it cannot find this file, the program issues exit code 6.
/FAM	None.	Find all macros, not just macros suspected of being infected. The scanner treats any macro as a possible virus and reports that the file “contains one or more macros.” However, the macros are <i>not</i> removed. If you suspect a file is infected, you can remove all macros from the file using the /FAM and /DAM options together, although this should be used with caution. For example: SCAN <FILENAME> /FAM /DAM

Table 3-2 Scanning options (continued)

Option	Limitations	Description
/FREQUENCY <HOURS>	None.	Do not scan before the specified number of hours after the previous scan. In environments where the risk of virus infection is very low, this option prevents unnecessary scans. Remember, frequent scanning provides greater protection against viruses.
/LOAD <FILENAME>	None.	Load scanning options from the named file, or scanning profile. You can call scanning profiles from any local directory. You can use this option to perform a scan you have already configured by loading custom settings already saved in an ASCII-formatted file. See also Configuring scans on page 22 .
/MAILBOX	Use with /MIME	Scan plain-text mailboxes. These include Eudora, PINE, and Netscape. Most mailboxes will be in MIME format, and therefore the /MIME option is also required. This option detects, but does not rename or clean mail items. The item must be extracted and cleaned separately.
/MANALYZE /MANALYZE		Use heuristics analysis to identify potential macro viruses. (In Microsoft Word, you can automate a task by using a <i>macro</i> - a group of Word commands that run as a single command.) This option is a subset of /ANALYZE. See Using heuristic analysis on page 24 for more information.
/MANY	None.	Scan multiple disks consecutively in a single drive. The program prompts you for each disk. You can use this option to check several disks quickly. If one disk is found to be infected, the scanning stops. You cannot use this option if you run the scanner from a boot disk and you have only one disk drive. This option is applicable to floppy disks and LS120 media diskettes only. See also Scanning diskettes on page 17 .
/MAXFILESIZE <SIZE>	None.	Examine only those files that are smaller than the specified size. Specify the file size in megabytes. For example, /MAXFILESIZE 5 means scan only files that are smaller than 5MB.
/MIME	None.	Scan MIME-encoded files. This type of file is not scanned by default.
/NOBACKUP	None.	Do not prompt for backup of sectors before attempting to clean.
/NOBKSEM	Windows NT and later versions only.	Prevent scanning of files that are normally protected. Such files can normally be accessed by the operating system's FILE_FLAG_BACKUP_SEMANTICS flag. See Scanning protected files on page 18 for details.
/NOBOOT	None.	Do not scan the boot sector.
/NOBREAK	None.	Disable CTRL-C and CTRL-BREAK during scans. Users cannot halt scans in progress if this option is set.

Table 3-2 Scanning options (continued)

Option	Limitations	Description
/NOCOMP	None.	Do not check compressed executables created with the LZEXE or PkLite file-compression programs. This reduces scanning time when a full scan is not needed. Otherwise, by default, the scanner checks inside executable, or self-decompressing files by decompressing each file in memory and checking for viruses.
/NOD	Use with /CLEAN .	Scan only the susceptible file types. By default, /CLEAN scans and tries to clean viruses in <i>all</i> file types. When you include the /NOD option, the scanning and cleaning are limited to the susceptible file types only, as recognized by their file extensions. See File types scanned by default on page 17.
/NODDA	Do not use with /BOOT .	Do not access disk directly. This prevents the scanner from accessing the boot record. You might need to use this option on some device- driven drives.
/NODECRYPT	None.	Do not decrypt Microsoft Office compound documents that are password-protected. By default, macros inside password-protected compound documents are scanned by employing “password cracking” techniques. If, for reasons of security, you do not require these techniques, use this option. Password cracking does not render the file readable.
/NODOC	See note on page 29 .	Do not scan document files. This includes Microsoft Office documents, OLE2, PowerPoint, CorelDraw, WordPerfect, RTF, Visio, Autodesk Autocad 2000, Adobe PDF 5, and Corel PhotoPaint 9 files.
/NOEXPIRE	None.	Disable the “expiration date” message if the scanner’s DAT files are out of date. For more details, see Preventing Infections on page 42.
/NOJOKES	None.	Do not report any joke programs.
/NOMEM	None.	Do not scan memory for viruses. Use this option only when you are certain that your computer is virus-free.
/NOSCRIPT	None.	Do not scan files that contain HTML, JavaScript, Visual Basic, or Script Component Type Libraries. This type of file is normally scanned by default. Stand-alone JavaScript and Visual Basic Script files will still be scanned.
/OCMAX=<SIZE>	Use with Microsoft Windows only.	Specify the maximum size of the internal cache for file reads. The size must be specified in megabytes. See also Using memory caches on page 19.
/OCRS=<VALUE>	Use with Microsoft Windows only.	Specify a value that represents the size of the internal cache size for each file read. The value may be specified as a digit that represents sizes between 128KB and 2MB. See also Using memory caches on page 19.
/PANALYZE /PANALYSE		Use heuristic analysis to identify potential new program viruses. By default, the program scans only for known viruses. This option is a subset of /ANALYZE . See also Using heuristic analysis on page 24.

