FortiClient Endpoint Security™

User Guide

Version 4.0 MR2

FortiClient Endpoint Security User Guide

Version 4.0 MR2 (

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Trademarks

Contents

Introduction

This chapter introduces you to FortiClient Endpoint Security software and the following topics:

- About FortiClient Endpoint Security
- About this document
- Using the FortiClient system tray menu
- Documentation
- Customer service and technical support

What’s new in this release

This section describes the new features and changes in FortiClient v4.0 MR2.

- The extended antivirus database is now available in the Standard edition client. No configuration changes are needed. The extended antivirus database is automatically downloaded when the client first connects to the FortiGuard servers. Once the extended antivirus database has been downloaded, future updates include only those that have changed. The only difference between the Standard and Premium editions is the update frequency which is daily and hourly (if configured), respectively, for the antivirus functionality.
  - Due to the addition of the extended antivirus database to the Standard editon, the option to enable or disable the extended antivirus database has been removed.
- FortiGuard anti-spam services are available in the Standard edition.
- Enhancements to the Web Filtering includes:
  - Easier to use configuration.
  - Schedule web filter profiles so that web access can be determined for time of day and day of week.
  - Block additional types of web content.
- Improvements have been made to decrease the number of Firewall pop-up messages asking to allow access to the network.
- Resume download feature allows you to pause software and antivirus signature updates and resume at a later time.

About FortiClient Endpoint Security

Computer desktop and laptop devices have empowered today’s business users with the capability to access enterprise applications and mission critical data both in the office and on the road. While expanding productivity, remote access to the secure network perimeter increases security risk. Unfortunately, all devices are exposed to blended threats such as viruses, trojans, worms, spyware, keyloggers, botnets, spam and Internet attack. While utilizing network security architectures that isolate segments from one another can mitigate infection or breach, computers within the same subnet can still potentially infect one another.

Users may inadvertently circumvent policy by bringing in portable storage devices, failing to keep antivirus signatures up-to-date, or even disabling personal firewall protection. Users accessing inappropriate and dangerous web content jeopardize device integrity, negatively impact productivity and create security and legal exposure. While point product security technology, such as antivirus agents, are available to protect devices from certain threats, such methods fall short from comprehensively protecting against blended threats and do not enforce content access guidelines.

FortiClient offers the full range of Fortinet threat protection to computers, even when being used on insecure public networks. This comprehensive, modular protection suite secures desktops against viruses, trojans, worms and more. The FortiClient product is a client-based software solution designed to be used in connection with our FortiGate appliances to provide security features like Endpoint Control and WAN Optimization for enterprise computers. The feature set includes VPN (IPSec and SSL), antivirus/antispyware, personal firewall, Web filtering, and antispam – each with separate modular installs to completely avoid any potential conflicts with other security software. Powered by FortiGuard security services, FortiClient has access to constantly-updated protection on a real-time basis against current and emerging threats.

Table 1: Features and benefits of FortiClient.

Endpoint Control	Ties into your FortiGate appliance to monitor and enforce endpoint security policy at the network firewall, including FortiClient version enforcement, ensuring signatures are up-to-date and personal firewall is enabled.
Application Detection	Extends Endpoint Control to allow admins to detect if endpoints run applications against security policy and automates denial of network access.
Endpoint Management	Ties into your FortiManager appliance to discover, deploy, update and monitor clients on the network. Ties into your FortiAnalyzer appliance for advanced reporting that leverages FortiClient logs.
Secure IPSec VPN Client	Empowers mobile laptops and remote desktops with the capability to access enterprise applications securely with DES / 3DES encryption.
SSL VPN Tunnel Client	Connects securely from anywhere for remote access to web applications behind the firewall, protecting confidential communications.
WAN Optimization	Speeds services like VPN for remote PC connections over the WAN. Wan Optimization is installed only if it is enabled using FCRepackager. However, if you are upgrading from an older version of FortiClient where WAN Optimization was installed, the installer will not remove it. For more information on FCRepackager, see the FortiClient Administration Guide.
Antivirus & Antispyware	Provides comprehensive protection against viruses, spyware, keyloggers, Trojans, adware and grayware on the client, with updates by FortiGuard.
Powerful Personal Firewall	Monitors network traffic and enforces the appropriate application access control in your security policies.
Web Filtering	Provides real-time web content access enforcement to ensure compliance.
Advanced Antispam	Built in antispam that incorporates into MS Outlook to reduce unsolicited emails, email-borne viruses and phishing attempts.
Data Leak Prevention	Data Leak Prevention is available to those users upgrading from 3.0 who were previously using this feature and it is enabled in the FCRepackager. If you do not see this option in the FortiClient console, then it is unavailable to you. For more information on FCRepackager, see the FortiClient Administration Guide.

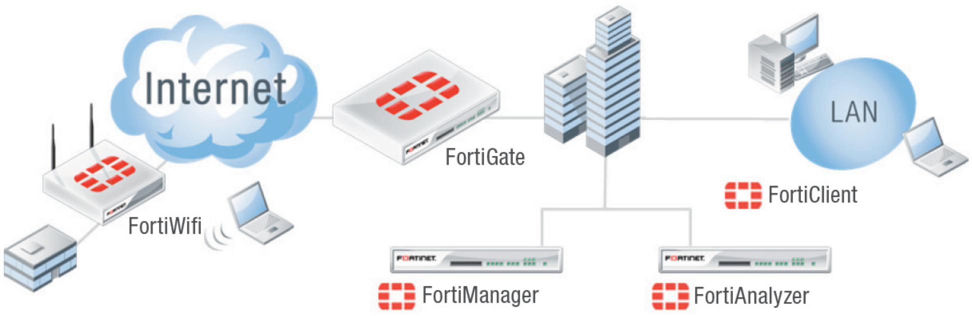
FortiClient can be downloaded directly from www.forticlient.com.

Fortinet Security Framework

FortiClient plays an important role in completing most any FortiGate installation. This advanced endpoint protection solution helps close potential security gaps in network architecture, strengthening your security posture by adding an essential layer of protection to computers and laptops connecting from the LAN or from offsite remote locations. FortiClient provides integration with FortiGate, FortiManager and FortiAnalyzer:

- Fortigate — Enhances FortiGate endpoint control by enforcing a policy-based approach to FortiClient use such as application detection, VPN, and WAN Optimization.
- FortiManager — Users benefit from streamlined FortiClient deployment and centralized management. For example, bulk deployments of FortiClient updates, auto discovery of new FortiClients, and set management events and alerts.
- FortiAnalyzer — Users benefit from FortiClient log capture for integrated endpoint reporting and analysis.

Figure 1: Fortinet security framework.



FortiClient Editions

Fortinet offers FortiClient in two editions: a Standard (free) edition for consumers, and a Premium edition for small, mid-sized enterprises, and other large organizations. The Premium edition can be used in combination with FortiGate and other Fortinet products. The premium edition includes antispam, enables central management with FortiManager, and comes with Enhanced Support. See "Installing the Standard or Premium FortiClient Editions" on page 10.

Additional FortiGuard Services

Fortinet provides stand-alone malware removal tools on the FortiGuard website. The tools have been developed by FortiGuard Labs to disable and remove specific malware and related variants. Some tools have been developed to remove specific malware as well as a universal cleaning tool, called FortiCleanup.

The latest release can by obtained from the following web page:

http://www.fortiguard.com/antivirus/malware_removal.html

About this document

This document explains how to install and use the features of FortiClient Endpoint Security.

This document contains the following chapters:

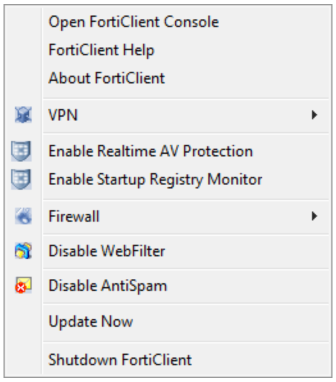
- Installation explains how to install the FortiClient application on your computer.
- General describes how to enter a license key, how to lock or unlock the application settings, how to configure optional proxy server settings, and log settings and log view.
- VPN describes how to configure an IPSec VPN with the FortiClient application.
- WAN Optimization describes to enable WAN optimization.
- Antivirus and Anti-Malware describes how to scan files for viruses, how to configure real-time scanning of files as you access them, how to configure virus scanning of incoming and outgoing email, and how to prevent unauthorized modifications to the Windows startup list or to the registry.
- Firewall describes how to configure the FortiClient firewall. You can use pre-defined or custom settings.
- WebFilter describes how to configure the FortiClient application to control the types of web page content accessible on your computer using the Fortinet FortiGuard Web Filtering service.
- Anti-spam describes how to configure spam filtering for your Microsoft Outlook or Outlook Express email client. The FortiClient application works with the Fortinet FortiGuard AntiSpam service to determine which email messages are spam. You can also create your own black list and white list of email addresses.
- App Detection displays the applications that are currently running on your computer.

Using the FortiClient system tray menu

Many frequently used FortiClient features are available from the system tray menu. Right-click the FortiClient icon to access the menu.

If FortiClient is trying to notify you of an event that needs your attention, the system tray icon will blink. Click the icon to view the message, such as an alert, that requires your attention.

Figure 2: FortiClient system tray menu



Open FortiClient Console	Opens the management console so that you can configure the settings and use the services.
FortiClient Help	Opens the online help.
About FortiClient	Displays version and copyright information.
Make Compliant with Corporate Policy	Enables antivirus, anti-spam, firewall, or web filtering features as required to comply with the security policy. This item is visible if the FortiClient computer is centrally managed and a security policy is set, but the FortiClient settings do not comply. For more information, see "Complying with corporate policy" on page 16.
Compliant with Corporate Policy	FortiClient complies with the security policy. This item is visible if the FortiClient computer is centrally managed, a security policy is set, and the FortiClient settings comply.
VPN	If you have already added VPN(including SSL VPN) tunnels, you can start or stop the VPN connections by selecting or clearing the connection names. See "Connecting to the remote network" on page 34.
Enable/Disable Realtime antivirus Protection	For details, see "Configuring real-time protection" on page 54.
Enable/Disable Startup Registry Monitor	For details, see "Monitoring Windows startup list entries" on page 58.
Firewall	You can select *Deny All*, *Normal*, or *Pass All*. See "Selecting a firewall mode" on page 61.
Enable/Disable WebFilter	For details, see "WebFilter" on page 71.
Enable/Disable AntiSpam	For details, see "Anti-spam" on page 77.
Update Now	Update Antivirus definitions and Anti-spam rules.
Show antivirus scan window(s)	View antivirus scan windows, hidden during scheduled scans. This menu item is available only during a scan.
Shutdown FortiClient	Stops all FortiClient services and closes FortiClient console. The confirmation dialog imposes a four second wait for the *Yes* button to be available.

Documentation

You can access FortiClient documentation using the links provided in the *General > Help & Support* page. The Fortinet Technical Documentation web site at http://docs.forticare.com provides current documentation for all Fortinet products.

In addition to this *FortiClient Endpoint Security User Guide*, the FortiClient online help provides information and procedures for using and configuring the FortiClient software.

If you are responsible for deploying FortiClient Endpoint Security to an enterprise, see the *FortiClient Endpoint Security Administration Guide* for information about customized installation, central management using a FortiManager system, network-wide per-user web filtering, and configuration of FortiGate devices to support FortiClient VPN users.

Information about FortiGate Antivirus Firewalls is available from the FortiGate online help and the *FortiGate Administration Guide*.

Fortinet Tools and Documentation CD

All Fortinet documentation is available on the Fortinet Tools and Documentation CD shipped with your Fortinet product. (You do not receive this CD if you download the FortiClient application.) The documents on the CD are current at shipping time. For up-to-date versions of Fortinet documentation visit the Fortinet Technical Documentation web site at http://docs.forticare.com.

Fortinet Knowledge Center

Additional Fortinet technical documentation is available from the Fortinet Knowledge Center. The knowledge center contains troubleshooting and how-to articles, FAQs, technical notes, a glossary, and more. Visit the Fortinet Knowledge Center at http://kb.fortinet.com.

Comments on Fortinet technical documentation

Please send information about any errors or omissions in this document, or any Fortinet technical documentation, to techdoc@ fortinet.com.

Customer service and technical support

Fortinet Technical Support provides services designed to make sure that your Fortinet systems install quickly, configure easily, and operate reliably in your network. You can access FortiClient support using the links provided in the *General* > *Help & Support* page.

Please visit the Fortinet Technical Support web site at http://support.fortinet.com to learn about the technical support services that Fortinet provides.

Installation

There are two types of installation packages available for FortiClient software:

- a Windows executable file
- a Microsoft Installer (MSI) package compressed into a .zip file

The Windows executable file provides easy installation on a single computer. For details see "Installing FortiClient" on page 8.

The MSI package is customizable for a larger roll-out to many computers in an organization. For more information, see the *FortiClient Administration Guide*.

If you are installing the FortiClient application on a 64-bit platform, you must use a 64-bit installer. The 64-bit installer files have "_x64" in their name.

System requirements

To install FortiClient you need:

To install FortiClient 4.2 you need:

- Microsoft® Windows® compatible computer with Pentium processor or equivalent
- Compatible operating systems and minimum RAM:
  - Microsoft® Windows 7: 512 MB
  - Microsoft® Windows Server 2008: 512 MB
  - Microsoft® Windows Vista: 512 MB
  - Microsoft® Windows Server 2003: 384 MB
  - Microsoft® Windows XP: 256 MB
  - Microsoft® Windows 2000: 128 MB
  - 600 MB free hard disk space
- Native Microsoft TCP/IP communications protocol
- Native Microsoft PPP dialer for dial-up connections
- Ethernet NIC for network connections
- Wireless adapter for wireless network connections
- Microsoft Internet Explorer® 5.0 or later
- Adobe Acrobat® Reader 5.0 or later for user manual
- MSI installer 3.0 or later

Note: The FortiClient software installs a virtual network adapter.

Note: While Windows Server is supported, Fortinet does not recommend installing FortiClient onto Domain Controllers without first doing testing on your specific server configuration in a non-production environment.

Supported Operating Systems

FortiClient supports the following operating systems:

- Microsoft® Windows 7™ (both 32-bit and 64-bit)
- Microsoft® Windows Server 2008 including SP2 (both 32-bit and 64-bit)
- Microsof®t Windows Server 2008 R2 (64-bit)
- Microsoft® Windows Vista including SP1 and SP2 (both 32-bit and 64-bit)
- Microsoft® Windows Server 2003 R2 including SP2 (both 32-bit and 64-bit)
- Microsoft® Windows Server 2003 including SP1 and SP2 (both 32-bit and 64-bit)
- Microsoft® Windows XP including SP2 and SP3 (both 32-bit and 64-bit)
- Microsoft® Windows 2000 Professional

Note: It is not necessary to disable the Microsoft® Windows 7 firewall when the FortiClient firewall is installed; they are compatible. The FortiClient installer does not disable the Windows firewall when installing on Windows 7.

Supported FortiGate and FortiManager versions

The officially supported versions for FortiGate is 4.0 MR2 and for FortiManager is 4.0 MR2.

Language Support

The FortiClient Endpoint Security supports the following languages:

Language	FortiClient	Documentation
English	Yes	Yes
Chinese (Simplified and Traditional)	Yes	Yes
French	Yes	No
German	Yes	No
Japanese	Yes	No
Portuguese (Brazilian)	Yes	No
Spanish (Spain)	Yes	No

The FortiClient installation software detects the language of the operating system and installs the matching language version of the application. If a language other than one of the above is detected, the English language version of the software is installed.

Installing FortiClient

Before beginning the installation, ensure you uninstall any other VPN client software. FortiClient may not function properly with other VPN clients installed on the same computer.

It is recommended that all other Antivirus software is removed before installing FortiClient with the exception of Windows® Defender.

If you have an older version of FortiClient software installed on your computer, the Windows executable version of the installer automatically upgrades your FortiClient installation to the new version, retaining your current configuration. FortiClient 4.0 MR2 can reuse configuration data from FortiClient versions 2.0, 1.6 or 1.2, but not from version 1.0.

Note: For FortiClient version 1.0 and 1.2 installations, it is recommended that you uninstall the software before installing version 4.0 MR2 to ensure a clean install.

You can also perform an upgrade installation of FortiClient software using the .zip version of the installer, which contains an MSI installer package.

To install the FortiClient software - Windows executable installer

1. Double-click the FortiClient installer program file.
2. Follow the instructions on the screen, selecting Next to proceed through the installation options.

   When the installation has completed, the FortiClient Configuration Wizard begins, unless you are upgrading an existing installation.

To install the FortiClient software - MSI installer

1. Extract the files from the FortiClient Setup .zip archive into a folder.
2. Do one of the following:
   - To perform a new installation, double-click the FortiClient.msi file.
   - To perform an upgrade installation, execute the following command at the command prompt (all on one line, case as shown):

     ```
     msiexec /i <path_to_installation_folder>\FortiClient.msi
      REINSTALL=ALL REINSTALLMODE=vomus
     ```
3. Follow the instructions on the screen, selecting Next to proceed through the installation options.

   When the installation has completed, the FortiClient Configuration Wizard begins, unless you are upgrading an existing installation.

To use the FortiClient Configuration Wizard after installation

1. In the FortiClient Configuration Wizard Welcome window, do one of the following:
   - Select Basic Setup if you are installing FortiClient on a standalone computer.
   - Select Advanced Setup if you are installing FortiClient on a computer in a network.
2. For Basic Setup, configure the Antivirus schedule settings. For more update information, see“To manage scan schedules” on page 49 and “Updating FortiClient” on page 18.
3. For Advanced Setup, do the following:
   - Add IP addresses to FortiClient’s public, trusted, blocked zones. For more information, see “Configuring network security zones” on page 65.
   - If you computer uses a proxy server, enter the proxy server information. See “Configuring proxy server settings” on page 17.
   - Configure the update settings. See “Updating FortiClient” on page 18.
   - Set the schedule for the Antivirus scans. See “To manage scan schedules” on page 49 and “Updating FortiClient” on page 18.
4. Click *Update*. It may take a few minutes to download the Antivirus database.

5 Once FortiClient has been successfully configured, click *Close* to start scanning your hard drive for viruses.

Installing the Standard or Premium FortiClient Editions

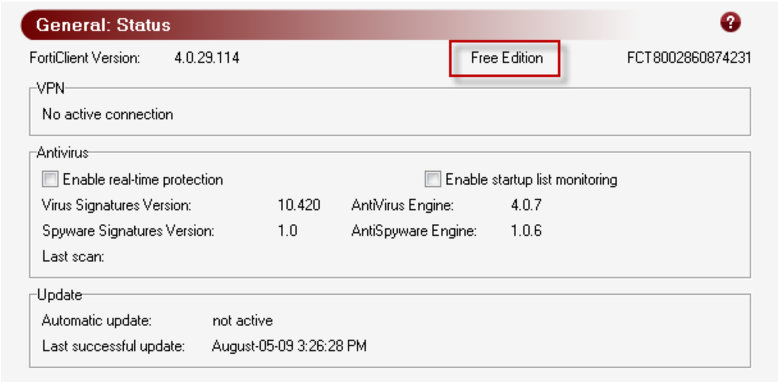
When installing FortiClient, you can choose to install either the Standard (Free) or Premium edition. Table 2 describes the differences between the two editions. To install the Premium edition, you need to purchase a license key.

You can upgrade to the Premium edition after you have installed the Standard edition. See "Entering a license key or registration code" on page 15 for more information.

If you are using the Standard edition of FortiClient, it will be shown on the *General* > *Status* page. If you are using the Premium edition, there is no edition name in the *General* > *Status* page.

Note: If you have a registration code, it cannot be activated during installation. You will need to enter the registration key in the FortiClient console after the installation of FortiClient. See "Entering a license key or registration code" on page 15.

Figure 3: FortiClient showing the Standard (Free) edition



General: Status

FortiClient Version: 4.0.29.114 Free Edition FCT8002860874231

VPN

No active connection

Antivirus

□ Enable real-time protection □ Enable startup list monitoring

Virus Signatures Version: 10.420 AntiVirus Engine: 4.0.7

Spyware Signatures Version: 1.0 AntiSpyware Engine: 1.0.6

Last scan:

Update

Automatic update: not active

Last successful update: August-05-09 3:26:28 PM

Table 2: FortiClient Standard and Premium Edition features

Feature	Standard Edition	Premium Edition
Antivirus updates	Daily	Hourly
Anti-spyware updates	Daily	Hourly
IPSEC VPN client	Included	Included
SSL VPN client	Included	Included
Endpoint Application Detection	Daily	Daily and custom application submission
Endpoint NAC monitoring and control	Included (requires FortiGate)	Included (requires FortiGate)
WAN optimization	Included (requires FortiGate)	Included (requires FortiGate)
Anti-Spam	Included	Included
Web content filtering	Included	Included
Firewall protection	Included	Included
Central Management	Not included	Included (requires FortiManager)

Table 2: FortiClient Standard and Premium Edition features

Online forum (self-help)	Included	Included
Product support	Not included	Included
Log configuration and centralized reporting with FortiAnalyzer	Not included	Included

Installation notes

Installing software updates

Make sure that other applications, such as Windows®, are not installing updates while you install the FortiClient application. If an update has been run and it requested a reboot, be sure to reboot your computer before installing the FortiClient application.