Table 3-2 Scanning options (continued)

Option	Limitations	Description
/PROGRAM	None.	Scan for potentially unwanted applications. Some widely available applications such as “password crackers” can be used maliciously or can pose a security threat.
/SECURE	None.	Examine all files, decompress archive files, and use heuristic analysis. This option activates the /ANALYZE, and /UNZIP options.
/SHOWCOMP	None.	Report any files that are packaged.
/STREAMS	NTFS only, run from within Windows NT and later versions.	Scan all streams within a file if it is in an NTFS partition. See also Scanning NTFS streams on page 18 .
/SUB	None.	Scan any subdirectories inside a directory. By default, when you specify a directory to scan rather than a drive, the scanner examines only the files it contains, not its subdirectories. Use this option to scan all subdirectories within the specified directories. This option is not necessary if you specify an entire drive as a target.
/TIMEOUT <SECONDS>	None.	Set the maximum time to scan any one file.
/UNZIP	None.	Scan inside archive files, such as those saved in ZIP, LHA, PKarc, ARJ, WinACE, CAB, and CHM formats. If used with /CLEAN, this option attempts to clean non-compressed files inside ZIP files only. No other archive formats can be cleaned. The /CLEAN option does not delete or rename infected files within ZIP files. It does not rename the ZIP file itself. The program cannot clean infected files found within any other archive format; you must first extract them manually from the archive file.
/WINMEM	Specify at least one file for scanning.	Scan inside running processes.
/WINMEM=<PID>		Scan the specified process from its memory image. See also Scanning processes in memory on page 20 .

Response and notification options

The response and notification options determine how the scanner responds to an infection. You can use a combination of these options to customize the scan. None of the options in the following table occur automatically. To activate each option, specify it in the command line.

Table 3-3 Response and notification options

Option	Limitations	Description
/CLEAN	None.	<p>Automatically remove any infections.</p> <p>By default, the program states only that infections were found but does not try to clean the infected files. If the program cannot clean the file, it displays a warning message. If you use this option, repeat the scan to ensure that there are no more infections. See If the scanner detects a virus on page 40 for more information.</p>
/CONTACTFILE <FILENAME>	None.	<p>Display the contents of the specified file when a virus is found.</p> <p>This enables you to provide contact information and instructions to the user when a virus is encountered.</p> <p>This option is especially useful for networks, because you can maintain the message text in a central file, rather than on each workstation.</p> <p>Any character is valid in a contact message except a backslash (\). Messages beginning with a slash (/) or a hyphen (-) must be placed in quotation marks.</p>
/DAM	None.	<p>Delete all macros in a file if an infected macro is found.</p> <p>If you suspect you have an infection in your file, you can choose to remove all macros from the file to prevent any exposure to a virus.</p> <p>To pre-emptively delete all macros in a file, use this option with /FAM, although this should be used with caution. If you use these two options together, all found macros are deleted, regardless of the presence of an infection.</p>
/DEL	None.	<p>Delete infected .COM and .EXE files.</p> <p>This option does <i>not</i> delete infected items within Microsoft Word documents or archives. If the scanner detects infected files within an archive, it does not delete the files within the archive, nor does it delete the archive itself.</p> <p>We recommend that you use the /CLEAN option to protect against viruses that infect file types other than .COM or .EXE. See If the scanner detects a virus on page 40 for more information.</p>
/EVLOG	On Windows NT and later versions.	<p>Use Event Logging.</p> <p>Any detections are recorded in the Application Log of the Event Viewer.</p>

Table 3-3 Response and notification options (continued)

Option	Limitations	Description
/MOVE <DIR>	None.	<p>Move any infected files to a quarantine location as specified.</p> <p>When the program moves an infected file, it replicates the full directory path for the infected file inside the quarantine directory, so that you can determine the original location of the infected file.</p> <p>This option has no effect if the Master Boot Record or boot sector is infected, because these are not files.</p> <p>See If the scanner detects a virus on page 40 for more information.</p>
/NOBEEP	None.	<p>Do not issue a tone when the scan ends.</p> <p>By default, a tone is issued at the end of a scan if an infection is found.</p>
/NORENAME	None.	<p>Do not rename an infected file that cannot be cleaned.</p> <p>For information about renaming, see Table 4-1 on page 40.</p> <p>See If the scanner detects a virus on page 40 for more information.</p>
/PAUSE	Do not use with report options.	<p>Enable a screen pause.</p> <p>When the screen is full of messages, the prompt “Press any key to continue” appears. Otherwise, by default, the screen fills and scrolls continuously without stopping. This allows the scanner to run without stopping on computers with multiple drives or that have severe infections.</p> <p>We recommend that you do not use this option with the report options, /REPORT, /RPTALL, /RPTCOR, and /RPTERR.</p>
/PLAD	On NetWare volumes only.	<p>Preserve the last-accessed time and date for files that are scanned.</p> <p>Some software (such as used for creating backups or archives) relies on a file’s last-accessed time and date to work correctly. If you set this option, the scanner resets that time and date to their original values after scanning the file.</p>

Report options

By default, the results of a scan appear on-screen. The following table lists the options for displaying the results elsewhere. To capture a scanner report to a text file, use `/REPORT` with any additional options as needed. For examples, see [Producing reports on page 24](#).

Table 3-4 Report options

Option	Limitations	Description
<code>/APPEND</code>	Use this option with <code>/REPORT</code> .	Append information to the specified report file instead of overwriting it.
<code>/HTML <FILENAME></code>	None.	Create a file containing the results in HTML format.
<code>/LOUD</code>	None	Display a progress summary during the scan. Note that this option can produce a large amount of information.
<code>/REPORT <FILENAME></code>	Do not use with <code>/PAUSE</code> .	<p>Create a report of infected files and system errors, and save the data to the specified file in ASCII text file format.</p> <p>If that file already exists, <code>/REPORT</code> overwrites it. To avoid overwriting, use the <code>/APPEND</code> option with <code>/REPORT</code>. The scanner then adds report information to the end of the file, instead of overwriting it.</p> <p>You can also use <code>/RPTALL</code>, <code>/RPTCOR</code> and <code>/RPTERR</code> to add more information to the report.</p> <p>You can include the destination drive and directory (such as <code>D:\VSREPT\ALL.TXT</code>), but if the destination is a network drive, you must have rights to create and delete files on that drive.</p> <p>You may find it helpful to add a list of scanning options to the report files. To do this, type at the command prompt:</p> <pre>SCAN /HELP /APPEND /REPORT <FILENAME></pre> <p>We recommend you do not use <code>/PAUSE</code> when using any report option.</p>
<code>/RPTALL</code>	Use with <code>/REPORT</code> .	Include the names of all scanned files in the report file.
<code>/RPTCOR</code>	Use with <code>/REPORT</code> .	Include a list of corrupted files in the report file.
<code>/RPTERR</code>	Use with <code>/REPORT</code> .	<p>Include system errors in the report file.</p> <p>System errors can include problems reading or writing to a disk or hard disk, file system or network problems, problems creating reports, and other system-related problems.</p>
<code>/VIRLIST</code>	None.	<p>Display the name of each virus that the scanner can detect.</p> <p>This option produces a long list, which is best viewed from a text file. To do this, type:</p> <pre>SCAN /VIRLIST /REPORT <FILENAME.TXT></pre> <p>For full details about each virus, see the Virus Information Library (see Contact information on page 9).</p>

General options

General options provide help or give extra information about the scan. You may use a combination of these options to customize the scan. None of the options in [Table 3-5](#) occur automatically. To activate each option, specify it as part of the command line.

Table 3-5 General options

Option	Limitations	Description
/?	None.	Display a list of command-line options, each with a brief description. You can add a list of scanning options to a report file. To do this, type at the command prompt: <code>SCAN /? /REPORT <FILENAME></code> The report is appended with the full set of options available for that task.
/BEEP	None.	Issue a tone when an infected file is found. By default, a tone is only issued when the scan ends.
/EXTLIST	None.	Display names of file extensions that are scanned by default.
/HELP	None.	See the /? option.
/NORECALL	Use with /DOHSM	Do not move files from remote storage into local storage after scanning. See also Scanning files in remote storage on page 18 .
/SILENT	None.	Do not display any information on-screen.

Options in alphabetic order

For convenience, the options are repeated in this section alphabetically with a brief description. For full descriptions, see the previous sections.