FortiClient Proxy

FortiClient uses a local proxy. If you have other local proxy software installed it may cause conflicts which may result in loss of network connections. To resolve this issue, you must either disable/uninstall the other proxy.

Servers

In the FortClient 4.0 release, antivirus protection that integrates with Microsoft Exchange is available for evaluation. Install the FortiClient application from the command line with the WITHEXCHANGE=1 option. (If you use the .exe installer, the command line option is /v"WITHEXCHANGE=1".) FortiClient Endpoint Security automatically detects Microsoft Exchange installations and enables the Exchange Server Options under *Antivirus > Server Protection*. Fortinet recommends that you enable the options that exclude Exchange filesystem folders and associated files from virus scanning. A preset list of files to exclude is then added to the antivirus and real-time protection settings.

FortiClient Endpoint Security automatically detects SQL Server installations and enables the SQL Server Options under *Antivirus > Server Protection*. Fortinet recommends that you enable the options that exclude SQL Server file system folders and associated files from virus scanning. A preset list of files to exclude is then added to the antivirus and real-time protection settings.

For all server software, verify that server software product folders and files are excluded from The core signature database is comprised of viruses that currently active. This option will take less time to scan your computer because of the smaller database. The core signature database does not require a license and is updated frequently. scanning as their vendors recommend. Do not enable real-time protection or initiate virus scanning until you have done this. Go to both *Antivirus > Settings* and *Antivirus > Realtime Protection* to edit the exclusion lists.

Note: If FortiClient is directly installed on SQL or Exchange server, the AntiVirus > Server Protection window is disabled. To enable antivirus server protection, use the msi package with the public property WITHEXCHANGE=1. For example: `msiexec /i forticlient.msi WITHEXCHANGE=1`

Note: While Windows Server is supported, Fortinet does not recommend installing FortiClient onto Domain Controllers.

Installing from a drive created with subst

Installing from an MSI package does not work if the MSI file is located on a drive created with the subst command. You can do any of the following:

- specify the real path to the file
- move the MSI file to a location where this is not an issue
- use the .exe installer instead, if possible

Antivirus performance optimization

FortiClient optimization performs a pre-scan of files in the Microsoft® Windows, //Windows/System32 files and select program files folders. The pre-scan is optimised to speed up the pre-scan process so that a list of critical files are scanned first. Critical files are those that are loaded during the boot and logon process. The pre-scan process creates a digital signature database of files that are digitally signed by trusted vendors. The digital signature database superceeds a hard-coded database that is used in previous versions.

The database is used by the antivirus feature to reduce the number of files that are required to be scanned. The firewall feature also uses this list as a "known good list" so that the end user is not asked if they want applications such as iexplore.exe and explorer.exe to access network resources.

After the scan completes the digital signature database is updated automatically with new signatures by components in the antivirus and firewall features. The optimization cannot be stopped until key critical files have been scanned. This takes approximately 10 seconds.

Once installed, optimization cannot be scheduled; it is unnecessary due to the optimization process. The optimization database is updated whenever antivirus or firewall encounters a file that has not been scanned before. As soon as that file has been processed and the optimization database updated, subsequent encouters with that file are processed significantly faster.

The installer pre-scan can be completely disabled by setting the MSI public property OPTIMIZE=0. This setting does not stop the post-installation automatic database updates by the antivirus and firewall features.

Install log

During the installation, FortiClient logs all install activities to a log file automatically. Should any problems arise during the install, you can review the install log to see where and when the issue occurred.

The install log file, fcinstalllog.txt is located in the following directory:

- on Windows 2000 in the c:\winnt\ directory.
- on Windows XP, in the c:\windows\ directory.

When installing using the msi installation, the install does not create the install log automatically. For an msi installation to produce a log, use the following command:

```
msiexec /i FortiClient.msi /L*v c:\logfile.txt
```

Alternatively, you can install the appropriate logging active directory group policies.

Installing the FortiClient SSL VPN Client

The FortiClient SSL VPN client can be installed during FortiClient installation. Once the SSL VPN client is installed, you can use either FortiClient or the SSL VPN client to create VPN connections.

If you are upgrading FortiClient from a previous version and want to install the SSL VPN client, you will have to install the SSL VPN separately.

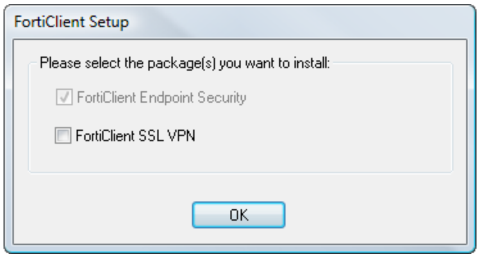
For more information on using FortiClient to create SSL VPN connections, see the *FortiClient User Guide*.

For more information on SSL VPNs, see the *FortiGate SSL VPNs* handbook.

To install the SSL VPN client, you can do one of the following:

- Select the FortiClient SSL VPN check box during FortiClient installation.

Figure 4: Selecting the FortiClient SSL VPN check box during FortiClient installation.



FortiClient Setup

Please select the package(s) you want to install:

☑ FortiClient Endpoint Security

□ FortiClient SSL VPN

- Download the SSL VPN installer package (SslvpnClient.msi or SslvpnClient.exe) from https://support.fortinet.com/ if you are using a previous version of FortiClient.
- Connect to your FortiGate unit to install it automatically.

General

Use the General menu to:

- View the FortiClient software version and serial number
- View the status of the VPN service
- Enable or disable real-time antivirus protection
- Enable or disable Windows system startup list monitoring
- View the current version of the antivirus files and the last scan time
- Set the FortiClient console to open automatically at startup
- Enter a product license key
- Check and restore compliance with the corporate security policy
- Lock or unlock the FortiClient application
- View and configure logging

Entering a license key or registration code

The FortiClient application uses license keys or registration codes to distinguish between the Standard (Free) edition and the Premium (licensed) edition. The edition type (Free or Premium) will be displayed in the *General* > *Status* window.

You will use a license key if you are already have an existing license key and are registered with FortiCare. You will use a registration code if you are not registered with FortiCare.

When you purchase and enter a license key into the software, antivirus updates are available until the license expires. The *General* > *Status* window displays the license serial number and expiry date.

If your FortiClient is managed by FortiManager, then license keys can be pushed out to your FortiClient by your IT department.

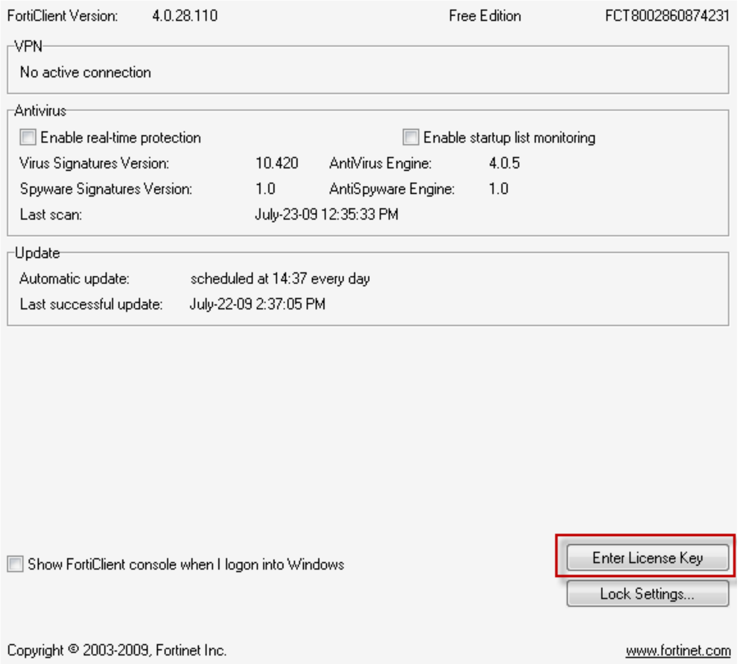
Once the license has been entered, FortiClient will connect to the FortiGuard license server and retrieve the FortiClient license serial number. The license serial number is displayed on the *General* > *Status* window. The license serial number is used when communicating with Fortinet support.

Contact your authorized reseller or visit http://www.forticlient.com to buy or renew a license key.

Note: All Premium Edition FortiClient Editions are issued with the following serial number range FCT1000XXXXXXXXX.

Note: If you have a registration code, it cannot be activated during installation. You will need to enter the registration key in the FortiClient console.

Figure 5: Entering a license key from the General > Status tab.



FortiClient Version: 4.0.28.110 Free Edition FCT8002860874231

VPN

No active connection

Antivirus

□ Enable real-time protection □ Enable startup list monitoring

Virus Signatures Version: 10.420 AntiVirus Engine: 4.0.5

Spyware Signatures Version: 1.0 AntiSpyware Engine: 1.0

Last scan: July-23-09 12:35:33 PM

Update

Automatic update: scheduled at 14:37 every day

Last successful update: July-22-09 2:37:05 PM

□ Show FortiClient console when I logon into Windows

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To enter a license key

1 Go to *General* > *Status* and click *Enter License Key*.

2 In the FortiClient Activation Wizard Welcome screen, click *OK*.

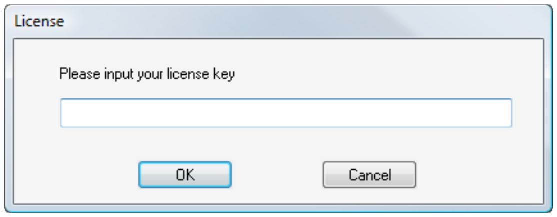
3 Enter your valid license key or registration code and click *OK*.

If you entered a registration code, the Online Activation screen appears.

4 Once the wizard has successfully activated FortiClient, click *Finish*.

5 If you used a registration code, you can now register your product by clicking on the Fortinet link.

Figure 6: License window.



License

Please input your license key

6 To view the serial number, go to *General* > *Status*. It is shown in the top right corner of the window.

Complying with corporate policy

If FortiClient is centrally managed, a security policy can be set that requires antivirus, anti-spam, firewall, or web filtering features to be enabled. The *Corporate Policy Compliance* section of the General page is visible if this is the case.

If FortiClient is not in compliance with the security policy, it cannot operate a VPN tunnel.

The Corporate Policy Compliance section shows “FortiClient is compliant with corporate policy” or it shows the *Make FortiClient compliant with corporate policy* check box. Select the check box to bring FortiClient settings into compliance with the policy.

For more information, see the *Endpoint Network Access Control* chapter in the Administrator’s Guide.

Locking and unlocking the software

You can modify FortiClient software settings only if your Windows account has administrative privileges. You can prevent other administrative users from modifying the settings by locking FortiClient with a password. If your FortiClient software is remotely managed using the FortiManager System, the FortiManager administrator can lock your configuration settings. If your FortiClient application is locked, the General Settings page shows an Unlock button.

To lock the FortiClient application locally

1. Go to *General* > *Status* and click *Lock Settings*.
2. In the Input Password window, enter the password in the *Password* field and re-enter it in the *Confirm* field.
3. Select *OK*.

To unlock the FortiClient application locally

1. Obtain the password from your administrator.
2. Go to *General* > *Status* and click *Unlock*.
3. Enter the password in the *Password* field.
4. Optionally, select *Remove Password* to permanently unlock the application.

   This is not available if FortiManager has locked the FortiClient application.
5. Select *OK*.
6. When you have finished modifying settings, select *Relock*.

Note: Even if your FortiClient software is locked, you can perform antivirus scans, use VPN tunnels, change VPN certificates and change CRLs.

Configuring proxy server settings

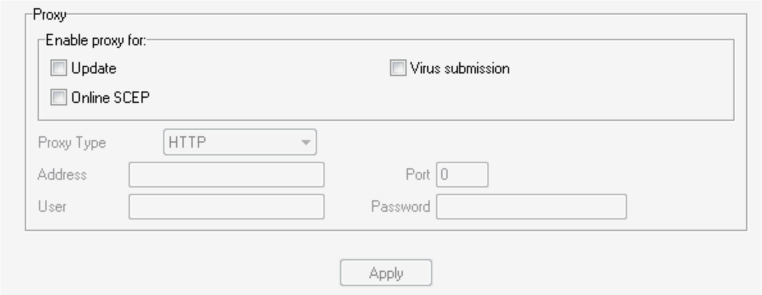
If you use a proxy server for your LAN, you can specify the proxy server settings so that the FortiClient software can go through the proxy server to get antivirus signature updates, to submit viruses, and to obtain certificates online using simple certificate enrollment protocol (SCEP).

FortiClient software supports HTTP, SOCKS v4, and SOCKS v5 proxy protocols.

To configure proxy server settings

1. Go to *General* > *Connection*.

Figure 7: General > Connection settings



2 Select *Enable proxy* for *Updates*, *Virus submission*, and *Online SCEP* as needed.

3 For *Proxy Type*, select *HTTP*, *SOCKS V4*, or *SOCKS V5*.

4 Enter the proxy server's IP *Address* and *Port* number.

You can get this information from your network administrator.

5 Enter the *User* name and *Password*.

6 Select *Apply*.

Updating FortiClient

You can view the current antivirus definition and antivirus engine version information and configure updates on the Update page.

Each copy of the FortiClient software has a unique identifier called UID. The UID is displayed at the upper right corner of the *General* > *Update* page. Whenever FortiClient sends out an update request, it also sends out the ID number. If you encounter any update problem, Fortinet technical support can use this number to pinpoint the problem.

If the FortiClient computer uses a proxy server, you can specify the proxy server settings so that the FortiClient software can get updates through the proxy server. See "Configuring proxy server settings" on page 17.

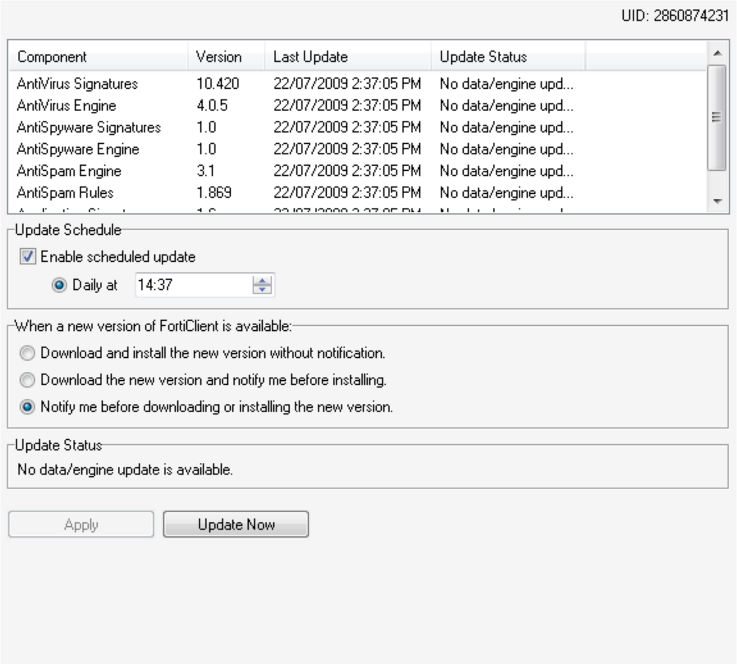
Updates can be run manually or scheduled to run automatically on a daily basis.

Note: If you are running the Standard edition of FortiClient, the definition files are updated daily. They cannot be updated hourly. If you want hourly updates, you need to upgrade to the Premium edition.

To initiate immediate updates

1 Go to *General* > *Update*.

Figure 8: The General > Update window used to maintain FortiClient.



UID: 2860874231

Component	Version	Last Update	Update Status
AntiVirus Signatures	10.420	22/07/2009 2:37:05 PM	No data/engine upd...
AntiVirus Engine	4.0.5	22/07/2009 2:37:05 PM	No data/engine upd...
AntiSpyware Signatures	1.0	22/07/2009 2:37:05 PM	No data/engine upd...
AntiSpyware Engine	1.0	22/07/2009 2:37:05 PM	No data/engine upd...
AntiSpam Engine	3.1	22/07/2009 2:37:05 PM	No data/engine upd...
AntiSpam Rules	1.869	22/07/2009 2:37:05 PM	No data/engine upd...

Update Schedule

☑ Enable scheduled update

● Daily at 14:37

When a new version of FortiClient is available:

○ Download and install the new version without notification.

○ Download the new version and notify me before installing.

● Notify me before downloading or installing the new version.

Update Status

No data/engine update is available.

2 Click *Update Now*.

In the *Update Status* area, you can view the update process and results. A status of “No data/engine update is available” means that your antivirus definitions and antivirus engine are using the latest version.

To schedule updates

1 In the *Update Schedule* area, select *Enable scheduled update*.

2 Do one of the following:

- Select *Daily* and enter the time of day.
- Select *Every* and select the interval (1 to 24 hours).

3 Click *Apply*.

Caution: If you are running the Standard edition of FortiClient, you can only set the time of day for which updates occur. The Standard edition can only be updated once a day. If you want to be able to have hourly updates, you will need to purchase the Premium edition.

Note: The default update server is forticlient.fortinet.com. If you want to use a different server, select the *Use this server to update option* at the top of the update page and enter the URL of the update server. You do not need to specify http:// or https:// as part of the URL.

Caution: If you are using the Standard edition of FortiClient, the *Use this server to update* check box and field is unavailable. To use a different server, you need to upgrade to the Premium edition.

To manually update the software and antivirus signatures

1 Download the FortiClient update package file (.pkg file) to the FortiClient computer.

2 Go to *General* > *Update* and click *Manual Update*.

3 In the *Open* window, locate the update package file and click *Open*.

Caution: If you have the Standard edition of FortiClient installed, you will not be able to perform manual updates. If you want to perform manual updates, you will need to upgrade to the Premium edition.

Keeping FortiClient updated without FortiGate or FortiClient Manager

If you are running FortiClient and it is not connected to a FortiGate unit or managed through FortiClient Manager, you can keep the version up-to-date in the Update tab.

If your FortiClient is managed by a FortiGate unit or FortiClient Manager, this setting is not available.

To download the latest FortiClient version without a FortiGate or FortiClient Manager

1 Go to *General* > *Update*.

2 In the *When a new version of FortiClient is available* area, select one of the following:

- Download and install the new version without notification
- Download the new version and notify me before installing
- Notify me before downloading or installing the new version

3 Click *Apply*.

Backing up and restoring FortiClient settings

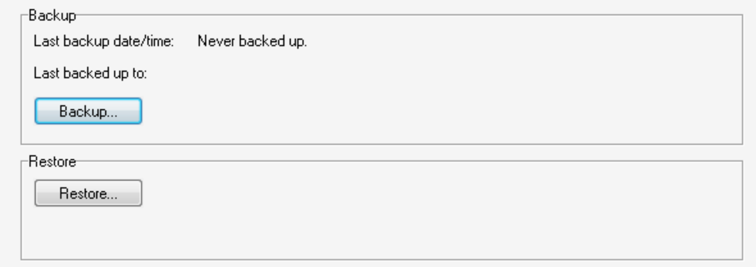
If you have administrative privileges on your computer, you can save all FortiClient settings to a file so that you can easily restore them at a later date. For example, if you are forced to reinstall the software after replacing a hard drive, loading a backup will restore FortiClient to the same settings it had when you made the backup. You can also use a single backup file to configure multiple FortiClient installations with identical settings.

Note: Backup/Restore features are not available if the FortiClient application is centrally managed by a FortiManager unit.

To back up the FortiClient settings

1 Go to *General* > *Backup/Restore*.

Figure 9: Backup and Restore settings



Backup

Last backup date/time: Never backed up.

Last backed up to:

2 Click *Backup*.

3 Enter a file name and location in the *Save As* window.

4 Enter a password in the *Input Password* window. Enter the password again in the *Confirm* field to ensure you typed it correctly. Remember this password because you must enter it correctly when you restore the backup file.

To restore the FortiClient settings

1 Go to *General* > *Backup/Restore*.

2 Click *Restore*.

3 Choose the file you want to restore in the *Open* window.

4 Enter the password associated with the file.

FortiClient confirms that the configuration is restored.

5 Click *OK*.

Logs

Use the FortiClient logging feature to configure logging of different types of events for any or all of the FortiClient services.

Configuring log settings

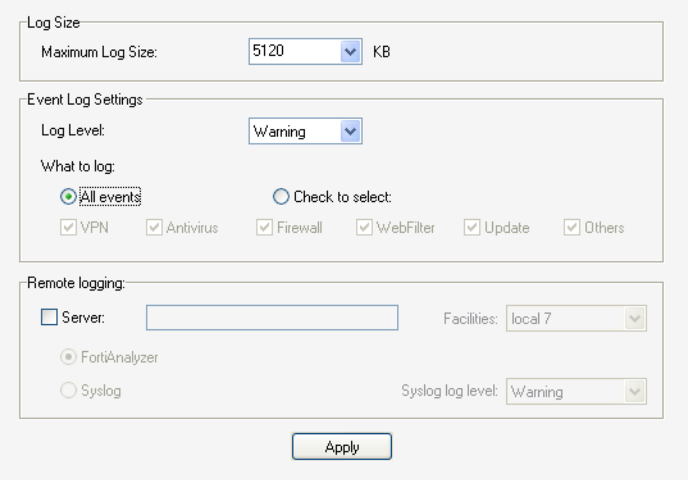
You can specify the log level, log type, log size, and log entry lifetime.

Caution: The Log Settings features are not available if you are using the Standard edition. If you want to configure the log settings, you will need to upgrade to the Premium edition.

To configure log settings

1 Go to *General* > *Log Settings*.

Figure 10: Configuring log settings



Log Size

Maximum Log Size: 5120 KB

Event Log Settings

Log Level: Warning

What to log:

● All events ○ Check to select:

☑ VPN ☑ Antivirus ☑ Firewall ☑ WebFilter ☑ Update ☑ Others

Remote logging:

□ Server: Facilities: local 7

● FortiAnalyzer

○ Syslog Syslog log level: Warning

2 Enter the *Maximum Log Size*.

The default is 5120 KB. Log entries are overwritten, starting with the oldest, when the maximum log file size is reached.

3 In the Event Log Settings area, select the *Log Level*.

You can select *Error*, *Warning*, or *Information*. The default is Warning.

4 Select what to log.

You can select either *All events* or *Check to select*. If you choose *Check to select*, specify the types of events to log.

5 Click *Apply*.

To configure remote logging

1 Go to *General* > *Log Settings*.

2 In the *Remote logging* section, select *Server* and enter the server IP address or FQDN in the adjacent field.

3 Select *FortiAnalyzer* if you are using a FortiAnalyzer unit to record logs, otherwise select *Syslog*.

4 From the *Facilities* list, select the name used to identify this FortiClient computer in the logs. The default is local7.

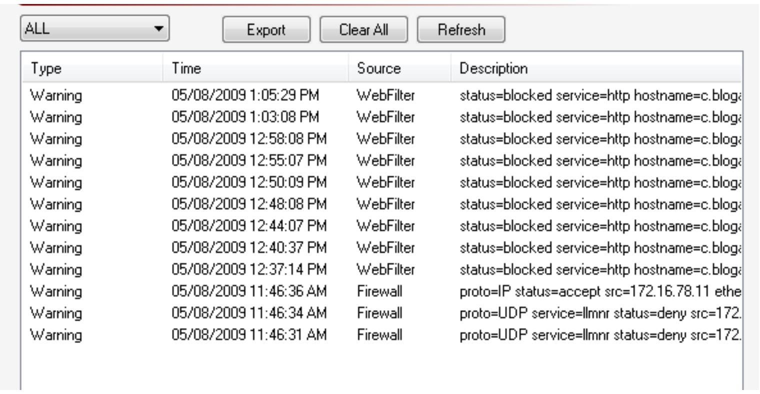
5 If you are logging to a syslog, from the *Syslog log level* list, select the minimum severity of logs to record.

6 Click *Apply*.

Viewing log files

The Log View displays logs of all events or only the events associated with a specific service. You can view, save, clear, or refresh the log entries.

Figure 11: Viewing logs



Type	Time	Source	Description
Warning	05/08/2009 1:05:29 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 1:03:08 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 12:58:08 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 12:55:07 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 12:50:09 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 12:48:08 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 12:44:07 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 12:40:37 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 12:37:14 PM	WebFilter	status=blocked service=http hostname=c.blog
Warning	05/08/2009 11:46:36 AM	Firewall	proto=IP status=accept src=172.16.78.11 ethe
Warning	05/08/2009 11:46:34 AM	Firewall	proto=UDP service=llmnr status=deny src=172.
Warning	05/08/2009 11:46:31 AM	Firewall	proto=UDP service=llmnr status=deny src=172.

To manage the log messages

1 Go to *General* > *Log View*.

2 From the dropdown list, select the log entry type you want to view.

3 Use the log navigation buttons to move between log entries or to move to the top or bottom of the log file. The most recent log entries are displayed at the top of the list.

Optionally select a specific log entry from the log window to view the complete log entry information.

4 To save the log messages, click *Export*.

5 To delete all the log messages, click *Clear All*.

6 To display the most recent log messages, click *Refresh*.

VPN

Virtual Private Network (VPN) technology allows users to connect to remote networks in a secure way. Someone could be traveling to a business conference or working at home, but thanks to VPNs, accessing a remote network from anywhere in the world is possible.

FortiClient Endpoint Security can establish a VPN tunnel between your computer and a FortiGate unit or other VPN gateway. With the aid of this manual, you need only a few pieces of information from the VPN administrator to configure the FortiClient VPN settings

Configuring VPNs

If the VPN gateway is a FortiGate unit running FortiOS 3.0 or later, it can download the settings to your FortiClient application. You need to know only the IP address or domain name of the VPN gateway. See "Setting up a VPN with automatic configuration" on page 23.

If the VPN gateway is a FortiGate unit running FortiOS 2.80 or earlier, or it is a third-party gateway, you must configure the FortiClient VPN settings manually. You need to know:

- the IP address or domain name of the VPN gateway
- the IP address and netmask of the network(s) you want to reach through the VPN gateway
- in some cases, a virtual IP address setting
- unless default settings are used, IKE and IPsec policy settings
- if extended authentication (XAuth) is used, your user name and password

See "Setting up a VPN with manual configuration" on page 24.

If you are setting up an SSL VPN connection, see "Setting up a VPN with SSL VPN connection" on page 31.

If you are configuring a VPN to use either local digital certificates or smartcard/eToken certificate for authentication, see "Managing digital certificates" on page 38 before proceeding.

Digital certificates are not required for configuring FortiClient VPN connections. Digital certificates are an advanced feature provided for the convenience of system administrators. This manual assumes the user has prior knowledge of how to configure digital certificates for their implementation.

Setting up a VPN with automatic configuration

If the remote FortiGate gateway is configured as a VPN policy deployment server, you can configure the FortiClient software to download the VPN policies from the FortiGate gateway.

The policy server has a daemon running all the time for incoming policy download requests. This daemon communicates with the FortiClient computer to process user authentication, policy lookup, and delivery. After the policy is sent out, the daemon closes the SSL connection, and you can start up the VPN tunnel from the FortiClient side.

Note: For VPNs with automatic configuration, only preshared keys are supported. Certificates are not supported.

On the FortiClient side, you only need to create a VPN name and specify the IP address of the FortiGate gateway.

To add a VPN with automatic configuration on the FortiClient computer

1. Go to *VPN* > *Connections*.
2. Click *Advanced* and select *Add*.
3. In the *New Connection* window, enter a connection name.
4. For *Configuration*, select *Automatic IPsec*.
5. For *Policy Server*, enter the IP address or FQDN of the FortiGate gateway.
6. Click *OK*.

Setting up a VPN with manual configuration

This VPN configuration described here uses default FortiClient settings and preshared keys for VPN authentication.

To set up a VPN connection, your FortiClient settings must match those of the VPN server, a FortiGate unit, for example.

To use digital certificates for VPN authentication, see "Managing digital certificates" on page 38.

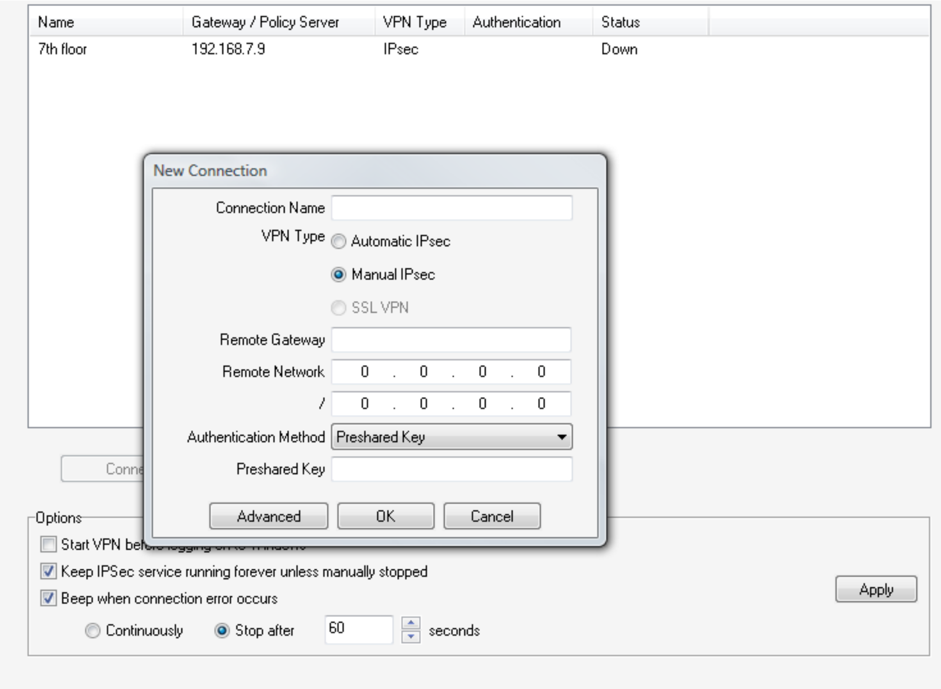
Configuring basic FortiClient VPN settings

Go to *VPN* > *Connections* to add, delete, edit, or rename a VPN connection.

To add a FortiClient to FortiGate VPN, you need to:

- Set up the VPN tunnel from FortiClient to the remote FortiGate gateway.
- If your administrator requires it, configure the FortiClient VPN to use a virtual IP address, either manually assigned or obtained using DHCP over IPSec.
- Optionally, add the IP addresses of additional networks behind the remote gateway.
- Configure Internet browsing over IPSec if you want to access the Internet through the VPN tunnel.

Figure 12: Creating a new VPN connection



Name	Gateway / Policy Server	VPN Type	Authentication	Status
7th floor	192.168.7.9	IPsec		Down

New Connection

Connection Name

VPN Type ○ Automatic IPsec ● Manual IPsec ○ SSL VPN

Remote Gateway

Remote Network 0 . 0 . 0 . 0 / 0 . 0 . 0 . 0

Authentication Method Preshared Key

Preshared Key

Options

☐ Start VPN be

☑ Keep IPSec service running forever unless manually stopped

☑ Beep when connection error occurs

○ Continuously ● Stop after 60 seconds

To create a FortiClient VPN configuration

1 Go to *VPN > Connections*.

2 Click *Advanced* and select *Add*.

3 Enter the following information and click *OK*.

Connection Name	Enter a descriptive name for the connection.
VPN Type	Select *Manual IPsec*
Remote Gateway	Enter the IP address or the fully qualified domain name (FQDN) of the remote gateway.
Remote Network	Enter the IP address and netmask of the network behind the FortiGate unit.
Authentication Method	Select one of the following: • Pre-shared Key - Enter the pre-shared key in the *Preshared Key* field. • X509 Certificate - Select the certificate in the *X509 Certificate* field. • Smartcard X509 Certificate - Insert the Smartcard into the reader and select the certificate.

To create a configuration based on an existing configuration

1 Go to *VPN > Connections*.

2 Select the connection to use as the basis for this connection.

3 Click *Advanced* and select *Clone*.

4 Enter a name for the new connection and click OK.

5 Select the name of the clone in the VPN Connections list.

6 Click *Advanced* and select *Edit*.

7 Modify the settings of the new connection as needed.

To set the virtual IP address

If your configuration requires a virtual IP address, do the following:

1 Go to *VPN > Connections*.

2 Double-click a connection.

The *Edit Connection* window opens.

3 Click *Advanced*.

4 In the *Advanced Settings* window, select the *Acquire Virtual IP Address* check box.

5 Click *Config*.

6 In the *Virtual IP Acquisition* window, do one of the following:

- Select *Dynamic Host Configuration Protocol (DHCP) over IPSec.*
- Select *Manually Set* and enter the *IP* address, *Subnet Mask*, *DNS Server* and *WINS Server* addresses as required. For details, see “Configuring Virtual IP address acquisition” on page 30.

7 Click *OK*.

8 Click *OK*.

To add additional remote networks to a connection

1 Go to *VPN > Connections*.

2 Double-click the connection which can access the network that you want to add.

The *Edit Connection* window opens.

3 Select *Advanced*.

The *Advanced Settings* window opens.

4 In the *Remote Network* area, click *Add*.

5 In the *Network Editor* window, enter the *IP Address* and *Subnet mask* of the remote network and click *OK*.

6 Repeat Steps 4 and 5 for each additional network you want to add.

You can specify up to 16 remote networks.

7 Click *OK*.

8 Click *OK*.

To use Internet browsing over IPSec

1 Go to *VPN > Connections*.

2 Double-click a connection.

The *Edit Connection* window opens.

3 Click *Advanced*.

4 In the *Advanced Settings* window, click *Add*.

5 Enter `0.0.0.0./0.0.0.0` and click *OK*.

6 Click *OK*.

7 Click *OK*.

Note: For the FortiClient computer to be able to use Internet browsing over IPSec, the remote FortiGate gateway must also be configured to allow such traffic.

To transfer VPN configuration settings to your Windows mobile device

1. Connect your mobile device to your computer using the USB cable.
2. Start Microsoft ActiveSync and make sure that it detects your device.
3. Go to *VPN > Connections*.
4. Click *Advanced* and select *Sync to Mobile Device*.

   Your tunnel definitions are transferred to your mobile device.

Configuring IKE and IPSec policies

FortiClient has two preconfigured IKE and IPSec policies:

- Use the Legacy policy for a VPN to a FortiGate unit running FortiOS v2.36, and for any Cisco gateways that only support legacy settings.
- Use the Default policy for a VPN to a FortiGate unit running FortiOS v2.50 or higher.

Note: Two IKE phase1 authentication methods can be used for IPSec VPN :

- Pre-shared key
- RSA signature (rsa-sig)

The key pair (private key + certificate) used for rsa-sig authentication can be :

- Stored on the FortiClient itself ('X509 Certificate')
- Retrieved from a secured eToken repository ('SmartCard X509 Certificate')

FortiClient v3.0 and v4.0 are only able to use MD5 hash algorithm to create the HASH payload when SmartCard is used. If SHA-1 is used then an erroneous HASH payload is generated and subsequently signed (SIG payload) by FortiClient.

This SIG payload is then sent to the remote peer which fails to process it. If FortiOS is used as dialup server then FortiOS IKE debug will report "signature verification failed" upon receipt of the erroneous SIG payload.

For FortiClient v4.0 MR1 Patch 4 and above, there is HMAC SHA-1 support. For FortiClient v3.0 to v4.0 MR1 Patch 3, only selct MD5 as a hash algorithm in phase 1 when Smartcard is used.

To modify the Legacy or Default policy settings

1. Go to *VPN > Connections*.
2. Double-click a connection.

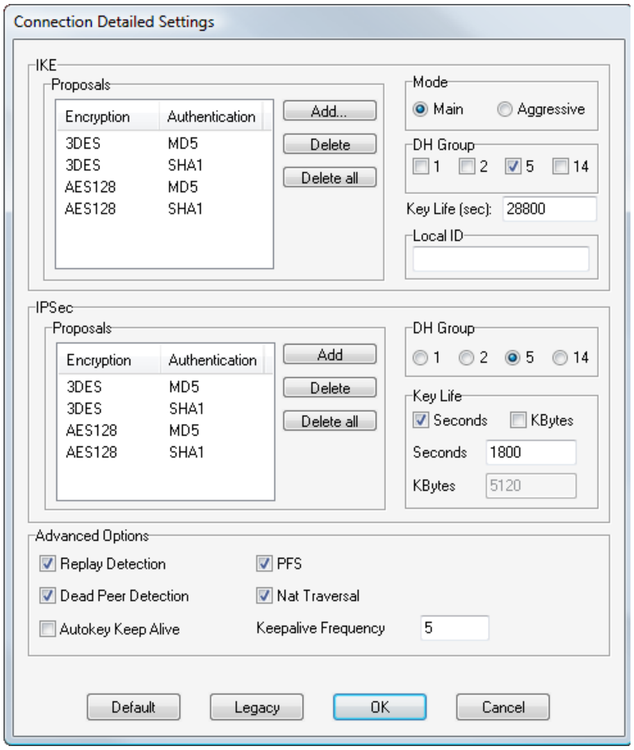
   Click *Edit Connection* window opens.
3. Select *Advanced*.

   The *Advanced Settings* window opens.
4. In the *Policy area*, click *Legacy* or *Default*.

   The policy settings appear in the *IKE* and *IPSec* boxes. You can use the *Legacy* or *Default* policies. If you want to configure the detailed settings, continue with following steps.
5. In the *Policy area*, click *Config*.
6. In the *Connection Detailed Settings* window, configure the settings in the following table. Click *OK* to save the settings.

   You can also click *Legacy* or *Default* to go back to the original legacy or default settings.

Figure 13: Editing the detailed configuration settings



Connection Detailed Settings

IKE

Proposals

Encryption	Authentication
3DES	MD5
3DES	SHA1
AES128	MD5
AES128	SHA1

Mode: ● Main ○ Aggressive

DH Group: □ 1 □ 2 ☑ 5 □ 14

Key Life (sec): 28800

Local ID:

IPSec

Proposals

Encryption	Authentication
3DES	MD5
3DES	SHA1
AES128	MD5
AES128	SHA1

DH Group: ○ 1 ○ 2 ● 5 ○ 14

Key Life: ☑ Seconds □ KBytes

Seconds: 1800

KBytes: 5120

Advanced Options

☑ Replay Detection ☑ PFS

☑ Dead Peer Detection ☑ Nat Traversal

□ Autokey Keep Alive Keepalive Frequency: 5

Table 3: FortiClient IKE settings correspond to FortiGate phase 1 settings (Part 1 of 2)

IKE Proposals	Add or delete encryption and authentication algorithms. The proposal list is used in the IKE negotiation between the FortiClient software and the remote FortiGate unit. The FortiClient software will propose the algorithm combinations in order, starting at the top of the list. The remote FortiGate gateway must use the same proposals.
Mode	Select either *Main* or *Aggressive*. Main mode provides an additional security feature called identity protection which hides the identities of the VPN peers so that they cannot be discovered by passive eavesdroppers. Main mode requires the exchange of more messages than Aggressive mode. It is also difficult to use efficiently when a VPN peer uses its identity as part of the authentication process. When using aggressive mode, the VPN peers exchange identifying information in the clear.

Table 3: FortiClient IKE settings correspond to FortiGate phase 1 settings (Part 2 of 2)

DH Group	Select one or more Diffie-Hellman groups from DH group 1, 2, and 5. • When the VPN peers have static IP addresses and use aggressive mode, select a single matching DH group. • When the VPN peers use aggressive mode in a dialup configuration, select up to three DH groups for the dialup server and select one DH group for the dialup user (client or gateway). • When the VPN peers employ main mode, you can select multiple DH groups.
Key Life	Enter the number in seconds. The keylife is the amount of time in seconds before the IKE encryption key expires. When the key expires, a new key is generated without interrupting service. P1 proposal keylife can be from 120 to 172,800 seconds.
Local ID	If you are using peer IDs for authentication, enter the peer ID FortiClient will use to authenticate itself to the remote FortiGate gateway. If you are using certificates for authentication, you can enter the local ID, which is the distinguished name (DN) of the local certificate. Note there is no limit to how many FortiClient peers can use the same local ID.

Table 4: FortiClient IPSec settings correspond to FortiGate phase 2 settings

IPSec Proposals	Add or delete encryption and authentication algorithms. The remote FortiGate gateway must use the same proposals.
DH Group	Select one Diffie-Hellman group from DH group 1, 2, and 5. DH group 1 is least secure. DH group 5 is most secure. You cannot select multiple DH Groups. The remote FortiGate gateway must use the same DH Group settings.
Key Life	Select either *Seconds* or *KBytes* for the keylife, or select both. The keylife causes the IPSec key to expire after a specified amount of time, after a specified number of kbytes of data have been processed by the VPN tunnel, or both. If you select both, the key does not expire until both the time has passed and the number of kbytes have been processed. When the key expires, a new key is generated without interrupting service. P2 proposal keylife can be from 120 to 172800 seconds or from 5120 to 2147483648 kbytes.

Table 5: FortiClient advanced VPN settings

Replay Detection	With replay detection, the FortiClient software checks the sequence number of every IPSec packet to see if it has been previously received. If the same packets exceed a specified sequence range, the FortiClient software discards them.
PFS	Perfect forward secrecy (PFS) improves security by forcing a new Diffie-Hellman exchange whenever keylife expires.
NAT Traversal	Enable this option if you expect the IPSec VPN traffic to go through a gateway that performs NAT. If no NAT device is detected, enabling NAT traversal has no effect. If you enable NAT traversal, you can set the keepalive frequency. NAT traversal is enabled by default.
Keepalive Frequency	If *NAT Traversal* is selected, enter the Keepalive Frequency in seconds. The keepalive frequency specifies how frequently empty UDP packets are sent through the NAT device to ensure that the NAT mapping does not change until the IKE and IPSec keylife expires. The keepalive frequency can be from 0 to 900 seconds.
Autokey Keep Alive	Enable this option to keep the VPN connection open even if no data is being transferred.
Dead Peer Detection	Enable this option to clean up dead VPN connections and establish new VPN connections.