Table 3-6 Alphabetic list of options

Option	Description	See ...
/?	Display a list of command-line options, each with a brief description.	page 33
/AD	Same as /ALLDRIVES.	page 25
/ADL	Scan all local drives, including compressed and PC drives, in addition to any other drives specified on the command line. Do not scan removable media.	page 25
/ADN	Scan all network drives, in addition to any other drives specified on the command line.	page 25
/AFC=<SIZE>	Specify the size of the file cache.	page 25
/ALL	Scan all files regardless of extension.	page 25
/ALLDRIVES	Scan all drives. Scan all network drives and local drives, but not removable drives; these include disk drives, CD drives, and Zip drives.	page 25
/ALLOLE	Check every file for OLE objects.	page 25
/ANALYSE	Same as /ANALYZE.	page 26
/ANALYZE	Use heuristic analysis to find possible new viruses in “clean” files.	page 26
/APPEND	Append information to the specified report file instead of overwriting it.	page 32
/APPENDBAD	Append names of infected files to an existing file, as specified by /BADLIST.	page 26
/BADLIST <FILENAME>	Create a list of infected files.	page 26
/BEEP	Issue a tone when an infected file is found.	page 33
/BOOT	Scan boot sector and master boot record only.	page 26
/BPRESTORE	Restore sectors from backup after cleaning.	page 26
/CHECKLIST <FILENAME>	Scan the files listed in the specified file.	page 26
/CLEAN	Automatically remove any infections.	page 30
/CONTACTFILE <FILENAME>	Display the contents of the specified file when a virus is found.	page 30
/DAM	Delete all macros in a file if an infected macro is found.	page 30
/DEL	Delete infected .COM and .EXE files.	page 30
/DOHSM	Scan files that are offline.	page 26
/DRIVER	Specify the location of the DAT files: SCAN.DAT, NAMES.DAT, and CLEAN.DAT.	page 26
/EVLOG	Use Event Logging.	page 30
/EXCLUDE <FILENAME>	Exclude the directories or files from the scan as specified in <FILENAME>.	page 26
/EXTLIST	Display names of file extensions that are scanned by default.	page 33
/EXTRA <FILENAME>	Specify the location on any EXTRA.DAT file.	page 26
/FAM	Find all macros, not just macros suspected of being infected.	page 26
/FREQUENCY <HOURS>	Do not scan before the specified number of hours after the previous scan.	page 27
/HELP	See the /? option.	page 33
/HTML <FILENAME>	Create a file containing the results in HTML format.	page 32

Table 3-6 Alphabetic list of options (continued)

Option	Description	See ...
/LOAD <FILENAME>	Load scanning options from the named file, or scanning profile.	page 27
/LOUD	Display a progress summary during the scan.	page 32
/MAILBOX	Scan plain-text mailboxes.	page 27
/MANALYSE	Same as /MANALYZE.	page 27
/MANALYZE	Use heuristics analysis to identify potential macro viruses.	page 27
/MANY	Scan multiple disks consecutively in a single drive.	page 27
/MAXFILESIZE <SIZE>	Examine only those files that are smaller than the specified size.	page 27
/MIME	Scan MIME-encoded files.	page 27
/MOVE <DIR>	Move any infected files to a quarantine location as specified.	page 31
/NOBACKUP	Do not prompt for backup of sectors before attempting to clean.	page 27
/NOBEEP	Do not issue a tone when the scan ends.	page 31
/NOBKSEM	Prevent scanning of files that are normally protected.	page 27
/NOBOOT	Do not scan the boot sector.	page 27
/NOBREAK	Disable Ctrl-C and Ctrl-Break during scans.	page 27
/NOCOMP	Do not check compressed executables created with the LZEXE or PkLite file-compression programs.	page 28
/NOD	Scan only the susceptible file types.	page 28
/NODDA	Do not access disk directly. This prevents the scanner from accessing the boot record.	page 28
/NODECRYPT	Do not decrypt Microsoft Office compound documents that are password-protected.	page 28
/NODOC	Do not scan document files.	page 28
/NOEXPIRE	Disable the “expiration date” message if the scanner’s DAT files are out of date.	page 28
/NOJOKES	Do not report any joke programs.	page 28
/NOMEM	Do not scan memory for viruses.	page 28
/NORECALL	Do not move files from remote storage into local storage after scanning. See also Scanning files in remote storage on page 18.	page 33
/NORENAME	Do not rename an infected file that cannot be cleaned.	page 31
/NOSCRIPT	Do not scan files that contain HTML, JavaScript, Visual Basic, or Script Component Type Libraries.	page 28
/OCMAX=<SIZE>	Specify the maximum size of the internal cache for file reads.	page 28
/OCRS=<VALUE>	Specify a value that represents the size of the internal cache size for each file read.	page 28
/PANALYSE	Same as /PANALYZE.	page 28
/PANALYZE	Use heuristic analysis to identify potential new program viruses.	page 28
/PAUSE	Enable a screen pause.	page 31
/PLAD	Preserve the last-accessed time and date for files that are scanned.	page 31
/PROGRAM	Scan for potentially unwanted applications.	page 29
/REPORT <FILENAME>	Create a report of infected files and system errors, and save the data to the specified file in ASCII text file format.	page 32
/RPTALL	Include the names of all scanned files in the report file.	page 32
/RPTCOR	Include a list of corrupted files in the report file.	page 32
/RPTERR	Include system errors in the report file.	page 32
/SECURE	Examine all files, decompress archive files, and use heuristic analysis.	page 29

Table 3-6 Alphabetic list of options (continued)