Configuring Virtual IP address acquisition

The FortiClient software supports two methods for virtual IP address acquisition: dynamic host configuration protocol (DHCP) over IPSec and manual entry.

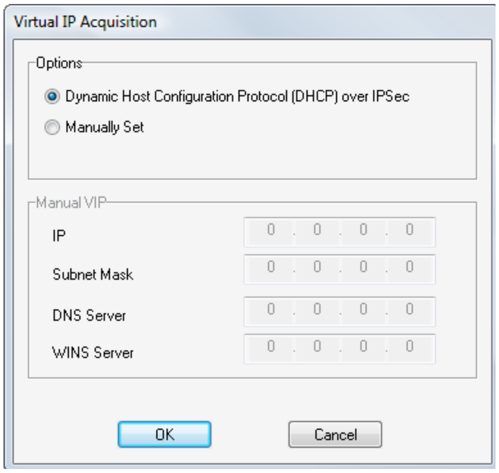
Select the *DHCP over IPSec* option to allow the DHCP server in the remote network to dynamically assign an IP address to your FortiClient computer after the VPN connection is established.

Select the *Manually Set* option to manually specify a virtual IP address for your FortiClient computer. This virtual IP address must be an actual address in the remote network. You can also specify the DNS and WINS server IP addresses of the remote network.

For information about how to configure the FortiGate gateway, see *FortiGate Administration Guide* and *FortiGate IPSec VPN Guide*.

Note: If you are connecting to a v2.50 FortiGate gateway, you cannot set the virtual IP address to be in the same subnet of the remote network, because the v2.50 FortiGate gateway does not support proxy ARP. If you are connecting to a v2.80 or later FortiGate gateway, consult your network administrator for a proper virtual IP address.

Figure 14: Configuring virtual IP address acquisition



Virtual IP Acquisition

Options

● Dynamic Host Configuration Protocol (DHCP) over IPSec

○ Manually Set

Manual VIP

IP 0 . 0 . 0 . 0

Subnet Mask 0 . 0 . 0 . 0

DNS Server 0 . 0 . 0 . 0

WINS Server 0 . 0 . 0 . 0

To configure virtual IP address acquisition

1 Go to *VPN > Connections*.

2 Double-click a connection.

The *Edit Connection* window opens.

3 Click *Advanced*.

The *Advanced Settings* window opens.

4 Select the *Acquire virtual IP address* check box and click *Config*.

5 Select *Dynamic Host Configuration Protocol (DHCP) over IPSec* or *Manually Set*.

The default is DHCP.

6 If you select *Manually Set*, enter the *IP* address and *Subnet Mask*. Optionally specify the *DNS Server* and *WINS Server* IP addresses.

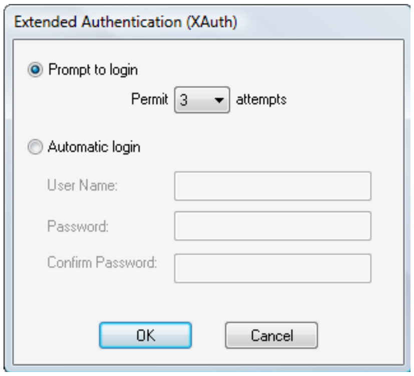
7 Click *OK* three times.

Configuring eXtended authentication (XAuth)

If the remote FortiGate unit is configured as an XAuth server, it will require the FortiClient software to provide a user name and password when a VPN connection is attempted. The user name and password are defined by the XAuth server. They can be saved as part of an advanced VPN configuration, or they can be entered manually every time a connection is attempted.

For information about how to configure the XAuth server, see *FortiGate Administration Guide* and *FortiGate IPSec VPN Guide*.

Figure 15: Configuring eXtended authentication



Extended Authentication (XAuth)

● Prompt to login

Permit 3 attempts

○ Automatic login

User Name:

Password:

Confirm Password:

To configure XAuth

1 Go to *VPN > Connections*.

2 Double-click a connection.

The *Edit Connection* window opens.

3 Click *Advanced*.

4 In the *Advanced Settings* window, click *Config* for the *eXtended Authentication* option.

5 In the *Extended Authentication* window, do one of the following:

- If you want to enter the login user name and password for each VPN connection, select *Prompt to login*. You can choose whether FortiClient permits three, two, or only one attempt to enter the correct user name and password.
- When FortiClient prompts you to log in, you can select the password save option so that you do not have to enter the password the next time you are prompted to log in.
- If you want FortiClient to automatically send the XAuth credentials, select *Automatic login* and enter the user name and password.

6 Click *OK* three times.

Setting up a VPN with SSL VPN connection

SSL VPN (Secure Sockets Layer) is a type of VPN that runs on Secure Socket Layers technology and is accessible via https over web browsers. It permits users to establish safe and secure remote access sessions from virtually any Internet connected browser. SSL VPN solutions allow organizations to deliver the level of corporate network access required for each connecting person as well as the location from which they access it. It provides a secure connection between remote users and internal network resources.

For more information on SSL VPNs, see the *FortiGate SSL VPN Guide*.

To create an SSL VPN connection

1 Go to *VPN* > *Connections*.

2 Click *Advanced* and select *Add*.

3 In the New Connection window, enter the *Connection Name*.

4 Select the *SSL VPN* type.

5 Enter the IP address or the fully qualified domain name (FQDN) of the remote gateway.

6 Enter the *Username* and *Password* for the remote gateway.

7 Click *OK*.

Using the FortiClient VPN client

When you have configured your VPN connections, you can use FortiClient to make secure connections.

Testing the connection

After you configure a VPN, you can test the VPN connection from your FortiClient computer. This is optional, but it provides more information than the Connect function if the connection fails.

To test the connection

1 Go to *VPN* > *Connections*.

2 Select the connection you want to test.

3 Click *Advanced* and select *Test*.

A Test Connectivity window opens and begins to negotiate the VPN connection with the remote FortiGate unit.

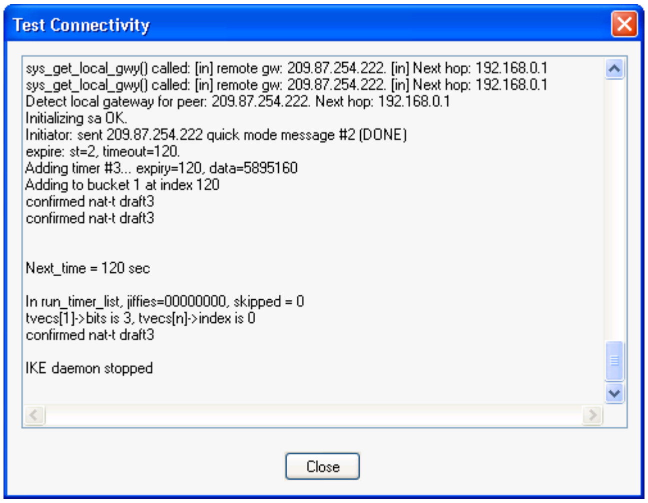
If the test is successful, the last line of the log will read “IKE daemon stopped”.

Note: For a VPN with automatic configuration, the FortiClient software downloads the VPN policy first. To test the VPN connection, the FortiClient software attempts to negotiate the VPN connection but does not actually open a VPN connection.

If the last line of the log reads “`Next_time = x sec`”, where `x` is an integer, the test was not successful. The FortiClient software is continuing to try to negotiate the connection. See “Troubleshooting VPN connections” on page 37.

4 Click *Close*.

Figure 16: A successful connection test



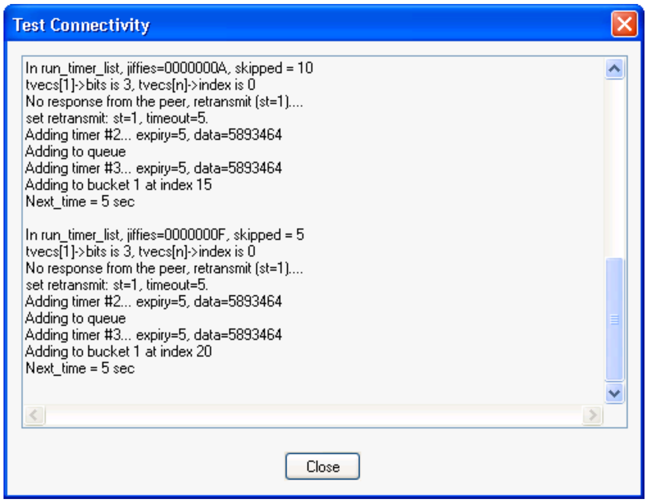
```
sys_get_local_gwy() called: [in] remote gw: 209.87.254.222. [in] Next hop: 192.168.0.1
sys_get_local_gwy() called: [in] remote gw: 209.87.254.222. [in] Next hop: 192.168.0.1
Detect local gateway for peer: 209.87.254.222. Next hop: 192.168.0.1
Initializing sa OK.
Initiator: sent 209.87.254.222 quick mode message #2 (DONE)
expire: st=2, timeout=120.
Adding timer #3... expiry=120, data=5895160
Adding to bucket 1 at index 120
confirmed nat-t draft3
confirmed nat-t draft3


Next_time = 120 sec

In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
confirmed nat-t draft3

IKE daemon stopped
```

Figure 17: A failed connection test



```
In run_timer_list, jiffies=0000000A, skipped = 10
tvecs[1]->bits is 3, tvecs[n]->index is 0
No response from the peer, retransmit (st=1)....
set retransmit: st=1, timeout=5.
Adding timer #2... expiry=5, data=5893464
Adding to queue
Adding timer #3... expiry=5, data=5893464
Adding to bucket 1 at index 15
Next_time = 5 sec

In run_timer_list, jiffies=0000000F, skipped = 5
tvecs[1]->bits is 3, tvecs[n]->index is 0
No response from the peer, retransmit (st=1)....
set retransmit: st=1, timeout=5.
Adding timer #2... expiry=5, data=5893464
Adding to queue
Adding timer #3... expiry=5, data=5893464
Adding to bucket 1 at index 20
Next_time = 5 sec
```

Setting connection options

The following options apply to VPN connections. You can find them on the *VPN > Connections* page. Select *Apply* after making any changes.

Start VPN before logging on to Windows	Select this option if you need to log on to a Windows domain through a VPN when you start up your Windows workstation. See "Connecting to a VPN before Windows logon" on page 35.
Keep IPSec service running forever unless manually stopped	Select to retry dropped connections indefinitely. By default, the FortiClient software retries a dropped connection four times.
Beep when connection error occurs	Select if you want the FortiClient software to sound a beep when a VPN connection drops. By default, the alarm stops after 60 seconds, even if the connection has not been restored. You can change the duration or select *Continuously* so that the alarm stops only when the connection is restored.

Connecting to the remote network

After you set up a VPN connection, you can start or stop the connection as required.

Note: If the FortiClient computer is centrally managed and does not comply with the corporate security policy, the VPN will not operate. Select Make Compliant with Corporate Policy from the system tray menu to make the required changes to FortiClient settings. For more information, see "Complying with corporate policy" on page 16.

To connect to a remote FortiGate gateway

1. Go to *VPN > Connections*.
2. Select the connection you want to start.
3. Click *Connect*.

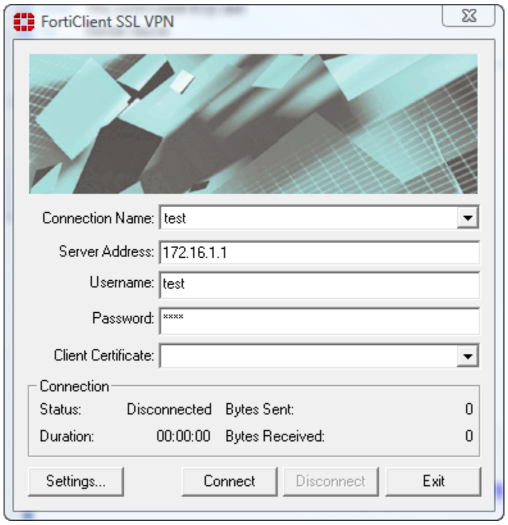
   The FortiClient software opens a log window and begins to negotiate a VPN connection with the remote FortiGate firewall. If the negotiation is successful and the connection is established, the last line of the log will read "`Negotiation Succeeded!`"
4. Select *OK* or wait for the log window to close automatically.

   If the last line of the log is "`Negotiation failed! Please check log`" and the log window does not close automatically, the connection attempt failed. Test the connection to verify the configuration.
5. To stop the connection, select *Disconnect*.

Using the FortiClient SSL VPN tunnel client

The FortiClient SSL VPN tunnel client is available for Windows, and Mac OSx systems. The list of available connections are from the list of VPN Connections in FortiClient.

Figure 18: FortiClient SSL VPN



Connection Name: test

Server Address: 172.16.1.1

Username: test

Password: ****

Client Certificate:

Connection

Status: Disconnected Bytes Sent: 0

Duration: 00:00:00 Bytes Received: 0

To use the SSL VPN standalone tunnel client

1. Go to *Start > All Programs > FortiClient > FortiClient SSL VPN*.
2. Select the *Connection Name* from the list.

3 Enter the *Username* and *Password*, if required. The username and password may already be entered.

4 Select a *Client Certificate*, if required.

5 Click *Connect*.

6 To manually terminate the connection, click *Exit*.

To create a new connection

1 Go to *Start* > *All Programs* > *FortiClient* > *FortiClient SSL VPN*.

2 Click *Settings*.

3 Click *New Connection*.

4 Enter the following information and click *OK*:

- *Connection Name* — Enter a name for the connection.
- *Description* — Enter a description name.
- *Server Address* — Enter the IP address of the server you need to access.
- *Username* — Enter your user name.
- *Password* — Enter the password associated with your user account.
- *Client Certificate* — Select a certification, if required.

5 In the Global Settings area, select the *Keep connection alive until manually stopped* check box to have the connection stay up until you log out.

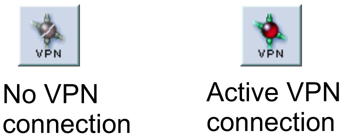
6 Click *OK*.

7 Click *Connect*.

Connecting to a VPN before Windows logon

You can connect to a VPN before you log onto Windows if you have selected the Start VPN before logging on to Windows option (see “Setting connection options” on page 33). A FortiClient VPN icon is displayed on the Windows login screen.

Figure 19: VPN icon on Windows login screen



No VPN connection

Active VPN connection

You need to connect to the VPN before logging onto Windows only if the VPN provides the connection to your Windows domain. In this case, you should not disconnect from the VPN until you log off of the Windows domain.

To connect to a VPN from the Windows login screen

1 Click the VPN icon.

2 Select the required VPN connection from the *Connections* list.

3 Click *Connect*.

The FortiClient software opens a log window and begins to negotiate a VPN connection with the remote FortiGate firewall. If the negotiation is successful and the connection is established, the last line of the log will read “`Negotiation Succeeded!`”

4 Click *OK* or wait for the *IKE Negotiation* window to close automatically.

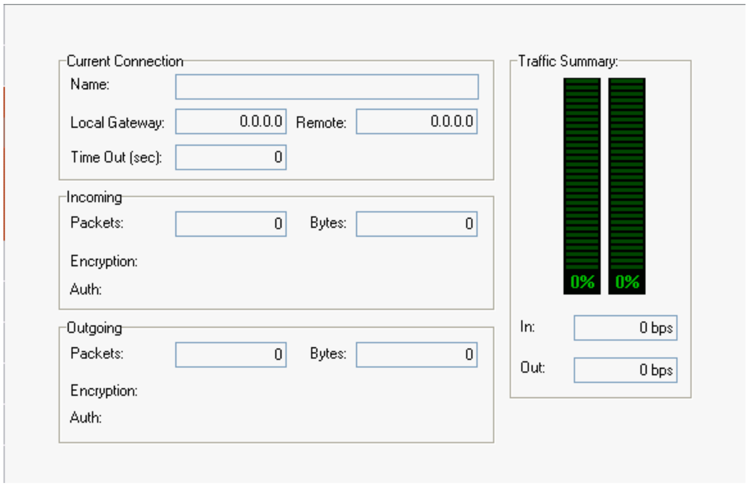
5 Log on to the Windows domain.

6 After you log off of the Windows domain, select the VPN icon to disconnect the VPN.

Monitoring VPN connections

Go to *VPN* > *Monitor* to view current VPN connection and traffic information.

Figure 20: VPN Monitor



Current Connection
Name:
Local Gateway: 0.0.0.0 Remote: 0.0.0.0
Time Out (sec): 0

Incoming
Packets: 0 Bytes: 0
Encryption:
Auth:

Outgoing
Packets: 0 Bytes: 0
Encryption:
Auth:

Traffic Summary:
0% 0%
In: 0 bps
Out: 0 bps

Current connection

Name The name of the current VPN connection.

Local Gateway The IP address of the local gateway (the FortiClient computer).

Remote The IP address of the remote gateway (the FortiGate unit).

Time Out (sec) The remaining lifetime of the VPN connection.

Incoming

Packets The number of packets received.

Bytes The number of bytes received.

Encryption The encryption algorithm and key.

Auth The authentication algorithm and key.

Outgoing

Packets The number of packets sent.

Bytes The of number bytes sent.

Encryption The encryption algorithm and key.

Auth The authentication algorithm and key.

Traffic summary

The traffic summary displays a graph of the incoming and outgoing VPN traffic. The left column displays incoming traffic and the right column displays outgoing traffic. The total number of incoming and outgoing bytes transferred is also displayed.

Note: When traffic is transferred over an open VPN connection, the FortiClient system tray icon will change to a traffic summary graph. The red column indicates incoming traffic. The green column indicates outgoing traffic.

Exporting and importing VPN policy files

You can export a VPN policy file to your local or network computer as a backup of the VPN configuration settings. If required, you can import this file back to your local FortiClient computer or to other FortiClient computers.

To export a VPN policy file

1. Go to *VPN* > *Connections*.
2. Select the connection for which you want to export the VPN policy file.
3. Click *Advanced* and select *Export*.
4. In the Open window, select a file folder and enter a file name.
5. Click *Save*.

To import a VPN policy file

1. Go to *VPN* > *Connections*.
2. Click *Advanced* and select *Import*.
3. Locate the file and click *Open*.

Note: If the imported file has the same file name as an existing connection, it will overwrite the existing one.

Troubleshooting VPN connections

Most connection failures are due to a configuration mismatch between the remote FortiGate unit and the FortiClient software.

The following are some tips to troubleshoot a VPN connection failure:

- PING the remote FortiGate firewall from the FortiClient computer to verify you have a working route between the two.
- Check the FortiClient software configuration.

  Table 6 lists some common FortiClient software configuration errors.
- Check the FortiGate firewall configuration.

  Table 7 lists some common FortiGate Antivirus Firewall configuration errors.

Table 6: Common FortiClient software configuration errors

Configuration Error	Correction
Wrong remote network information.	Check the IP addresses of the remote gateway and network.
Wrong preshared key.	Reenter the preshared key.
Wrong Aggressive Mode peer ID.	Reset to the correct Peer ID.
Mismatched IKE or IPSec proposal combination in the proposal lists.	Make sure both the FortiClient software and the remote FortiGate gateway use the same proposals.
Wrong or mismatched IKE or IPSec Diffie-Hellman group.	Make sure you select the correct DH group on both ends.
No Perfect Forward Secrecy (PFS) when it is required.	Enable PFS.

Table 7: Common FortiGate Antivirus Firewall configuration errors

Configuration Error	Correction
Wrong direction of the encryption policy. For example, external-to-internal instead of internal-to-external.	Change the policy to internal-to-external.
Wrong firewall policy source and destination addresses.	Reenter the source and destination address.
Wrong order of the encryption policy in the firewall policy table.	The encryption policy must be placed above other non-encryption policies.

Managing digital certificates

To use local or smartcard digital certificates, you need:

- a signed certificate,
- the certificate authority (CA) certificates for any CAs you are using,
- any applicable certificate revocation lists (CRLs) or the URL for Online Certificate Status Protocol (OCSP) validation.

Getting a signed local certificate

If you want to have a local certificate signed by the CA server and then import it into FortiClient, following the steps below.

The FortiClient software can use a manual, file based enrollment method or the simple certificate enrollment protocol (SCEP) to get certificates. SCEP is simpler, but can only be used if the CA supports SCEP.

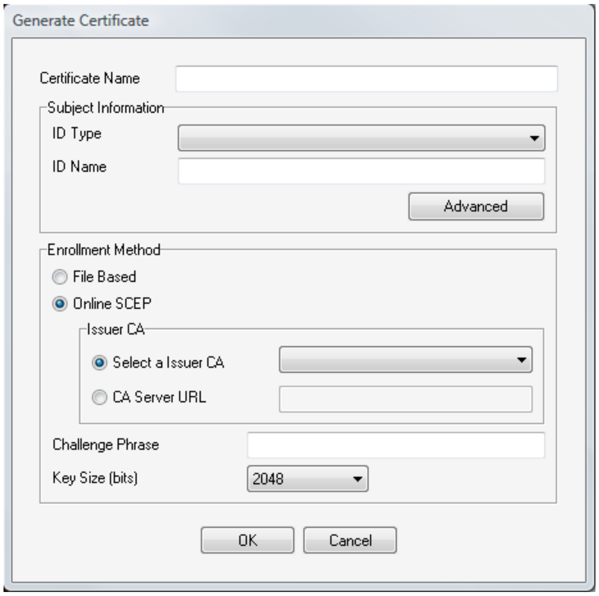
File-based enrollment requires copying and pasting text files from the local computer to the CA, and from the CA to the local computer. SCEP automates this process but CRLs must still be manually copied and pasted between the CA and the local computer.