Option	Description	See ...
/SHOWCOMP	Report any files that are packaged.	page 29
/SILENT	Do not display any information on-screen.	page 33
/STREAMS	Scan all streams within a file if it is in an NTFS partition.	page 29
/SUB	Scan any subdirectories inside a directory.	page 29
/TIMEOUT <SECONDS>	Set the maximum time to scan any one file.	page 29
/UNZIP	Scan inside archive files, such as those saved in ZIP, LHA, PKarc, ARJ, WinACE, CAB, and CHM formats.	page 29
/WINMEM	Scan inside running processes.	page 29
/VIRLIST	Display the name of each virus that the scanner can detect.	page 32

Error levels

When you run the on-demand scanner in the MS-DOS environment, an error level is set. You can use the `ERRORLEVEL` value in batch files to take actions based on the results of the scan. See your MS-DOS operating-system documentation for more information.

The on-demand scanner can return the following error levels:

Table 3-7 Error Levels

Error Level	Description
0	The scanner found no viruses or other potentially unwanted software, and returned no errors.
2	Integrity check on DAT file failed.
6	A general problem occurred.
8	The scanner was unable to find a DAT file.
10	A virus was found in memory.
12	The scanner tried to clean a file, the attempt failed, and the file is still infected.
13	The scanner found one or more viruses or hostile objects — such as a Trojan-horse program, joke program, or test file.
15	The scanner's self-check failed; the scanner may be infected or damaged.
19	The scanner succeeded in cleaning all infected files.
20	Scanning was prevented because of the <code>/FREQUENCY</code> option. See page 27 for more information.
21	Computer requires a reboot to clean the infection.
102	The user quit via Esc-X, ^C or EXIT button. This feature can be disabled with the <code>/NOBREAK</code> option.

Handling error messages

You can often correct the message, `Invalid switch or incorrect usage` by checking the form of the command in [Options in alphabetic order on page 34](#).

Where an option has a parameter, insert only one space between them. For example, the following commands are intended to scan all directories on the C disk, and list any infected files in the file named `BADLIST.TXT`. The first two commands are valid, but the third command gives an error message because it has more than one space between the `/BADLIST` option and its parameter, `BADLIST.TXT`.

```
SCAN C:\ /SUB /BADLIST BADLIST.TXT
```

```
SCAN C:\    /SUB    /BADLIST BADLIST.TXT
```

```
SCAN C:\ /SUB /BADLIST    BADLIST.TXT
```

4

Removing Infections

Although they are not harmless, *most* viruses that infect your computer do not destroy data, play pranks, or render your computer unusable. Even the rare viruses that carry a destructive payload usually produce their nasty effects in response to a trigger event. In most cases, unless you know that a payload has activated, you have time to deal with the infection properly. However, this unwanted computer code can interfere with your computer's normal operation, consume system resources and have other undesirable effects, so take viruses seriously and remove them when you encounter them.

Unusual computer behavior, unexplained crashes, or other unpredictable events might not be caused by a virus. If you believe you have a virus on your computer because of occurrences such as these, a scan might not produce the results you expect, but it helps eliminate one potential cause of your computer problems.

To clean your computer

If your computer has a virus or you suspect it has, and you have not yet installed the on-demand scanner, follow these steps:

- 1 Isolate your infected computer from any network that it uses.
- 2 Download and unzip up-to-date anti-virus software and DAT files onto another computer and create a CD.
- 3 Create a directory for the software on the hard disk of the infected computer.
- 4 Insert the CD into your CD drive, then copy the files from the CD to the directory that you created in [Step 3](#).
- 5 Add the directory to the `PATH` statement in your `AUTOEXEC.BAT` file or use the **System Properties** window.
- 6 At the command prompt, type the following to thoroughly scan the computer:

```
SCAN /ADL /ALL /CLEAN /WINMEM /PROGRAM
```

- 7 Shut down your computer and boot it into Safe Mode.
- 8 Scan your disks again immediately after the boot. At the command prompt, type:

```
SCAN /ADL /ALL /CLEAN /WINMEM /PROGRAM
```

This step is necessary because some infections can affect other files but this will not be apparent until the computer has booted.

- 9 If necessary, repeat [Step 7](#) and [Step 8](#) to ensure that all effects of the original infection are removed.
- 10 If you cannot remove all effects of the original infection, refer to the Virus Information Library for more information about manually removing an infection. For any further assistance, refer to the AVERT Home Page. See the addresses in [Contact information on page 9](#).

If the infections were removed:

Shut down your computer and remove the CD. Reconnect to the network, and begin the installation procedure described on [page 10](#).

To find and remove the possible source of infection, scan your diskettes immediately after installation. For information, see [Scanning diskettes on page 17](#).

If infections were not removed:

If the scanner cannot remove an infection, you see one of the following messages:

```
Virus could not be removed.
```

```
There is no remover currently available for the virus.
```

In this case, refer to the Virus Information Library. See [Contact information on page 9](#) for more information about manually removing an infection.

If the virus still cannot be removed, refer to the AVERT Home Page for information about manually removing infections. See [Contact information on page 9](#).

If the scanner detects a virus

Viruses attack computer systems by infecting files — usually executable program files or macros inside documents and templates. The scanner can safely remove most common viruses from infected files.

However, some viruses are designed to damage your files. The scanner can move these irreparably damaged or corrupted files to a quarantine directory or delete them permanently to prevent further infection.

If the scanner cannot clean an infected file, it renames the file to prevent its use. When a file is renamed, only the file extension (typically three letters) is changed. The following table shows the methods of renaming.

Table 4-1 Renaming infected files

Original	Renamed	Description
Not V??	V??	File extensions that do not start with v are renamed with v as the initial letter of the file extension. For example, MYFILE.DOC becomes MYFILE.VOC.
V??	VIR	File extensions that start with v are renamed as .VIR. For example, MYFILE.VBS becomes MYFILE.VIR.
VIR, V01-V99		These files are recognized as already infected, and are not renamed again.
<blank>	VIR	Files with no extensions are given the extension, .VIR.

For example, if an infected file called BAD.COM is found, the scanner attempts to rename the file to BAD.VOM. However, if a file of that name already exists in the directory, the scanner attempts to rename the file to BAD.VIR, BAD.V01, or BAD.V02, and so on.

For file extensions with more than three letters, the name is usually not truncated. For example, NOTEPAD.CLASS becomes NOTEPAD.VCLASS. However, an infected file called WATER.VAPOR becomes WATER.VIR.

Removing a virus found in a file

If the scanner detects a virus in a file, it displays the path names of infected files and takes the action you specified. For example:

- If you selected /MOVE, the scanner automatically moves the infected files to the specified quarantine directory.
- If you selected /CLEAN, the scanner attempts to clean the file.
- If you selected /DEL and this is an .EXE or .COM file, the scanner deletes the infected file.
- If you selected /NORENAME, the scanner does not rename the infected file.



Take care if you are using more than one of these options in combination. For example, if you specify `/MOVE` and `/CLEAN` together, the scanner creates a copy of an infected file in the specified quarantine directory before attempting to clean the file. If you want to keep an infected copy for investigation, this is useful, but if you intend only to remove any virus that might be present on the computer, it is more beneficial and more secure to use `/CLEAN` on its own. Generally speaking, simply specifying more command-line options does not necessarily increase the benefit of the scanning.

Running additional virus-cleaning tasks

These tasks include:

- [Cleaning macro viruses from password-protected files.](#)
- [Cleaning Windows NT hard disks.](#)

Cleaning macro viruses from password-protected files

The scanner respects users' passwords and usually leaves them intact. For example, in some password-protected Microsoft Excel files, the scanner removes macro viruses without disturbing users' passwords.

However, macro viruses that infect Microsoft Word files sometimes plant their own passwords. Depending on the capabilities of the virus, the scanner takes one of the following actions when trying to clean a password-protected file:

- **If the macro virus can plant its own password:**
The scanner cleans the file, removes the planted password, and removes the virus.
- **If the macro virus cannot plant its own password:**
The scanner notes the infection but does not remove the password.

Cleaning Windows NT hard disks

To clean the Master Boot Record (MBR) on a hard disk formatted with the Microsoft Windows NT file system (NTFS):

- 1 Start the computer that has the NTFS file system partition from a virus-free MS-DOS boot disk.
- 2 Run the scanner, using `SCAN /BOOT /CLEAN`. Be sure to run the scanner from a disk that you know is free from viruses.

This cleans the NTFS file system Master Boot Record, but the scanner cannot read the rest of the NTFS file system partition when you boot into a MS-DOS environment. To scan the rest of the NTFS file system partition, reboot into Windows NT, then run the scanner again.

5

Preventing Infections

VirusScan® Command Line is an effective tool for preventing infections, and it is most effective when combined with regular backups, meaningful password protection, user training, and awareness of threats from viruses and other potentially unwanted software.

To create a secure system environment and minimize the chance of infection, we recommend that you do the following:

- Install VirusScan® Command Line software and other McAfee security software.
- Schedule scans — at system boot and/or at regular intervals.
- Make frequent backups of important files. Even if you have VirusScan® Command Line software to prevent attacks from viruses, damage from fire, theft, or vandalism can render your data unrecoverable without a recent backup.

Detecting new and unidentified viruses

To offer the best protection possible, we continually update the definition (DAT) files that the VirusScan® Command Line software uses to detect potentially unwanted software. For maximum protection, you should regularly retrieve these files.