Note: The digital certificates must comply with the X.509 standard.

General steps to get a signed local certificate

1. Generate the local certificate request. See "To generate a local certificate request" on page 39.
2. Export the local certificate request to a .csr file. See "To export the local certificate request" on page 40.
3. Send the signed local certificate request to a CA. See "To send the certificate request to a CA" on page 40.
4. Retrieve the signed certificate from a CA. See "To retrieve the signed local certificate from the CA" on page 40.
5. Import the signed local certificate into FortiClient. You can also backup the certificate by exporting it. See "To import the signed local certificate" on page 40 and "To export the signed local certificate" on page 41.

Figure 21: Generating a local certificate request



To generate a local certificate request

1 Go to *VPN > My Certificates*.

2 Click *Generate*.

3 Enter a *Certificate Name*.

4 Under subject information, select the *ID Type* for the subject.

You can select from *Domain Name*, *Email Address* or *IP Address*.

5 Enter the information for the ID type that you selected.

Domain name	Enter the fully qualified domain name of the FortiClient computer being certified.
Email address	Enter the email address of the owner of the FortiClient computer being certified.
IP address	Enter the IP address of the FortiClient computer being certified.

6 Optionally, click *Advanced* and enter the advanced setting information and click *OK*.

Email	Enter a contact email address for the FortiClient computer user.
Department	Enter a name that identifies the department or unit within the organization requesting the certificate for the FortiClient computer (such as Manufacturing or MF).
Company	Enter the legal name of the organization requesting the certificate for the FortiClient computer.
City	Enter the name of the city or town where the FortiClient Computer is located.
State/Province	Enter the name of the state or province where the FortiClient computer is located.
Country	Enter the name of the country where the FortiClient computer is located.

7 Select either *File Based* or *Online SCEP* as the *Enrollment Method*.

8 If you selected file based enrollment, click *OK*.

The private/public key pair is generated and the certificate request is displayed in the *My Certificates* list with the type of *Request*. Continue with "To export the local certificate request".

9 If you selected *Online SCEP* as the *Enrollment Method*, select an issuer CA from the list provided or enter the URL of the CA server.

If the FortiClient computer uses a proxy server, you must configure the proxy server settings before you can use online SCEP. See "Configuring proxy server settings" on page 17.

10 In the *Challenge Phrase* field, enter the challenge phrase if the certificate authority requires it.

11 In the *Key Size (bits)* field, select the VPN certificate key size (1024 - 4096 bits).

12 Click *OK*. The FortiClient software:

- submits the local certificate request,
- retrieves and imports the signed local certificate,
- retrieves and imports the CA certificate.

The signed local certificate is displayed on the *Local Certificates* list with the type of *Certificate*. The CA certificate is displayed on the *CA Certificates* list. The expiration dates of the certificates are listed in the *Valid To* column of each list. The FortiClient software generates 1024bit keys.

Continue with "Validating certificates" on page 42.

To export the local certificate request

1 Go to *VPN > My Certificates*.

2 From the certificate list, select the local certificate to export.

3 Click *Export*.

4 Name the file and save it in a directory on the FortiClient computer.

After exporting the certificate request, you can submit it to the CA so that the CA can sign the certificate.

To send the certificate request to a CA

1 On the FortiClient computer, open the local certificate request using a text editor.

2 Connect to the CA web server.

3 Follow the CA web server instructions to:

- add a base64 encoded PKCS#10 certificate request to the CA web server,
- paste the certificate request to the CA web server,
- submit the certificate request to the CA web server.

To retrieve the signed local certificate from the CA

After you receive notification from the CA that it has signed the certificate request, connect to the CA web server and download the signed local certificate to the FortiClient computer.

To import the signed local certificate

1 Go to *VPN > My Certificates*.

2 Click *Import*.

3. Enter the path or browse to locate the signed local certificate on the FortiClient computer.
4. Click *OK*.

   The signed local certificate is displayed on the *My Certificates* list with the *Type* as Certificate. The expiration date of the certificate is listed in the *Valid To* column.

To export the signed local certificate

1. Go to *VPN* > *My Certificates*.
2. Select the certificate and click *Export*.
3. In the *Save As* window, select the folder where you want to save the file.
4. Enter a file name.
5. Select either *PKCS7* or *PKCS12*. If you select *PKCS12*, you must enter a password of at least eight characters.
6. Click *Save*.

Getting a signed smartcard certificate

If you are using a USB token (smartcard) certificate for authentication, you must also have the certificate signed by the CA server and install the signed certificate on your token.

The following procedures use a Windows 2000 Advanced Server as an example.

Note: Current FortiClient releases have been tested with the Aladdin eToken PRO and Aladdin eToken NG-OTP series USB tokens.

General steps to get a signed smartcard certificate

1. Send the certificate request to the CA server. See "To send a certificate request" on page 41.
2. Install the signed certificate on the token. See "To install a certificate" on page 42.

To send a certificate request

1. Log on to the CA server, for example, http://<CA_server>/certsrv.
2. Select *Request a certificate*, then select *Next*.
3. Select *Advanced request*, then select *Next*.
4. Select *Submit a certificate request to this CA using a form*.
5. In the request form:
   - Enter the identifying information.
   - For *Intended Purpose*, select *Client Authentication Certificate*.
   - For *CSP*, select *eToken Base Cryptographic Provider*.
   - Leave all other default settings.
6. Click *Submit*.
7. When prompted to enter the eToken password, enter the password. If you have not plugged the USB token into your computer's USB port, you must do so now. Then the CA Web page displays that your certificate request has been received.

To install a certificate

1. Log on to the CA Server if the certificate has been signed.
2. Select *Checking on a pending certificate*, then select *Next*.
3. Select the certificate request, then select *Next*.
4. Select *Install this certificate* to install the certificate to the USB token.

Getting a CA certificate

For the FortiClient software and the FortiGate gateway to authenticate themselves to each other, they must both have a CA certificate from the same CA.

The FortiClient computer obtains the CA certificate to validate the digital certificate that it receives from the remote VPN peer. The remote VPN peer obtains the CA certificate to validate the digital certificate that it receives from the FortiClient computer.

Note: The CA certificate must comply with the X.509 standard.

To retrieve the CA certificate

1. Connect to the CA web server.
2. Follow the CA web server instructions to download the CA certificate.

To import the CA certificate

1. Go to *VPN* > *CA Certificates*.
2. Click *Import*.
3. Enter the path or browse to locate the CA certificate on the FortiClient computer.
4. Click *OK*.

   The CA certificate is displayed on the *CA Certificates* list. The expiration date of the certificate is listed in the *Valid To* column.

Validating certificates

FortiClient can validate certificates using Online Certificate Status Protocol (OCSP) or Certificate Revocation Lists (CRL).

A CRL is a list of CA certificate subscribers paired with digital certificate status. The list contains the revoked certificates and the reason(s) for revocation. It also records the certificate issue dates and the CAs that issued them.

The FortiClient software uses the CRL to ensure that the certificates belonging to the CA and the remote VPN peer are valid.

OCSP, if available, provides more up-to-date validation of certificates without maintaining CRLs in the FortiClient application.

To enable OCSP

1. Go to *VPN* > *CRL*.
2. Select *Enable OCSP*.
3. In the *Responder Host* box, enter your OCSP responder host name.

   Your network administrator can provide this information.
4. In the *Port* box, enter your CA's OCSP port number. The default is 80.
5. Click *Apply*.

To retrieve the CRL

1. Connect to the CA web server.
2. Follow the CA web server instructions to download the CRL.

To import the CRL

1. Go to *VPN > CRL*.
2. Click *Import*.
3. Enter the path or browse to locate the CRL on the FortiClient computer.
4. Click *OK*.

   The CRL is displayed on the CRL list.

WAN Optimization

WAN (Wide Area Network) optimization accelerates a broad range of applications accessed by distributed workforces. Factors that can affect the performance of applications deployed in a WAN include:

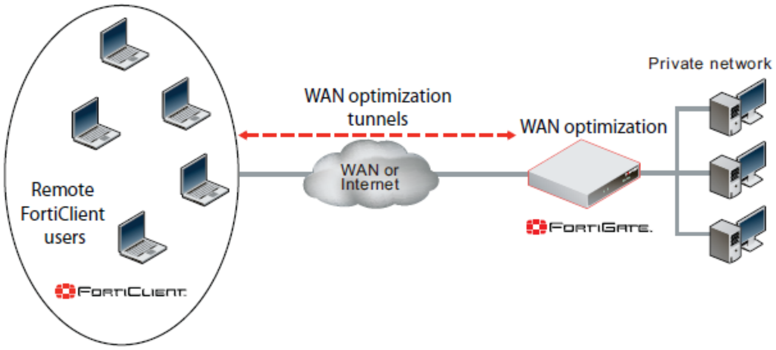
- bandwidth
- latency
- throughput
- congestion
- packet loss

Configuring WAN optimization consists of adding rules that match traffic accepted by a firewall policy according to source and destination addresses and destination ports of the traffic in addition to defining the WAN optimization techniques to be applied to the traffic.

FortiClient WAN optimization works together with WAN optimization on a FortiGate unit to accelerate network traffic between a computer running version 4.0 or greater of the FortiClient application and a network behind a FortiGate unit. When a user of a computer with FortiClient WAN optimization enabled attempts to connect to network resources behind a server-side FortiGate unit, the FortiClient application automatically detects if WAN optimization is enabled on the FortiGate unit. If WAN optimization is detected and the FortiClient application can successfully negotiate a WAN optimization tunnel with the FortiGate unit, a WAN optimization tunnel starts.

FortiClient WAN optimization includes protocol optimization settings selected in the FortiClient application and byte caching (byte caching is enabled by default in the FortiClient application and cannot be disabled). Web caching is applied if selected in the passive rule on the FortiGate unit that accepts FortiClient WAN optimization tunnel requests.

Figure 22: FortiClient WAN optimization topology



Caution: For new installation of 4.0 MR2, the feature is only available via customizing the MSI package with fcrepackager, which makes the feature an installable option. If you are upgrading from a earlier release where WAN optimization is already installed, the feature will be preserved by the upgrade.

For more information, see the *FortiClient Administration Guide*.

Note: Setting the MSI public property OPTIMIZE=0 will mean that even critical files are not pre-scanned. However, this setting does not stop the post-installation automatic database updates by the antivirus and firewall features.

For more information on WAN Optimization with a FortiGate unit, see the *FortiGate WAN Optimization, Web Cache, and Web Proxy Guide*.

Enabling WAN Optimization

FortiClient WAN Optimization works exclusively with WAN optimization on a FortiGate unit to accelerate network access. FortiClient will automatically detect if WAN optimization is enabled on the optimizing FortiGate unit it is connected to and transparently make use of the byte caching and protocol optimization features available. Byte caching and protocol optimization are bidirectional.

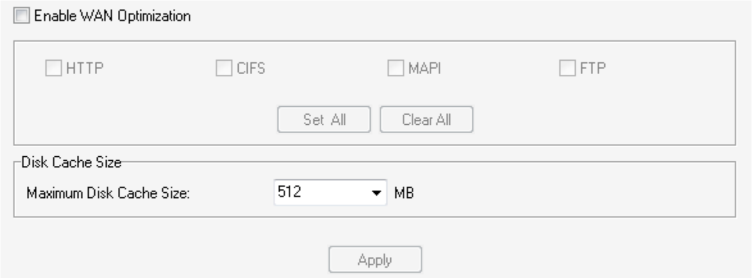
Note: WAN Optimization is supported by FortiGate v4.0 and above.

To configure WAN Optimization on the FortiGate unit, see the *FortiGate Web Optimization, Web Cache, and Web Proxy User Guide*.

To enable WAN Optimization

1 Go to *WAN Optimization*.

Figure 23: WAN optimization



□ Enable WAN Optimization

□ HTTP □ CIFS □ MAPI □ FTP

Disk Cache Size

Maximum Disk Cache Size: 512 MB

2 Select *Enable WAN Optimization*.

3 Enable the protocols to be optimized: *HTTP* (web browsing), *CIFS* (file sharing), *MAPI* (Microsoft Exchange) and *FTP* (file transfers).

4 Set *Maximum Disk Cache* to 512, 1024, or 2048MB.

The default is 512MB. If your hard disk can accommodate a larger cache, better optimization performance is possible.

5 Click *Apply*.

Antivirus and Anti-Malware

Using the FortiClient antivirus feature, you can protect your computer by regularly scanning your files for viruses and malware. The FortiClient software can also perform real-time scanning for email, internet traffic, and files, malware protection, and monitor Windows Registry changes.

For email real-time scanning protocols, FortiClient scans POP3, SMTP, and Outlook.

This section includes the following topics:

Scanning for viruses and malware

You can run a quick scan to detect the most malicious software. Malicious software or “malware” includes computer viruses, worms, trojan horses, most rootkits, spyware, dishonest adware, crimeware and other malicious and unwanted software.

You can also set up scan schedules and scan the files in a specified folder.

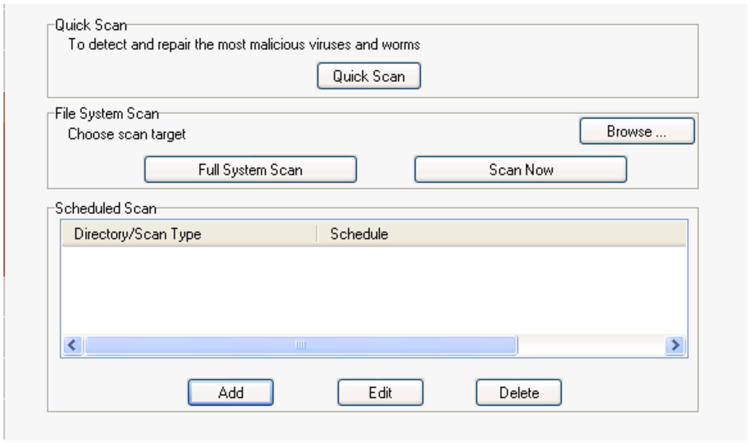
Depending on the option you set in *Antivirus* > *Settings*, the FortiClient software does one of the following when it finds viruses:

- Displays a virus alert message.
- Quarantines the virus-infected file.
- Cleans the virus-infected file.

Note: If your FortiClient is being managed by a FortiGate unit or FortiClient Manager, then your antivirus definitions may be checked to see they are up-to-date. If your antivirus are not up to date, then access to the internet may be blocked. You will need to update your antivirus definition files in order to access the internet.

For information about how to configure what happens when the FortiClient software finds a virus, see “Configuring antivirus settings” on page 50.

Figure 24: Scanning for viruses and malware



During antivirus scanning, the FortiClient system tray icon is animated. A bar repeatedly rolls from the bottom to the top of the icon.

To run a quick scan

1. Go to *AntiVirus* > *Scan*.
2. Select *Quick Scan*.

   The *FortiClient Scan Progress* window opens, displaying the scanning process and results.
3. Click *Pause/Resume* or *Stop* to interrupt the scan.
4. Click *Show Details* to view the *Infected file list.* The Infected file list displays the names of any infected files.
5. Right-click on entries and choose from the following actions:
   - *Delete* the file
   - *Quarantine* the file
   - *Submit Virus* to Fortinet
   - *Submit as false positive* to Fortinet
6. To view the log file for the scan, select *View Log*.
7. Click *Close* to close the *FortiClient Scan Progress* window.

To scan files in a specified directory

1. Go to *AntiVirus* > *Scan*.
2. In the *File System Scan* area, click *Browse* to locate the directory to scan.
3. Click *Scan Now*.

   The *FortiClient Scan Progress* window opens, displaying the scanning process and results.
4. Click *Show Details* to view the *Infected file list.* The Infected file list displays the names of any infected files.

5 Right-click on entries and choose from the following actions:

- *Delete* the file
- *Quarantine* the file
- *Submit Virus* to Fortinet
- *Submit as false positive* to Fortinet

6 To view the log file for the scan, select *View Log*.

7 Click *Close* to close the *FortiClient Scan Progress* window.

To perform a full system scan

1 Go to *AntiVirus* > *Scan*.

2 In the *File System Scan* section, click *Full System Scan*.

3 Select *Network drives* or *Removable media* if you want them included in the scan. Optionally, you can change the relative priority of virus scanning compared to other processes.

4 Click *Start*.

The *FortiClient Scan Progress* window opens, displaying the scanning process and results.

5 Click *Show Details* to view the *Infected file list.* The Infected file list displays the names of any infected files.

6 Right-click on entries and choose from the following actions:

- *Delete* the file
- *Quarantine* the file
- *Submit Virus* to Fortinet
- *Submit as false positive* to Fortinet

7 To view the log file for the scan, select *View Log*.

8 Click *Close* to close the *FortiClient Scan Progress* window.

To manage scan schedules

1 Go to *AntiVirus* > *Scan*.

2 In the *Scheduled Scan* area, click *Add*.

3 In the *New Schedule* window, set up a new schedule.

You can set up daily, weekly, or one-time schedules. You can also specify which folder to scan.

4 Select the type of scan:

- Directory scan — Click *Browse* and select the directory to scan. This type will only scan the selected directory.
- Full system scan — Select the Network Drives or Removable Media options. Select the scan priority. This type will scan the entire computer.
- Quick scan — You cannot set a scan priority for Quick Scans. This type scans only running processes.

5 If you selected a Directory or Full System scan, select the scan priority:
   - Low — The operating system allocates less CPU time to scanning
   - Normal — The operating system allocates a “normal” amount of CPU time to scanning.
   - High — The operating system allocates more amount of CPU time to scanning.

   The higher the priority, the sooner the scan will complete. You may notice a difference in system performance depending on the priority selected.
6 Click *OK*.
7 To modify a schedule, select the schedule and then click *Edit*.
8 To delete a schedule, select the schedule, then click *Delete*.

During scheduled antivirus scans, the *FortiClient Scan Progress* window normally does not display unless a virus is found. Optionally, to view this window right-click the FortiClient system tray icon and select *Show antivirus scan window(s)*.

Scanning for viruses in safe mode

You can scan for viruses in Microsoft® Windows safe mode. Safe mode helps you diagnose problems. If a virus or malware is causing problems, you can use safe mode to remove the virus.

This is only available for users running Microsoft® Windows 2000 or later versions.

To scan for viruses in safe mode

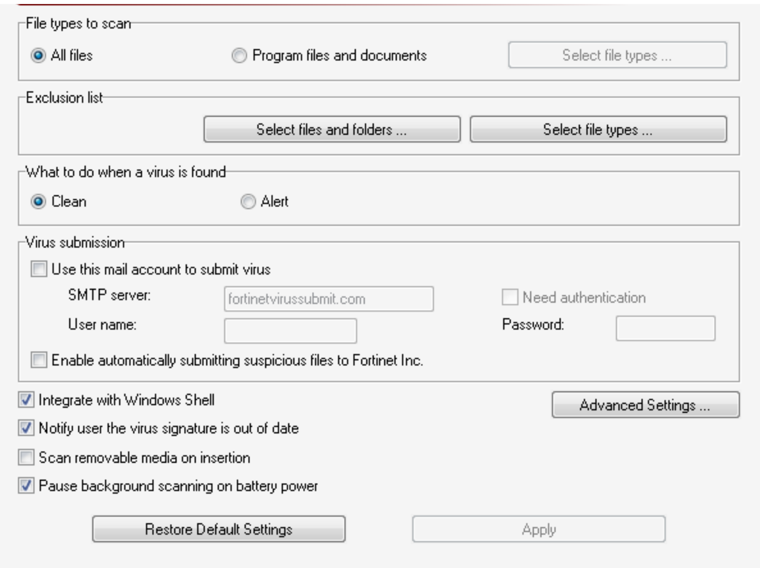
1 Boot the computer in safe mode. For more information, see your Microsoft® Windows documentation.
2 In Windows Explorer, navigate to *C:\Program Files\Fortinet\FortiClient.*
3 Double-click *FortiTray.exe* to start the FortiClient system tray program.
4 Select *Start* > *Command Prompt*.
5 In the command window, enter `cd "c:\program files\fortinet\forticlient"` to switch to the FortiClient program folder.
6 In the command window, enter one of the following commands:
   - To scan a particular file or folder, enter `av_task.exe -s a_0 -t 0 -d <file or folder name>`
   - To scan the entire system, enter `av_task.exe -s a_0 -t 0 -f`

Configuring antivirus settings

You can specify what types of files to scan and what to do when malware or a virus is detected. You can also specify an SMTP server to use when submitting a quarantined file to Fortinet for analysis. For information on how to submit a quarantined file, see “If a virus is found” on page 57.

Malware/virus detection is enabled by default.

Figure 25: Configuring antivirus settings



File types to scan

● All files ○ Program files and documents [Select file types ...]