We offer free online DAT file updates for the life of your product, but cannot guarantee that they will be compatible with previous versions. By updating your software to the latest version of the product and updating regularly to the latest DAT files, you ensure complete protection for the term of your software subscription or maintenance plan.

Why do I need new DAT files?

Hundreds of new viruses and other potentially unwanted objects appear each month. Often, older DAT files cannot assist the VirusScan® Command Line software in detecting these new variations. For example, the DAT files with your original copy of VirusScan® Command Line might not detect a virus that was discovered after you bought the product.

If you suspect you have found a new virus, use WebImmune. See [Contact information on page 9](#) for the address.

Updating your DAT files

The DAT files are contained in a single compressed file. Download the new file from either of the following sources:

- **FTP server.** Open a connection to the FTP site, <ftp://ftp.mcafee.com>.

Use `anonymous` as your user name and your e-mail address as your password to gain access. Look for a compressed file in the directory `pub/antivirus/datfiles/4.x`. The file has the format `dat-nnnn.zip`, where `nnnn` is the DAT version number. For example: `dat-5066.zip`.
- **Web Site.** Start your browser, then go to the **Downloads** area for the latest file. See the **Download Site** under [Contact information on page 9](#) for the address.

The number given to the file changes on a regular basis. A higher number indicates a later version of the DAT files. When you are selecting the latest version of DAT file, ignore any reference to SuperDAT (a self-installing DAT file). You cannot use this type of file with the command-line scanner.

To use the new DAT files:

- 1 Create a download directory.
- 2 Change to the download directory, and download the new compressed file from the source you have chosen. The downloaded DAT file is in a compressed .ZIP format.
- 3 Locate the directory on your hard drive where the command-line scanner is currently loaded (as set up in [Step 1 on page 11](#)).
- 4 Use a compression utility such as WinZip or PKZip to extract the files from the .ZIP file into that directory. Be sure to extract all the files. If using WinZip, select the **Use Folder Names** and the **All Files** options.
- 5 Allow the updated files to overwrite the existing DAT files.



If other SupportingProductName software products are loaded on your computer, or if you chose custom installation options, some DAT files might be located in more than one directory. If so, save these updated DAT files to each directory.

Index

A

- alarm (See beep) 31
- /ALL option, warning with /NODOC 25
- alphabetic options 34
- ARC files 29
- arguments (See options) 25
- audience for this guide 6
- Avert Labs Threat Center 9
- Avert Labs Threat Library 9

B

- BACKUP_SEMANTICS flag 27
- beep, not wanted 31
- beta program website 9
- boot record, preventing scanner from accessing 28
- boot sector
 - limiting scan to 26
 - warning about /NODDA 26

C

- cache 19
- /CLEAN option 30, 40
- clean, all infected files 30
- CodeRed 20
- colon, delimiter in stream naming 18
- command-line options (See options) 25
- compressed files
 - scanning inside 29
 - skipping during virus scans 28
 - types recognized by the scanner 17
- computer problems, attributing to viruses 38
- configuration options 22
- conventions, command line 21
- corrupted files 32, 40
- crashes attributed to viruses 38
- CTRL+BREAK, disabling during scans 27
- CTRL+C, disabling during scans 27
- customer service, contacting 9
- cyclical redundancy check (CRC) 13

D

- damaged files 40
- DAT file 43
 - updates 42
- DAT files
 - Avert Labs notification service for updates 9
 - updates, website 9
- date (expiration date message) 28
- defaults, cache 20
- /DEL option 30, 40
- direct drive access, disabling with scanner 28
- directories, scanning 29
- diskettes 27
- disks
 - scanning 17
 - scanning multiple 27
- DLL scanning 20
- DOS 11
- download website 9
- drives
 - scanning local 25
 - scanning network 25

E

- EICAR "virus" for testing installation 14
- error levels 36
- error messages 36
- Eudora 27
- evaluating McAfee products, download website 9
- event log 30
- examples
 - batch file for NetWare login 12
 - cache, AFC 25
 - deleting all macros 26
 - list of infected files 23
 - /OCMAX 19
 - reporting 24
 - streams 18
 - /WINMEM 20
- Excel 41
- excluding files from scan 26

- exit codes (error levels) 36
- expiration date message, disabling 28
- EXTRA.DAT 26

F

- file types
 - list of scanned 33
 - scanning all 25
- FILE_FLAG_BACKUP_SEMANTICS flag 27
- files
 - compressed 29
 - corrupted 32, 40
 - damaged 40
 - deleting infected files 30
 - do not scan compressed files 28
 - excluding from scan 26
 - joke programs 28
 - last-access date 31
 - moving infected files 31
 - scanning all 29
 - scanning ARC 29
 - scanning under specified size 27
 - setting cache size 20
- floppy disks 27
- frequency
 - error level for prevented scanning 36
 - setting for scan 27

G

- general options 25

H

- help
 - displaying 33
 - online 21
- heuristic analysis 29
 - enabling full capabilities 26
 - macro viruses only 27
 - program viruses only 28
- Hierarchical Storage Management (HSM) 19
- HotFix and Patch releases (for products and security vulnerabilities) 9

I

IDE (*See* DAT files)

infected files

- creating a list of [23](#)
- deleting permanently [30](#)
- do not rename [31](#)
- moving [31](#)
- not renaming [40](#)
- removing viruses from [38—??](#)

installation requirements [10](#)

installation, testing effectiveness of [14](#)

installing VirusScan software [10](#)

Invalid switch or incorrect usage, message [36](#)

J

joke programs [28](#)

K

KnowledgeBase search [9](#)

L

local drives, scanning [25](#)

LS120 media [27](#)

LZEXE [28](#)

M

macro [27](#)

macro viruses

- cleaning [41](#)
- heuristic analysis for [27](#)

mailboxes

- plain text [27](#)
- with /MIME [27](#)

master boot record (MBR), how to clean on NTFS [41](#)

memory

- cache [19](#)
- omitting from scans [28](#)
- virus infections in, error level for [36](#)

messages

- displaying when a virus is found [30](#)
- Invalid switch or incorrect usage [36](#)
- pausing when displaying [31](#)

Microsoft Office

- files not scanned for macros, warning [25](#)
- omitting files from scans [28](#)

MIME [27](#)

/MOVE option [31](#), [40](#)

moving infected files [31](#)

N

Netscape [27](#)

NetWare

- last -access date [31](#)
- scanning before login [12](#)

network drives, scanning [25](#)

new features [6](#)

/NODDA, do not use with BOOT [28](#)

/NODOC option, warning with /ALL [25](#)

/NORENAME option [31](#), [40](#)

Novell NetWare, run scanner before login [11](#)

NTFS streams [18](#)

NTFS, cleaning [41](#)

O

Office, Microsoft [28](#)

offline storage [19](#)

on-demand scanning [20](#)

options [25—33](#)

- alphabetic order [34](#)
- general [25](#)
- report [32](#)
- response and notification [30](#)

P

password-protected files [41](#)

pattern files (*See* DAT files)

/PAUSE

- do not use with report options [31](#)
- not with /REPORT [32](#)

pausing, when displaying scanner messages [31](#)

PID, process scanning [20](#)

PINE [27](#)

PKLITE [28](#)

plain-text mailboxes [27](#)

preventing infection [42](#)

process identifier [20](#)

process scanning [20](#)

product information, where to find [8](#)

product upgrades [9](#)

professional services, McAfee resources [9](#)

protected files [18](#)

Q

quarantine [40](#)

R

recycle bins [18](#)

remote storage [19](#)

- /DOHSM and /NORECALL [33](#)

report options [32](#)

reports

- adding names of scanned files to [32](#)
- adding system errors to [32](#)
- do not use options with /PAUSE [32](#)
- generating with scanner [32](#)
- with scanning options [32](#)

resources, for product information [8](#)

response and notification options [30](#)

responses, default when infected by viruses [38—??](#)

S

SCAN.EXE [16](#)

scanning

- disks [17](#)
- full scan [21](#)
- on-demand [20](#)
- speed improvement [20](#)

scanning options, added to report [32](#)

script [28](#)

Security Headquarters (*See* Avert Labs)

security threat [29](#)

security updates, DAT files and engine [9](#)

security vulnerabilities, releases for [9](#)

self-check, error level if fails [36](#)

ServicePortal, technical support [9](#)

sound (*See* beep)

streams [18](#)

subdirectories, scanning [29](#)

submit a sample, Avert Labs WebImmune [9](#)

switches (*See* options) [25](#)

system performance [16](#)

system requirements [10](#)

T

task file [22](#)

technical support, contacting [9](#)

testing your installation [14](#)

Threat Center (*See* Avert Labs)

threat library [9](#)

tone (*See* beep)

training, McAfee resources [9](#)

trash can [18](#)

U

upgrade website [9](#)

user profiles [18](#)

users halting scans, how to prevent [27](#)

using this guide [6](#)

audience [6](#)

typeface conventions and
symbols [7](#)

V

version number [21](#)

virus definitions (*See* DAT files)

Virus Information Library [32](#)

Virus Information Library (*See* Avert
Labs Threat Library)

virus scanning

displaying message when virus
is found [30](#)

preventing users from halting [27](#)

viruses

detected, error level for [36](#)

displaying list of detected [32](#)

effects of [38](#)—??

list of detected [21](#)

removing from infected files
[38](#)—??

VirusScan software [36](#)

W

WebImmune, Avert Labs Threat
Center [9](#)

Windows NT File System (NTFS),
cleaning MBR [41](#)