Exclusion list

[Select files and folders ...] [Select file types ...]

What to do when a virus is found

● Clean ○ Alert

Virus submission

□ Use this mail account to submit virus

SMTP server: fortinetvirussubmit.com □ Need authentication

User name: Password:

□ Enable automatically submitting suspicious files to Fortinet Inc.

☑ Integrate with Windows Shell [Advanced Settings ...]

☑ Notify user the virus signature is out of date

□ Scan removable media on insertion

☑ Pause background scanning on battery power

[Restore Default Settings] [Apply]

To configure antivirus settings

1 Go to *AntiVirus* > *Settings*.

2 Select the file types to be scanned.

3 Add or delete file types to be scanned for viruses. See “Selecting file types to scan” on page 52.

4 Select files, folders and file types to be excluded from virus scanning.

- To exclude a file or folder, click *Select file and folders*, then click *Add* to add the file or folder to the exemption list.
- To exclude a file type, click *Select file types*, then add the file types. For more information, see “Selecting file types to scan” on page 52.

5 Select what to do when a virus is found. The default is Clean.

- *Alert* — display a message if a virus is detected during real-time file system monitoring.
- *Clean* — Does the following:
  - For infected files (not worms or spyware), FortiClient attempts to disinfect them. If this fails, then the files are quarantined.
  - For worms or spyware, the files are quarantined.
  - For all other file types, FortiClient cleans up registry keys associated with the files, including auto run, browser helper objects, system services, and COM objects.

Note: If the malware is found by the antispyware engine, all the associated registry keys and files will be removed. A backup of these files and registry keys are located in the Quarantine tab. Users can restore the files from here if a false positive is triggered.

6 Configure the settings to submit viruses. See “Specifying an SMTP server for virus submission” on page 53.

7 If you want to add a FortiClient antivirus scan command to the Windows Explorer shortcut menu, select *Integrate with Windows shell*. See “Integrating FortiClient antivirus scanning with Windows shell” on page 54.

8 Optionally, select *Integrate with Windows Shell* check box. This allows you to selectively scan files in Windows® Explorer by right-clicking on the file name and selecting *Scan with FortiClient AntiVirus*.

9 Optionally, select the *Notify user the virus signature is out of date* check box. If selected, the user will receive a message stating that they will need upgrade their virus signature.

10 Optionally, select the *Scan removable media on insertion* check box. If selected, media such as CDs, DVDs, USBs will be scanned for viruses when the are inserted into the computer.

11 Optionally, select the *Pause background scanning on battery power* check box.

12 Optionally, click *Advanced Settings*.

On the *Advanced Settings* window, do the following:

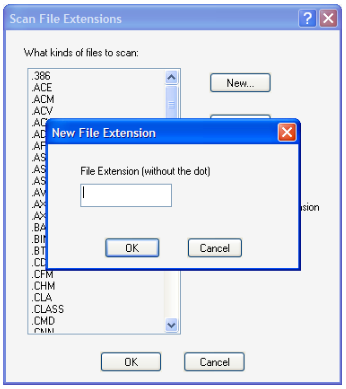
- Specify whether to scan compressed files and set the file size limit. The default size limit is 0, which means no limit.
- Specify whether to scan grayware and what types of grayware to look for.
- Enable heuristic scanning. FortiClient software uses heuristic techniques to scan files to find unknown viruses and threats that have not yet been cataloged with signatures. Heuristics looks at characteristics of a file, such as size or architecture, as well as behaviors of its code to determine the likelihood of an infection and subsequently, quarantines any file it deems suspicious based on these checks.

Selecting file types to scan

If you do not want the FortiClient software to scan all files for viruses or malware, you can select file types from the default list of file types. You can add file types to or delete file types from the default file types list. You can also reset the file types list to defaults.

Note: The exclusion list takes priority over the inclusion list. For example, if you select a file extension to scan, and also add the same file extension to the exclusion list, files with this extension will not be scanned.

Figure 26: Adding a new file extension



To add a new file type to the scanned file types

1 Go to *AntiVirus* > *Settings*.

2 In the *File types to scan area*, select *Program files and documents*.

3 Click *Select File Types*.

The *Scan File Extensions* window opens.

4. Click *New*.
5. In the *New File Extension* window, type the file extension to add to the list. You can also add file types with double extensions.
6. Click *OK*.
7. Click *OK*.

Note: Scanning files with no extension is enabled by default.

Selecting files, folders and file types to exclude from scanning

There may be some folders or specific files and file types that you do not want FortiClient software to scan for viruses or malware. You can add these files and folders to the files and folders exclusion list.

To add files and folders to the exclusion list

1. Go to *AntiVirus* > *Settings*.
2. In the Exclusion List area, click *Select files and folders*.

   The *AntiVirus Options* window opens.
3. Click *Add.*
4. Navigate to the desired file or folder and click *OK*.
5. Add or remove other files and folders as needed.
6. Click *OK*.

Note: You can also exclude a file or folder from antivirus scanning after it has been quarantined. In the quarantine file list, right-click the file and select Exclude file/folder from antivirus scanning. For more information see “If a virus is found” on page 57.

To add files types the exclusion list

1. Go to *AntiVirus* > *Settings*.
2. In the Exclusion List area, click *Select file types*.

   The *File Scan Extensions* window opens.
3. Click *New*.
4. In the *New File Extension* window, enter the file extension and click *OK*.
5. Add or remove other files types as needed.
6. Click *OK*.

Specifying an SMTP server for virus submission

Instead of using the default mail server, you can specify an SMTP server to use when submitting the quarantined files.

To specify an SMTP server

1. Go to *AntiVirus* > *Settings*.
2. Under *Virus Submission*, select *Use this mail account to submit virus*.
3. In the *SMTP server* field, enter the SMTP server that you use for outgoing email.
4. If the SMTP server needs authentication to log on, select *Need authentication* and enter the logon user name and password.

5. Select the *Enable automatically submitting suspicious files to Fortinet Inc.* check box to send any suspicious virus files to Fortinet.
6. Click *Apply*.

Integrating FortiClient antivirus scanning with Windows shell

By integrating FortiClient antivirus scanning with Windows shell, you can use the FortiClient antivirus shortcut menu in Windows Explorer to scan the selected folders or files for viruses or malware.

To integrate with Windows shell

1. Go to *AntiVirus* > *Settings*.
2. Select *Integrate with Windows Shell*.
3. Click *Apply*.

   In Windows Explorer, you can right-click on folders or files and select *Scan with FortiClient Antivirus* to scan them.

Configuring real-time protection

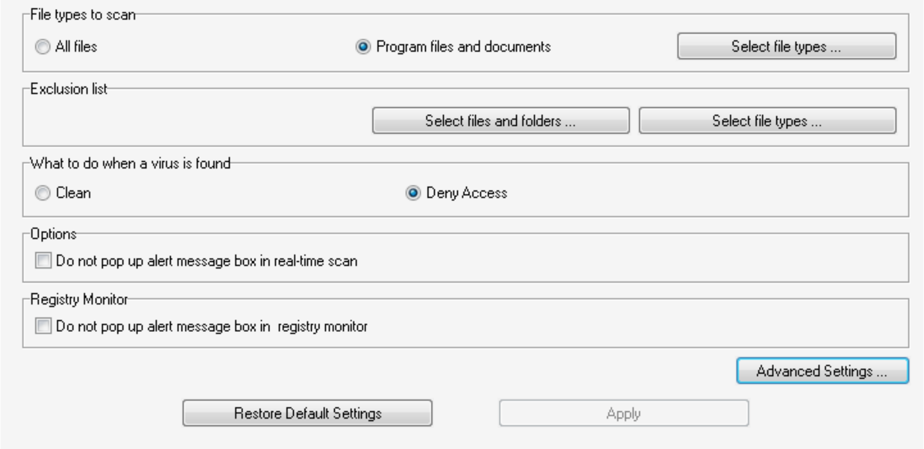
Configure real-time protection settings to specify:

- Which file types to scan.
- What types of malware to detect.
- Which file types to exclude from scanning.
- What to do when a virus is detected during real-time monitoring.

For email real-time scanning protocols, FortiClient scans POP3, SMTP, and Outlook. Content inspection within IMAP, FTP, HTTP, IM and P2P protocols.

Note: If your FortiClient is being managed by a FortiGate unit or FortiClient Manager, then your antivirus settings may be checked to see if it is enabled (Enable real-time protection is selected). If your antivirus is not enabled, then access to the internet may be blocked. You will need to enable your antivirus protection in order to access the internet.

Figure 27: Configuring real-time protection



File types to scan

○ All files ● Program files and documents

Exclusion list

What to do when a virus is found

○ Clean ● Deny Access

Options

□ Do not pop up alert message box in real-time scan

Registry Monitor

□ Do not pop up alert message box in registry monitor

To configure real-time protection

1. Go to *AntiVirus* > *Realtime Protection*.

2. In the *File types to scan area*, select either *All files* or *Program files and documents*, as needed.

   If you select *Program files and documents*, you can modify the list of file types to be scanned. See “Selecting file types to scan” on page 52.
3. Optionally, select files, folders and file types to be excluded from virus scanning.
   - To exclude a file type, see “To add files types the exclusion list” on page 53.
   - To exclude a file or folder, see “To add files and folders to the exclusion list” on page 53.
4. Under *What to do when a virus is found*, select *Deny Access* or *Clean*.
   - *Deny Access* — You cannot open, run or modify the file until it is cleaned.
   - *Clean* —Does the following:
     - For infected files (not worms or spyware), FortiClient attempts to disinfect them. If this fails, then the files are quarantined.
     - For worms or spyware, the files are quarantined.
     - For all other file types, FortiClient cleans up registry keys associated with the files, including auto run, browser helper objects, system services, and COM objects.

Note: If FortiClient cannot clean an infected file, it quarantines the file automatically.

5. Select or clear the following two options:
   - Do not pop up alert message box in real-time scan
   - Do not pop up alert message box in registry monitor
6. Optionally click *Advanced Settings*.

   On the *Advanced Settings* window, you can:
   - enable scanning of compressed files. You can also specify the largest compressed file that FortiClient will scan. A size limit of 0 means no limit.
   - enable grayware scanning and specify which types of grayware to look for.
   - enable heuristic scanning. FortiClient software uses heuristic techniques to scan files to find the unknown viruses and threats that have not yet been cataloged with signatures. Heuristics looks at characteristics of a file, such as size or architecture, as well as behaviors of its code to determine the likelihood of an infection. You can choose to deny access to files heuristics finds suspicious or to only display a warning.
   - enable scanning of files when written to or read from disk, optionally including files on network drives.
7. Click *OK*.
8. Click *Apply*.

To enable real-time protection

1. Go to *General* > *Status*.
2. In the *Antivirus* section, select *Enable real-time protection*.

Note: If you disable real-time protection, confirmation is required. The confirmation dialog imposes a four second wait for the *Yes* button to be available.

Configuring email scanning

FortiClient software can scan incoming and outgoing email and email attachments for malware/viruses. For email real-time scanning protocols, FortiClient scans POP3, SMTP, and Outlook.

FortiClient software can also use heuristic techniques to scan email attachments to find unknown viruses and threats that have not yet been cataloged with signatures. Heuristics looks at the characteristics of a file, such as size or architecture, as well as the behavior of its code to determine the likelihood of an infection.

To scan email for viruses

1. Go to *Antivirus* > *Email*.
2. In the *Virus scanning* section, select *SMTP* for outgoing mail, *POP3* for incoming mail and *MS Outlook* if Outlook connects to a Microsoft Exchange server.
3. To prevent worms from spreading via email, select *Enable email worm detection*. Then select what to do when a malicious action is detected: either *Terminate the offending process* or *Prompt user* to ask whether to terminate the process.

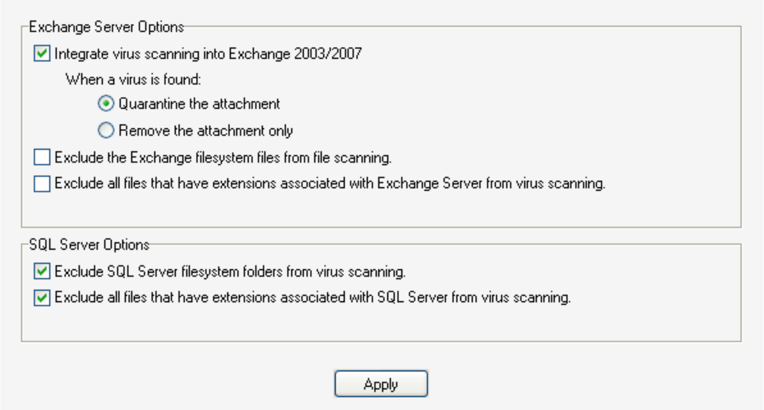
   This is available only if you enabled SMTP virus scanning.
4. To apply heuristic scanning, in the Heuristics scanning section, select *Enable email attachments heuristics scanning*. Then select what to do when a suspicious attachment is detected: either *Log warning message* or *Strip and quarantine*.
5. Click *Apply*.

Configuring server protection

If FortiClient Endpoint Security is installed on a server, you have access to settings relevant to servers.

Exchange Server protection in version 4.2 of FortiClient Endpoint Security is included for customer evaluation and is available only if enabled at installation.

Figure 28: Server protection settings



Exchange Server Options

☑ Integrate virus scanning into Exchange 2003/2007

When a virus is found:

● Quarantine the attachment

○ Remove the attachment only

□ Exclude the Exchange filesystem files from file scanning.

□ Exclude all files that have extensions associated with Exchange Server from virus scanning.

SQL Server Options

☑ Exclude SQL Server filesystem folders from virus scanning.

☑ Exclude all files that have extensions associated with SQL Server from virus scanning.

To configure server protection

1 Go to *AntiVirus* > *Server Protection*.

2 In the *Exchange Server Options* section, select the following options as needed:

Integrate virus scanning into Exchange 2003/2007	Scan Exchange data stores for viruses.
When a virus is found	Select the action to take: **Quarantine the attachment** — You can go to *Antivirus* > *Quarantine* to see the quarantined attachment files and restore or delete them. **Remove the attachment only** — The infected attachment is removed, but the body of the message remains.
Exclude the Exchange filesystem files from file scanning	Fortinet recommends that you enable this setting to avoid impairing the operation of the Exchange server.
Exclude all files that have extensions associated with Exchange Server	Fortinet recommends that you enable this setting to avoid impairing the operation of the Exchange server.

3 In the *SQL Server Options* section, select the following options as needed:

Exclude SQL Server filesystem files from file scanning	Fortinet recommends that you enable this setting to avoid impairing the operation of SQL server.
Exclude all files that have extensions associated with SQL Server from virus scanning	Fortinet recommends that you enable this setting to avoid impairing the operation of SQL server.

4 Select *Apply*.

If a virus is found

If FortiClient finds a virus, it can be cleaned automatically or will be quarantined if it cannot be cleaned.

Quarantine

Infected files are files that have been detected as being a virus or malware. Infected files are quarantined if they cannot be cleaned.

Go to *AntiVirus* > *Quarantine* to manage quarantined files.

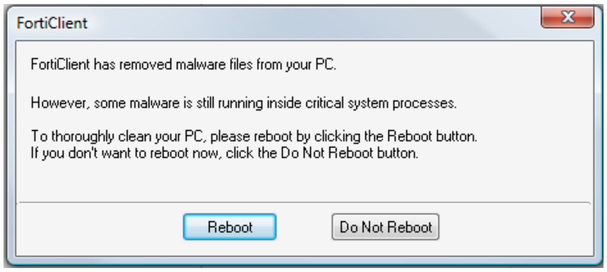
Automatically delete quarantined files	Quarantine retains all files until you delete or restore them, unless you configure automatic deletion.
Delete files older than	Enable to automatically delete quarantined files. Enter the number of days to retain files. Select Apply.
Restore	Move the selected file back to its original location. **Caution:** The restored file might be infected.
Refresh	Update the displayed list of files.
Delete	Delete the selected file.

Submit >>>	You can submit a file file on your computer for FortiGuard analysis. Click Browse to locate the file and click OK. Click Submit. **Note:** You can submit a maximum of five files per day. Submission uses the default mail server unless you specify an alternate SMTP server in *Antivirus* > *Settings*. See "Specifying an SMTP server for virus submission" on page 53.
Submit virus	Right-click on the quarantined file to submit the selected file to Fortinet as a virus.
Submit as false positive	Right -click on the quarantined file to alert Fortinet that the selected file is not a virus.
Exclude file/folder from AV scanning	Right-click on the quarantined file that you do not want scanned in future.

Clean

If the malware can be cleaned from your computer, you will receive a message stating that the malware has been removed and that you should reboot your computer.

Figure 29: FortiClient message stating that malware has been removed and your computer needs to be rebooted.



FortiClient

FortiClient has removed malware files from your PC.

However, some malware is still running inside critical system processes.

To thoroughly clean your PC, please reboot by clicking the Reboot button.
If you don't want to reboot now, click the Do Not Reboot button.

Monitoring Windows startup list entries

Some malware/viruses can modify existing Windows registry entries or insert new entries to cause malicious code to be executed when you start or log on to Windows. The FortiClient software can monitor the Windows startup list and detect unauthorized changes to the registry. The FortiClient software assumes the following registry changes are unauthorized if the changes were not made by an authorized user:

- adding, removing or modifying an application installation,
- changing an existing application's configuration settings.

Note: Monitoring the Windows Registry is not supported on 64-bit Microsoft Windows XP.

The startup list shows the Windows registry entries for any applications that are started as part of your Windows profile when you log on to Windows. The list includes applications that are displayed in the system tray. The list also includes any applications that are started transparently and are not displayed in the system tray.

Entries are displayed in three lists:

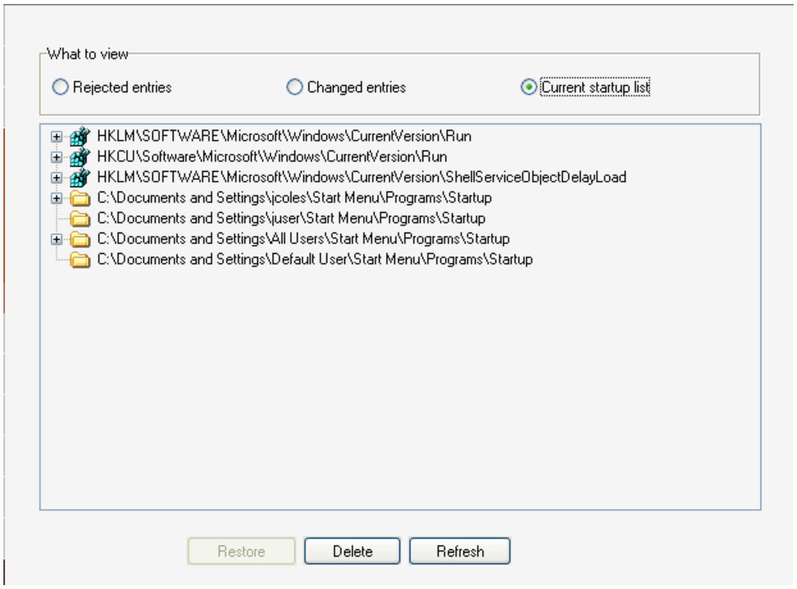
- The *Rejected entries* list displays new, unauthorized startup entries.
- The *Changed entries* list displays previously existing entries that have changed since the last Windows startup.
- The *Current startup list* displays all current registry entries.

The startup list is checked when the FortiClient software starts.

The registry keys listed are:

- HKLN indicates local machine and runs for all users.
- HKCU indicates current user.
- ShellServiceObjectDelayLoad is equivalent to the "Run" key but the entries in the key are explicitly loaded by the shell (such as Explorer.exe) during logon. Each entry is a shell extension.

Figure 30: Registry Monitor



What to view

○ Rejected entries ○ Changed entries ● Current startup list

```
⊞ HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run
⊞ HKCU\Software\Microsoft\Windows\CurrentVersion\Run
⊞ HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\ShellServiceObjectDelayLoad
⊞ C:\Documents and Settings\jcoles\Start Menu\Programs\Startup
  C:\Documents and Settings\juser\Start Menu\Programs\Startup
⊞ C:\Documents and Settings\All Users\Start Menu\Programs\Startup
  C:\Documents and Settings\Default User\Start Menu\Programs\Startup
```

To enable startup list monitoring

- In *General* > *Status*, select the *Enable startup list monitoring* check box. By selecting this check box, FortiClient warns you if there are changes to the startup list, such as malware changes, every time your computer is started.

To view Windows startup list entries

1. Go to *AntiVirus* > *Registry Monitor*.
2. Under *What to view*, select *Rejected entries*, *Changed entries* or *Current startup list*.
3. Optionally click *Refresh* to refresh the startup list entries to view recently added, changed or rejected registry entries.

Restoring changed or rejected startup list entries

Changed or rejected entries can be restored.

Caution: If you are unsure what application an entry is for, do not restore the startup list entry.

To restore a changed or rejected startup list entry

1. Go to *AntiVirus* > *Registry Monitor*.
2. Under *What to view*, select *Changed entries* or *Rejected entries*.

3 Select the entry you want to restore.

4 Click *Restore*.

Firewall

Using the FortiClient firewall feature, you can protect your computer by using the following FortiClient firewall features:

- **Application level network access control** — You can specify the applications that can access the network and be accessed by the network.
- **Network security zone** — The network is categorized into three zones: the Public Zone, Trusted Zone, and the Block Zone. You can configure different security settings for each zone.
- **Intrusion detection** — FortiClient firewall can detect and block common network attacks.
- **Advanced firewall rules** — You can create specific rules to control the traffic based on source addresses, destination addresses, protocols, or time frames.

For outbound traffic, the application rules are applied first, then advanced rules, then generic application rules, and lastly, zone rules are applied.

For inbound traffic, the advanced firewall rules will be applied first, then the application control rules.

If either the source or destination address is a blocked zone address, then it will be blocked.

For the traffic related to system processes, such as NetBIOS, traffic is accepted only when it is allowed by both advanced rules and zone security settings.

Note: If your FortiClient is being managed by a FortiGate unit or FortiClient Manager, then your firewall settings may be checked to see if it is enabled (set to Normal). If your firewall is not enabled, then access to the internet may be blocked. You will need to enable your firewall (set your firewall mode to Normal) in order to access the internet.

Selecting a firewall mode

By default, FortiClient firewall runs in Normal mode to protect your system. You can go to *Firewall* > *Status* to select a different firewall mode (protection level).

FortiClient firewall has the following running modes:

Deny all	Blocks all the incoming and outgoing traffic.
Normal	You can select from the three protection profiles. See “Selecting a firewall profile” on page 61.
Pass all	No firewall protection.

Selecting a firewall profile

If you select the Normal firewall mode on *Firewall* > *Status***,** you can select from the following three firewall protection profiles:

Basic home use Allows all outgoing traffic and denies all incoming traffic. Select this profile if your computer is a standalone home computer and not connected to other networks or computers.

Basic business Allows all outgoing traffic, allows all incoming traffic from the trusted zone, and denies all incoming traffic from the public zone. For zone information, see "Configuring network security zones" on page 65.

Custom profile This is the default profile.

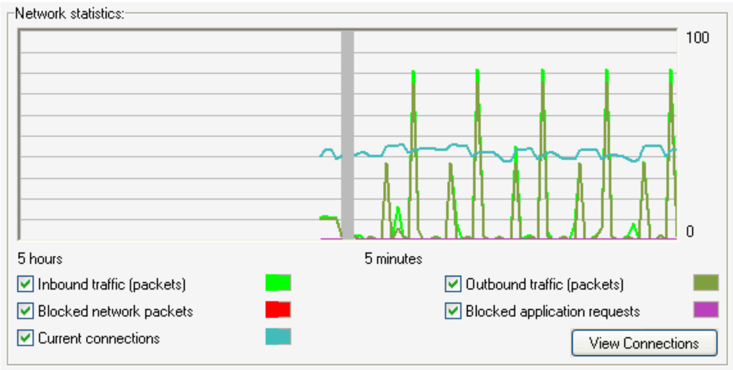
The Custom profile allows you to configure the application level permissions, network zone permissions, and advanced firewall filtering rules.

See "Configuring application access permissions" on page 63, "Configuring network security zones" on page 65, and "Configuring advanced firewall rules" on page 67.

Viewing network statistics

You can configure the FortiClient software to display the following network traffic information:

Figure 31: Firewall status



☑ Inbound traffic (packets) 🟩

☑ Blocked network packets 🟥

☑ Current connections 🟦

☑ Outbound traffic (packets) 🟩

☑ Blocked application requests 🟪

Inbound traffic Number of incoming network packets.

Outbound traffic Number of outgoing network packets.

Blocked network packets Network packets that are blocked by the firewall.

Blocked application request Number of blocked requests from outside to access your local applications and vice versa.

Current connections Number of current connections between your system and the network.

To view the traffic information

1. Go to *Firewall* > *Status*.
2. Select the traffic type you want to view. The information displays in the graphical monitor.
3. Click *View Connections* to view the current active connections, listening ports, PID, and other detailed information.
4. Click *Close*.
5. By default, whenever FortiClient firewall blocks network traffic, a notification pops up in the FortiClient system tray area. To disable the blocked traffic notification, select the *Disable taskbar notification for blocked network traffic* check box.

Configuring application access permissions

You can specify which applications can access the network and be accessed by the network. To do this, you assign the applications access permissions. Three levels of access permissions are available: Allow, Ask, and Block.

Note: For applications not listed in the access control list, you will be asked whether to allow them network access. By default, FortiClient allows the legitimate Windows system applications to access the network. These applications are displayed in the application control list. You can modify or delete the permission levels of these applications.

Note: You cannot edit or delete settings for the Fortiproxy application.

Apart from application access control, network zone security, and intrusion detection, FortiClient firewall protects your computer with another layer of security: advanced firewall rules.

The firewall rules allow or block network traffic according to the following three types of filtering criteria you specify:

- **Source and destination addresses** can be your own computer, one of the two zones (Public Zone and Trusted Zone), a single IP address, a range of IP addresses, a subnet, or a address group. For information about adding an address group, see "Managing groups" on page 69.
- **Network protocols** can be TCP, UDP, or TCP/UDP.
- **Day and Time** ranges can be applied to a rule to restrict access based on the day of the week and the time of day.

The advance firewall rules take precedence over the zone security settings. For example, if a rule blocks the traffic to the Trusted Zone, the traffic will be blocked.

To add an application to the access control list

1. Go to *Firewall > Applications*.
2. Click *Add*.
3. In the *Add New Application* window, enter or browse to the application *Path*.
4. Select permission levels for the public zone and trusted zone:
   - Allow — Allows the application network access.
   - Ask — Prompts to ask your permission for the application to have network access.
   - Block — Blocks all network access for the application.
5. Click *OK*.

Note: Permission levels for the public zone can only be lower than or equal to those for the trusted zone.

To create a firewall rule

1. Go to *Firewall > Applications*.
2. Click *Edit > Advanced > Add*.
3. In the *Advanced Firewall Filtering Rule* window, enter the following information and click *OK*.

Name Enter a name for the rule.

Description Optionally, enter a short description.

State Either *Enable* or *Disable* the rule.

Action Either *Allow* or *Block* the traffic.

Source Apply the rule to the traffic that originates from the source address and terminates at your computer. Select *Add*>>> to add the source address. For information about adding an address group, see "Managing address, protocol and time groups" on page 64.

Destination Apply the rule to the traffic that originates from your computer and terminates at the destination address. Select *Add*>>> to add the destination address. For information about adding an address group, see "Managing address, protocol and time groups" on page 64.

Protocol Select *Add*>>> to add a protocol to the rule. While specifying the protocol in the *Add Protocol* window, you can also specify the destination and source ports.

Time Select *Add*>>> to add a day/time range when the rule should be executed. In the *Add Time* window, specify a description, time range and one or more days. Time range is specified using a 24 hour clock.

Bind this rule to Select all adapters or a single ethernet adapter on your computer to apply this rule.

Note: You can use any combination of the filtering criteria.

4 Click *Close*.

5 Click *OK*.

Managing address, protocol and time groups

To simplify management, you can combine the source addresses, destination address, protocols, and time schedules into groups and use the groups when creating rules.

To create a group

1 Go to *Firewall* > *Applications*.

2 Click *Edit* > *Advanced* > *Groups*.

3 Select *Address Group*, *Protocol Group*, or *Time Group*.

4 Click *Add*.

5 Enter a name and description.

6 Click *Add*.

7 Do one of the following:

- For an address group, enter the *Subnet*, *IP Range*, *IP Address*, or *FQDN* (fully qualified domain name).
- For a protocol group, specify the *Protocol*, *Destination Port*, and *Source Port* numbers.
- For a time group, specify the day and time range.

8 Click *OK* three times.

9 Click *Close*.

10 Click *OK*.

Configuring network security zones

FortiClient firewall protects your system by categorizing the network systems into three zones. Go to *Firewall > Network* to configure these zones:

Public Zone By default, FortiClient firewall treats IP addresses in the public zone with the highest security level. You can also customize the security levels. See “Customizing security settings” on page 66.

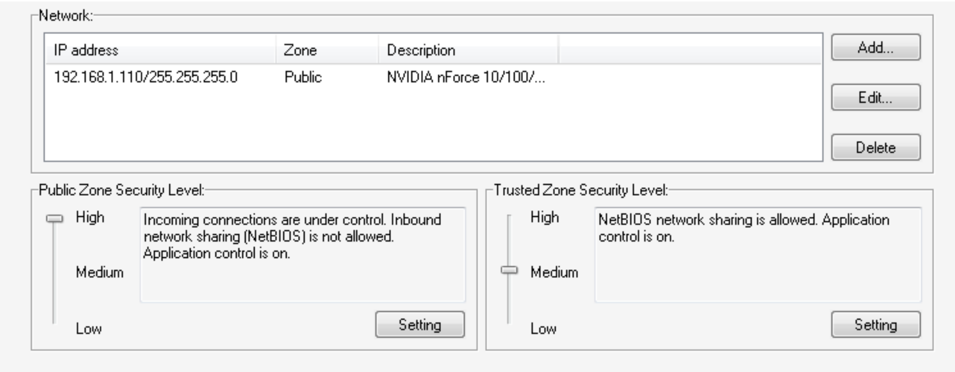
Trusted Zone By default, FortiClient firewall treats IP addresses in the trusted zone with medium-level security settings. For information about security level settings, see “Customizing security settings” on page 66.

Blocked Zone All traffic to and from IP addresses in the blocked zone is not allowed.

FortiClient firewall prioritizes the zones in the order of blocked zone, trusted zone, and public zone. This means:

- If an IP address is listed in all of the three zones, it will be blocked.
- If it is listed in both the trusted and public zones, it will be trusted.
- If it is not listed in any of the three zones, it will be public.

Figure 32: Network security zones



Network:

IP address	Zone	Description
192.168.1.110/255.255.255.0	Public	NVIDIA nForce 10/100/...

Public Zone Security Level: High

Incoming connections are under control. Inbound network sharing (NetBIOS) is not allowed. Application control is on.

Trusted Zone Security Level: Medium

NetBIOS network sharing is allowed. Application control is on.

Adding IP addresses to zones

You can add a subnet, an IP range, or an individual IP address to the network zones. You can also edit or delete the existing IP entries.

To add IP addresses

1. Go to *Firewall > Network*.
2. Click *Add*.
3. In the *IP Address* window, select a zone and enter the IP addresses that belong to it.
4. Optionally, enter a description.
5. Click *OK*.

Customizing security settings

For the public and trusted zones, you can use the default high, medium, or low level security settings. You can also customize these default settings.

High By default, incoming connections are allowed only if there are listening ports for these connections.

Medium By default, most connections are allowed unless you customize the settings.

Note that the default medium security level settings for public and trusted zones are different:

- For public zone, the incoming ICMP and NetBIOS packets are blocked
- For trusted zone, these packets are allowed.

Low Packet level rule is disabled and application level control is on.

Note: The security level for the public zone can only be higher than or equal to that for the trusted zone.

To customize the security settings

1 Go to *Firewall* > *Network*.

2 In the *Public Zone Security Level* or *Trusted Zone Security Level* areas, move the slider to *High* or *Medium*.

Note: Low level security disables packet level rules and you cannot customize the Low level settings.

3 Click *Setting*.

4 If you select *High* level, modify the following settings and select OK.

Allow ICMP in	Allow incoming ICMP (Internet Control Message Protocol) traffic. By default, this option is not selected.
Allow NetBIOS in	Allow incoming NetBIOS traffic. By default, this option is not selected.
Allow NetBIOS out	Allow outgoing NetBIOS traffic. By default, this option is not selected.

Select one of the following options:

Allow other inbound traffic coming from this zone	This option is selected by default.
Block other inbound traffic coming from this zone	This option is not selected by default.

5 If you select *Medium* level, modify the following settings and select *OK*.

Block ICMP in	Block incoming ICMP (Internet Control Message Protocol) traffic. By default, this option is not selected.
Block NetBIOS in	Block incoming NetBIOS traffic. By default, this option is not selected.

6 Click *OK*.

Network Detection

When a new network is detected by FortiClient, you can determine if the network is trusted or let a ping server decide the status.

To determine what to do when a new network is detected

1. Go to *Firewall* > *Advanced*.
2. In the Network Detection area, select one of the following:
   - Ask the user if it is trusted — An alert will display and the user can determine if the network is allowed or denied.
   - Use ping servers to decide the status — The network is considered trusted if the ping is returned from the server. FortiClient will start with the first trusted ping server and will continue down the list until a ping is returned. You will need to enter the trusted ping server addresses. For details, see To manage trusted ping servers.

To manage trusted ping servers

1. Go to *Firewall* > *Advanced*.
2. In the Trusted Ping Servers area, do one of the following:
   - Click *Add* (+) and enter a ping server address. You can enter an IP address or an FQDN (web address).
   - Click *Delete* to delete a ping server address.
   - Click *Edit* and modify the ping server address.

Configuring intrusion detection

FortiClient software can detect and block some common network attacks using the hard-coded signatures. Because the signatures are hardcoded into the program, to get the latest signatures, you must install the latest FortiClient build.

Go to *Firewall* > *Intrusion Detection* to view the IP addresses where the detected attacks originate.

You can move the IP addresses to the blocked zone by clicking *Move to blocked zone* so that the traffic from these IP addresses will be blocked.

If any of the IP addresses can be trusted, you can move the IP address to the trusted IP list by clicking *Trust this IP* so that FortiClient will not detect traffic from this IP address any more.

You can also remove an IP from the Trusted IP list by clicking *Don’t trust this IP*.

Configuring advanced firewall rules

Apart from application access control, network zone security, and intrusion detection, FortiClient firewall protects your computer with another layer of security: advanced firewall rules.

The firewall rules allow or block network traffic according to the following three types of filtering criteria you specify:

- **Source and destination addresses** can be your own computer, one of the two zones (Public Zone and Trusted Zone), a single IP address, a range of IP addresses, a subnet, or a address group. For information about adding an address group, see “Managing groups” on page 69. If the field is left blank, then this indicates “All.”
- **Network protocols** can be ICMP, TCP, UDP, or TCP/UDP.
- **Day and Time** ranges can be applied to a rule to restrict access based on the day of the week and the time of day. If this is left blank, then this indicates “All.”

The advanced firewall rules take precedence over the zone security settings. For example, if a rule blocks the traffic to the Trusted Zone, the traffic will be blocked.

Note: You can use any combination of the filtering criteria to create advanced firewall rules. See the examples given in the table below.

To create a firewall rule

1 Go to *Firewall > Advanced*.

2 Click *Add*.

3 In the *Advanced Firewall Filtering Rule* window, enter the following information and select *OK*.

Name	Enter a name for the rule.
Description	Optionally, enter a short description.
State	Either *Enable* or *Disable* the rule.
Action	Either *Allow* or *Block* the traffic.
Source	Apply the rule to the traffic that originates from the source address and terminates at your computer. Select *Add* to add the source address. For information about adding an address group, see “Managing groups” on page 69. If the Source field is left empty, this indicates “All”.
Destination	Apply the rule to the traffic that originates from my computer and terminates at the destination address. Select *Add* to add the destination address. For information about adding an address group, see “Managing groups” on page 69. If the Destination field is left empty, this indicated “All”. For example, if the Source is set to “My Computer” and the Destination field is left empty (All), then this rule means “block all traffic from My Computer to any Destination addresses using any protocol at any time of day.”
Protocol	Select *Add* to add a protocol to the rule. While specifying the protocol in the *Add Protocol* window, you can also specify the destination and source ports. To refine the advanced firewall rules, add settings to the Protocol field. For example, if you add “ftp” to the Protocol field and to the rule above (“block all traffic from My Computer to any Destination addresses using any protocol at any time of day”), then the rule becomes “block all ftp traffic from My Computer to any Destination addresses at any time of day.”
Time	Select *Add* to add a day/time range when the rule should be executed. In the *Add Time* window, specify a description, time range and one or more days. Time range is specified using a 24 hour clock. To further refine the advanced firewall rules, add “Time” to the rule. For example, add “Friday” to the Time field and to the rule above (“block all ftp traffic from My Computer to any Destination addresses at any time of day”), to change the rule to “on Fridays, block all ftp traffic from My Computer to any Destination address.”
Bind this rule to	Select all adapters or a single ethernet adapter on your computer to apply this rule.

4 Click *OK*.

Using Advanced Firewall Rules to block all traffic to and from a computer

If you want to block all traffic to a computer during certain times of day, such as from 7pm to 8am, you will need to configure two advanced firewall rules. Ensure you have the action set to *Block*:

1 For the first rule, set Source to *My Computer* and leave the Destination blank.

2 For the second rule, leave the Source blank and set Destination to *My Computer*.

You need to create two separate rules to block all traffic. If you create a firewall rule set to “block all traffic to my computer from public zone and trusted zone” it may seem like you are blocking all traffic but the rule, in effect, does not actually block traffic. This is because, by definition, the “public zone” set of IPs is everything that is not in the “trusted zone” set of IPs. The “trusted zone” negates the “public zone” so when the rule is compiled, the output is invalid because it does not contain any IP addresses.

See “Configuring advanced firewall rules” on page 67 for more information on creating advanced firewall rules.

Managing groups

To simplify management, you can combine the source addresses, destination address, protocols, and time schedules into groups and use the groups when creating rules.

To create a group

1 Go to *Firewall* > *Advanced*.

2 Click *Groups*.

3 Select *Address Group*, *Protocol Group*, or *Time Group*.

4 Click *Add*.

5 Enter a name and description.

6 Click *Add*.

7 For an address group, enter the subnet, IP range, or IP address.
For a protocol group, enter specify the protocol and port number.
For a time group, specify the day and time range.

8 Click *OK* twice.

Note: You can edit existing groups, but you cannot change their names.

WebFilter

FortiClient Endpoint Security uses the Fortinet FortiGuard Web Filtering service to help you control web URL access.

FortiGuard Web Filtering sorts hundreds of millions of web pages into a number of content categories. Each web site belongs to one or more categories. Unrated is also considered a category.

FortiGuard Web Filtering can also assign one of several classifications to web sites that provide cached content, such as Google search, or web sites that allow image, audio, or video searches.

Your FortiClient accesses the nearest FortiGuard Web Filtering Service Point to determine the categories and classification of a requested web page. The FortiClient application blocks the web page if the web page is in a category or classification that you have blocked.

Web filter profiles specify which categories and classifications of web sites are allowed or blocked. There are three predefined web filter profiles: Default, Child and Adult. You can modify the categories blocked in each profile and create new profiles as needed.

You specify which profile applies to each user of the computer. For instance, you can use the predefined Child web access profile to prevent your children from accessing inappropriate web sites. You also specify a global profile that applies to unknown users.

FortiClient web filtering filters both HTTP and HTTPS web traffic. The filtering process does not compromise the security of the HTTPS connection in any way.

Note: If the FortiGuard service is unreachable or the subscription is expired, URLs are not blocked even if Block all unrated URLs is enabled.

FortiClient web filtering also allows you to specify URLs to always block or to allow by bypassing the web filter.

Modifying web filter settings

Web filter profiles define which categories of web sites are blocked. You can modify the predefined web filter profiles or define additional profiles as needed.

You can assign a web filter profile to each user and assign a global profile that applies to any user not specified in the per-user settings.

Configuring the webfilter global settings

FortiClient comes with three predefined web filtering profiles to allow or block different combinations of web categories:

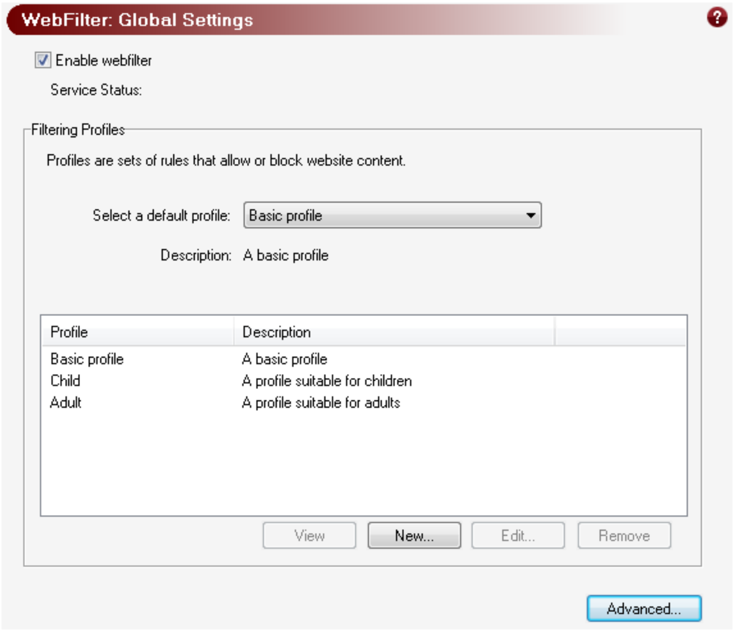
Basic profile Default web filter profile, which is initially the same as the Child profile.

Child Blocks categories that are not suitable for children.

Adult Only blocks the security violating web sites.

You cannot delete the predefined profiles. You can, however, modify these profiles. Also you can specify URLs to always block or to bypass category blocking.

Figure 33: Web filter global settings



WebFilter: Global Settings

☑ Enable webfilter

Service Status:

Filtering Profiles

Profiles are sets of rules that allow or block website content.

Select a default profile: Basic profile

Description: A basic profile

Profile	Description
Basic profile	A basic profile
Child	A profile suitable for children
Adult	A profile suitable for adults

To enable the webfilter

1. Go to *WebFilter > Global Settings*.
2. In the *WebFilter Settings* window, select the *Enable webfilter* check box.

To set a default profile

1. Go to *WebFilter > Global Settings*.
2. In the Filtering Profiles area, select the default profile from the drop-down list. You can select a predefined profile (Basic profile, Child or Adult) or a profile that you have created.

Managing webfilter profiles

With webfilter profiles, you can:

- Create new profiles.
- Modify existing profiles.
- Delete unwanted profiles (except Default, Child and Adult).
- Determine the type of content to block.
- Specify URLs to block or bypass.

To configure a new webfilter profile

1. Go to *WebFilter > Global Settings*.
2. To create a new webfilter profile, click *New*.
3. Select one of the following:
   - Start with a blank template — Select this option to start with a blank template.
   - Use this profile as a template — Select this option and then select a profile to base your new profile on.
4. Click *Next*.

5 Enter a profile name.

6 Enter a description for the profile.

7 In the *This profile blocks the following content* area, select the content types to block. A red “X” indicates a blocked category or classification.

8 In the Exceptions and keywords area, click *Add* to enter websites that are allowed or blocked. See To specify URLs to block or bypass.

9 Click *OK*. The profile is added to the list.

To specify URLs to block or bypass

1 In the *WebFilter > Global Settings* tab, click create a new profile or edit an existing profile.

2 In the Exceptions and keywords area, click *Add* to enter websites that are allowed or blocked.

3 In the *Set URL Permission* window, enter the URL. In the URL field, you can enter:

- wildcard characters (* and ?) in URLs,
- complete URLs,
- IP addresses,
- partial URLs,
- file types, such as *.jpg to block all jpeg files, and *.swf to block all flash animations.

4 As you enter the URL, the Protocol, Hostname, and URL Path fields are automatically filled out. FortiClient breaks the components of the URL down which is useful for scenarios where a slash character is missed in the URL or URLs that contain wildcards.

5 In the Permission area, select *Block* or *Bypass*.

- Block — Blocks the URL.
- Bypass — Allows the URL to be accessed.

6 Click *OK*.

7 Repeat steps 2 through 6 for each URL that you want to add.

8 You can also edit existing entries or delete unwanted entries.

To set advanced web filtering features

1 Go to *WebFilter > Global Settings*.

2 To set the advanced web filter settings, click *Advanced*.

3 Select the *Enable URL rating with FortiGuard Filtering Services* if you want to use FortiGuard rating services and the black/white list to check to determine if the URL is allowed or denied. FortiGuard rating services will use the categories and/or classifications that are used listed in FortiClient to block URLs. Leave the check box clear if you only want to use the black/white list to decide whether to allow or deny access to the URL.

4 Select the *Block access to content if it is not rated* check box. If the check box is clear, unrated URLs are allowed.

5 If a URL is found in both black and white lists, select if you want to *Deny access* or *Allow access* to the URL.

6 Click *OK*.

To view webfilter profile

1. Go to *WebFilter* > *Global Settings*.
2. Select a profile from the list and click *View*.
3. View the properties of the profile and click *Edit* or *Close*.

To edit a webfilter profile

1. Go to *WebFilter* > *Global Settings*.
2. Select a profile from the list and click *Edit*.
3. Edit the profile and click *OK*.

To remove a webfilter profile

1. Go to *WebFilter* > *Global Settings*.
2. Select a profile from the list and click *Remove*. The profile is deleted from the list.

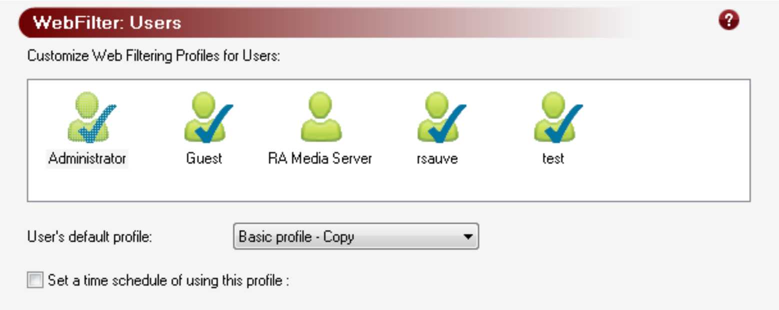
•

Configuring webfilter user settings

If you have administrator privileges on the computer, you can specify which webfilter profile applies to each user and set the time and day for when the user and global profiles are used. The Global profile specified in webfilter Global Settings applies to any user not specified in User settings.

If a user has a check mark on their profile, this indicates that a default profile has been assigned.

Figure 34: Webfilter users showing default profile has been assigned (indicated by check mark).



WebFilter: Users

Customize Web Filtering Profiles for Users:

User's default profile: Basic profile - Copy

☐ Set a time schedule of using this profile :

To specify user webfilter settings

1. Go to *WebFilter* > *Users*.
2. In the *Customize Web Filtering Profiles for Users* area, select a user to customize.
3. Select the default profile from the drop-down list.
4. To set the daily schedule to use the default profile, select the *Set a time schedule of using this profile* check box.

5 In the Grid, select the area for the time and date you want to set the profile for and do one of the following:

- Global profile of computer (blue) — During this time/date, the profile uses the Global web filter settings. See “Configuring the webfilter global settings” on page 71 for more information.
- User Profile (green) — During this time/date, the profile uses the user’s default profile set in Step 3.
- Block all web sites (black) — During this time/date, all internet access is blocked.

Anti-spam

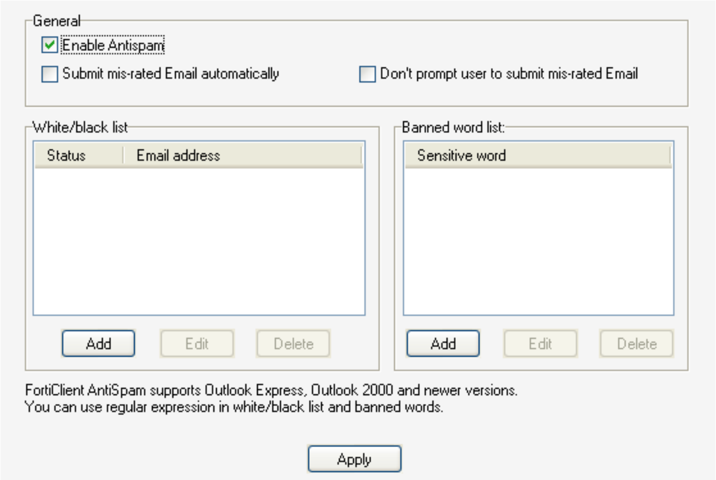
The Anti-spam feature is a plug-in for Microsoft Outlook and Microsoft Outlook Express (2000 or newer versions). It is supported by the Fortinet FortiGuard AntiSpam service. Once this feature is enabled and installed on the Outlook/Outlook Express, it filters your incoming email and sets up a spam folder on your Outlook/Outlook Express to collect spam automatically.

Note: On Microsoft Windows Vista, anti-spam works in Microsoft Outlook but not in Windows Mail.

You can do the following:

- Installing anti-spam plug-in
- Enabling anti-spam
- Adding white, black, and banned word lists
- Manually labelling email
- Submitting misclassified email to Fortinet

Figure 35: AntiSpam



General

☑ Enable Antispam

☐ Submit mis-rated Email automatically

☐ Don't prompt user to submit mis-rated Email

White/black list

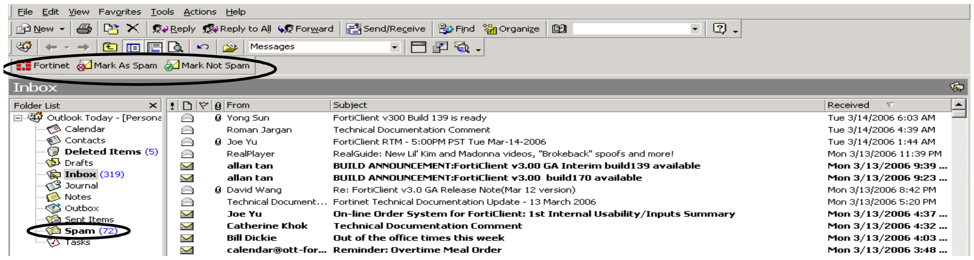
Status	Email address

Banned word list:

Sensitive word

FortiClient AntiSpam supports Outlook Express, Outlook 2000 and newer versions.
You can use regular expression in white/black list and banned words.

Figure 36: Anti-spam plug-in on Outlook



From	Subject	Received
Yong Sun	FortiClient v300 Build 139 is ready	Tue 3/14/2006 6:03 AM
Roman Jargan	Technical Documentation Comment	Tue 3/14/2006 4:39 AM
Joe Yu	FortiClient RTM - 5:00PM PST Tue Mar-14-2006	Tue 3/14/2006 1:44 AM
RealPlayer	RealGuide: New Lil' Kim and Madonna videos, "Brokeback" spoofs and more!	Mon 3/13/2006 11:39 PM
allan tan	**BUILD ANNOUNCEMENT:FortiClient v3.00 GA Interim build139 available**	**Mon 3/13/2006 9:39 ...**
allan tan	**BUILD ANNOUNCEMENT:FortiClient v3.00 build170 available**	**Mon 3/13/2006 9:23 ...**
David Wang	Re: FortiClient v3.0 GA Release Note(Mar 12 version)	Mon 3/13/2006 8:42 PM
Technical Document...	Fortinet Technical Documentation Update - 13 March 2006	Mon 3/13/2006 5:20 PM
Joe Yu	**On-line Order System for FortiClient: 1st Internal Usability/Inputs Summary**	**Mon 3/13/2006 4:37 ...**
Catherine Khok	**Technical Documentation Comment**	**Mon 3/13/2006 4:32 ...**
Bill Dickie	**Out of the office times this week**	**Mon 3/13/2006 4:03 ...**
calendar@ott-for...	**Reminder: Overtime Meal Order**	**Mon 3/13/2006 3:48 ...**

Installing anti-spam plug-in

Install the anti-spam plug-in on Microsoft Outlook or Outlook Express (2000 or newer version).

To install anti-spam plug-in on Outlook

1. On your computer, install Microsoft Outlook or Outlook Express if you do not already have it.
2. Install FortiClient software.
3. Reboot your computer.

   A Spam folder appears on the Outlook folder List. Spam sent to you will be put into the Spam folder automatically.

   Fortinet Inc., Mark As Spam and Mark Not Spam icons appear on the Outlook toolbar.

Enabling anti-spam

You must enable the FortiClient anti-spam feature for the Outlook plug-in to work.

To enable anti-spam

1. Go to *AntiSpam* > *Settings*.
2. Select *Enable AntiSpam*.
3. Click *Apply*.

Note: On Outlook Express, anti-spam filtering is not effective with an IMAP email server.

Adding white, black, and banned word lists

You can allow (whitelist) or block (blacklist) email addresses and ban email containing the words you specify. By doing so, incoming email will be first filtered against these lists.

- If the email address is in the white list and the email content does not contain any of the banned words, the email will go through without being filtered.
- If the email address is in the black list or the email content contains any of the banned words, the email will be sent to the spam folder.
- If the email address is neither in the white list or black list and the email content does not contain any of the banned words, the email will be filtered by the Fortinet FortiGuard AntiSpam service.

Note: When adding banned words and email addresses to the White/black list, you can use regular expression meta characters.

Caution: FortiClient will allow banned words in an email if the sender is in your Address Book.

To add white/black lists

1. Go to *AntiSpam* > *Settings*.
2. In the White/black list area, click *Add*.
3. Enter the email address that you want to block or allow.
4. Select *Block* to add the address to black list, and *Allow* to add it to white list.
5. Click *OK*.
6. To modify a list item, select the item and click *Edit*.
7. To remove a list item, select the item and click *Delete*.
8. Click *Apply*.

To add banned words

1. Go to *AntiSpam* > *Settings*.
2. In the *Banned word list* area, click *Add*.
3. Enter the word that you want to ban.
4. Click *OK*.
5. To modify a list item, select the item and click *Edit*.
6. To remove a list item, select the item and click *Delete*.
7. Click *Apply*.

Manually labelling email

You can manually mark an email as a spam or as an innocent mail.

If you have not enabled the FortiClient *Submit mis-rated Email automatically* check box, you will be prompted to submit a selected email to Fortinet when you mark an email as a spam or as an innocent mail. Otherwise, the selected email will be sent to Fortinet automatically to train its FortiGuard database. For more information, see “Submitting misclassified email to Fortinet” on page 80.

To manually mark an email as spam

1. Open Microsoft Outlook or Outlook Express.
2. If you find a spam in your Inbox folder, select the email.
3. Click *Mark As Spam* on the FortiClient toolbar.

   The email is sent to the Spam folder and is forwarded to Fortinet. When you update the FortiClient software, the Outlook plug-in will update its spam database so that when an email from the same sender/address comes in, it will be sent to the Spam folder.

To manually mark an email as an innocent mail

1. Open Microsoft Outlook or Outlook Express.
2. If you find an innocent email in your Spam folder, select the email.
3. Click *Mark Not Spam* on the Fortinet toolbar.

   The email is sent to the Inbox folder and forwarded to Fortinet. When you update the FortiClient software, the Outlook plug-in will update its spam database so that when an email from the same sender/address comes in, it will not be sent to the Spam folder.

Submitting misclassified email to Fortinet

You can configure the FortiClient program to automatically send misclassified email, that is, innocent email classified as spam or spam classified as innocent email, to the Fortinet FortiGuard AntiSpam service to enhance the service's email-scanning accuracy. In this case, you will not be prompted to submit misclassified email manually.

You can also just configure the FortiClient program to stop prompting users to submit misclassified email manually. In this case, no misclassified email will be sent to Fortinet.

For more information, see "Manually labelling email" on page 79.

To configure sending misclassified email to Fortinet

1. Go to *AntiSpam* > *Settings*.
2. Select the *Submit mis-rated Email automatically* check box.
3. Click Apply.

To stop prompting users to submit misclassified email manually

1. Go to *AntiSpam* > *Settings*.
2. Select the *Don't prompt users to submit mis-rated email* check box.
3. Click *Apply*.

App Detection

App Detection works in conjunction with a FortiGate to monitor applications running on an endpoint. An endpoint is most often a single computer with a single IP address being used to access network services through a FortiGate unit.

FortiClient will periodically send application IDs to the FortiGate unit which will compare it against the endpoint profile. The FortiGate unit will take the following actions against the running and installed applications:

- Allow — For any applications that are configured as Allow, the FortiGate unit will take no action.
- Monitor — For any applications that are configured as Monitor, the FortiGate unit records the application in the logs and in the endpoint list but will not take any action.
- Block — For any applications that are configures as Block, the FortiGate unit will quarantine the host and record the violating application in the logs and the endpoint list.

You apply endpoint control in a firewall policy. When traffic attempts to pass through the firewall policy, the FortiGate unit runs compliance checks on the originating host on the source interface. Non-compliant endpoints are blocked. If a user is web browsing, they receive a message telling them that they are non-compliant, or they are redirected to a web portal where they can download the FortiClient application installer.

Viewing applications running on your computer

You can use the *App Detection* > *Status* window to view which processes are running on your computer, which category they belong to, the vendor of the application, the version, and the path where the application is running from on your computer.

For more information, see the *FortiClient Administration Guide*.

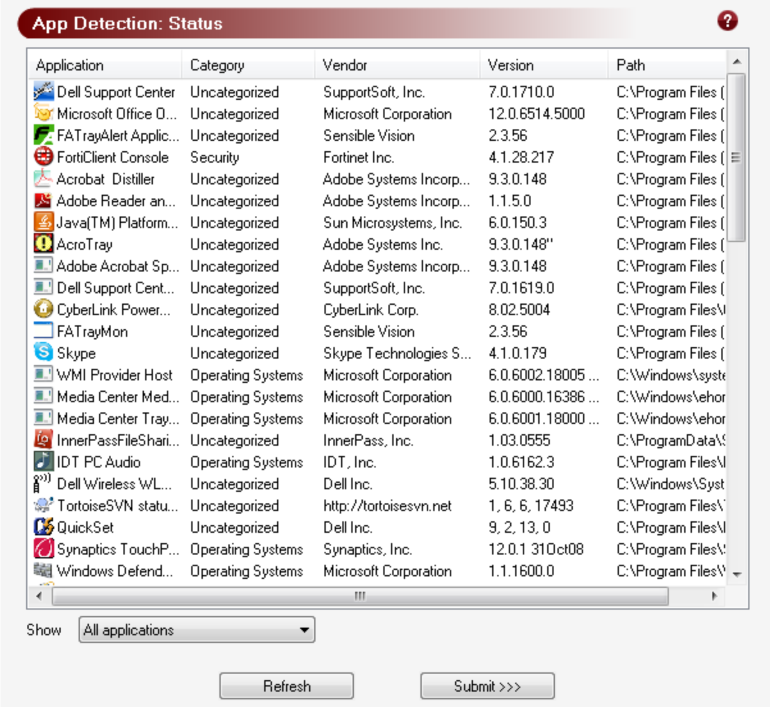
To view the applications running on your computer

1. Go to *App Detection* > *Status*.
2. In the Show drop-down list, do one of the following:
   - Select *Categorized* to show the applications that have been categorized and verified (trusted) by FortiGuard. If the application is categorized, then it can bypass the firewall with no pop-up messages.
   - Select *Uncategorized* to show the applications that have not been verfied by FortiGuard. If the application is uncategorized, then pop-up messages will appear when the application attempts to bypass the firewall.
   - Select *All Applications* to show both categorized and uncategorized applications.
3. To submit a categorized application for re-categorization, right-click on the application name and select *Submit for Re-categorization*. Go to step 5.
   - Alternatively, you can select the application name and click *Submit*.
4. To submit an uncategorized application for categorization, right-click on the application name and select *Submit for Analysis*.
   - Alternatively, you can select the application name and click *Submit*.

5 In the Submit for Analysis window, select a category for this application and click *Submit*. The application is submitted to FortiGuard Services.

6 Click *Refresh* to refresh the list of processes that are currently running.

Figure 37: App Detection



App Detection: Status

Application	Category	Vendor	Version	Path
Dell Support Center	Uncategorized	SupportSoft, Inc.	7.0.1710.0	C:\Program Files (
Microsoft Office O...	Uncategorized	Microsoft Corporation	12.0.6514.5000	C:\Program Files (
FATrayAlert Applic...	Uncategorized	Sensible Vision	2.3.56	C:\Program Files (
FortiClient Console	Security	Fortinet Inc.	4.1.28.217	C:\Program Files (
Acrobat Distiller	Uncategorized	Adobe Systems Incorp...	9.3.0.148	C:\Program Files (
Adobe Reader an...	Uncategorized	Adobe Systems Incorp...	1.1.5.0	C:\Program Files (
Java(TM) Platform...	Uncategorized	Sun Microsystems, Inc.	6.0.150.3	C:\Program Files (
AcroTray	Uncategorized	Adobe Systems Inc.	9.3.0.148"	C:\Program Files (
Adobe Acrobat Sp...	Uncategorized	Adobe Systems Incorp...	9.3.0.148	C:\Program Files (
Dell Support Cent...	Uncategorized	SupportSoft, Inc.	7.0.1619.0	C:\Program Files (
CyberLink Power...	Uncategorized	CyberLink Corp.	8.02.5004	C:\Program Files\
FATrayMon	Uncategorized	Sensible Vision	2.3.56	C:\Program Files (
Skype	Uncategorized	Skype Technologies S...	4.1.0.179	C:\Program Files (
WMI Provider Host	Operating Systems	Microsoft Corporation	6.0.6002.18005 ...	C:\Windows\syste
Media Center Med...	Operating Systems	Microsoft Corporation	6.0.6000.16386 ...	C:\Windows\ehor
Media Center Tray...	Operating Systems	Microsoft Corporation	6.0.6001.18000 ...	C:\Windows\ehor
InnerPassFileShari...	Uncategorized	InnerPass, Inc.	1.03.0555	C:\ProgramData\
IDT PC Audio	Operating Systems	IDT, Inc.	1.0.6162.3	C:\Program Files\I
Dell Wireless WL...	Uncategorized	Dell Inc.	5.10.38.30	C:\Windows\Syst
TortoiseSVN statu...	Uncategorized	http://tortoisesvn.net	1, 6, 6, 17493	C:\Program Files\
QuickSet	Uncategorized	Dell Inc.	9, 2, 13, 0	C:\Program Files\I
Synaptics TouchP...	Operating Systems	Synaptics, Inc.	12.0.1 31Oct08	C:\Program Files\
Windows Defend...	Operating Systems	Microsoft Corporation	1.1.1600.0	C:\Program Files\

Show: All applications

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