Quick Start Guide

Lumension Endpoint Security 4.4 SR11

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Notices

Version Information

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Preface

About This Document

This Quick Start Guide is a resource written for all users of Lumension Endpoint Security 4.4 SR11. This document defines the concepts and procedures for installing, configuring, implementing, and using Lumension Endpoint Security 4.4 SR11.

Tip: Lumension documentation is updated on a regular basis. To acquire the latest version of this or any other published document, please refer to the *Lumension Customer Portal* (*http://portal.lumension.com/*).

Typographical Conventions

The following conventions are used throughout this documentation to help you identify various information types.

Table 1: Typographical Conventions

Convention	Usage
bold	Buttons, menu items, window and screen objects.
bold italics	Wizard names, window names, and page names.
italics	New terms, options, and variables.
`MONOSPACE UPPERCASE`	Keyboard keys.
`BOLD UPPERCASE`	SQL Commands.
`monospace`	File names, path names, programs, executables, command syntax, and property names.

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Note: For additional contact information, please visit the *Contact Lumension* page at *http://www.lumension.com/contact-us.aspx*.

Chapter 1

System Requirements

In this chapter:

The following sections describe the minimum system requirements necessary for successful installation of Lumension Endpoint Security and the languages supported by the client.

The listed specifications are a minimum; larger network environments, may require additional hardware and software resources. The system requirements for Lumension Endpoint Security are listed in the following topics.

Important: For installation or upgrade to Lumension Endpoint Security version 4.4 SR11:

- You must have a license file that is valid specifically for version 4.4 or later.
- License files issued before Lumension Endpoint Security version 4.4 will not work with the Application Server and may cause your Application Servers to stop working. The Lumension Endpoint Security 4.4 license must be installed before you install or upgrade the Lumension Endpoint Security database, and then the Application Server.
- Request a new license file using the **Downloads** tab on the *Lumension Customer Portal* (*https://portal.lumension.com*).

Minimum Hardware Requirements

The minimum Lumension Endpoint Security hardware requirements depend upon your service network environment, including the type of database supported, the number of Application Servers you need to support a distributed network, and the number of subscribed clients.

The hardware requirements for Lumension Endpoint Security vary depending upon the number of servers and clients you manage. The following minimum hardware requirements will support up to:

- 200 connected Lumension Endpoint Security clients for Lumension Device Control
- 50 connected Lumension Endpoint Security clients for Lumension Application Control

Table 2: Minimum Hardware Requirements

Lumension Endpoint Security Component	Requirement
Database	• 1 GB (4 GB recommended) memory • Pentium® Dual-Core CPU processor or AMD equivalent • 3 GB minimum hard disk drive • 100 MBits/s NIC
Application Server	• 512 MB (1 GB recommended) memory • Pentium® Dual-Core CPU or AMD equivalent • 3 GB minimum hard disk drive • 100 MBits/s NIC
Management Console	• 512 MB (1 GB recommended) memory • 15 MB hard disk drive for installation, and 150 MB additional for application files • 1024 by 768 pixels for display
Client	• 256 MB (1 GB recommended) memory • 10 MB hard disk drive for installation, and several additional GB for full shadowing feature of Lumension Device Control • 100 MBits/s NIC

Supported Operating Systems

Lumension Endpoint Security supports multiple Microsoft Windows operations systems for the Application Server, Management Console, database, and client.

The operating system requirements for Lumension Endpoint Security components are outlined as follows.

Table 3: Operating System Requirements

Lumension Endpoint Security Component	**Requirement**
Database	One of the following: • Microsoft Windows ® XP Professional Service Pack 2 or higher (SP2+) (32-bit) • Windows XP Service Pack 2 (SP2) (64-bit) • Microsoft Windows Server 2003, Standard Edition with Service Pack 2 (SP2) or later (32-bit) • Microsoft Windows Server 2003, Enterprise Edition with SP2 or later (32-bit) • Microsoft Windows Server 2008, Standard Edition with SP2 or later (32-bit and 64-bit) • Microsoft Windows Server 2008, Enterprise Edition with SP2 or later (32-bit and 64-bit) • Microsoft Windows Server 2008 R2 (64 bit only)
Application Server	One of the following: • Windows Server 2003, Standard Edition with SP2 or later (32-bit) • Windows Server 2003, Enterprise Edition with SP2 or later (32-bit) • Windows Server 2008, Standard Edition with SP2 or later (32-bit and 64-bit) • Windows Server 2008, Enterprise Edition with SP2 or later (32-bit and 64-bit) • Windows Server 2008 R2 (64 bit only)

Lumension Endpoint Security Component	Requirement
Management Console	One of the following: • Windows XP Professional SP2+ (32-bit) • Windows Server 2003, Standard Edition with SP2 or later (32-bit) • Windows Server 2003, Enterprise Edition with SP2 or later (32-bit) • Windows Server 2008, Standard Edition with SP2 or later (32-bit and 64-bit) • Windows Server 2008, Enterprise Edition with SP2 or later (32-bit and 64-bit) • Windows Server 2008 R2 (64 bit only) • Microsoft Windows Vista™ SP1+ (32- and 64-bit) • Microsoft Windows 7 (32- and 64-bit)

Lumension Endpoint Security Component	Requirement
Client	One of the following: • Microsoft Windows® Server 2000 Service Pack 4 or higher (SP4+) (32-bit) • Microsoft Windows 2000 Professional SP4+ (32-bit) • Microsoft Windows XP Professional Service Pack 2 or higher (SP2+) (32- and 64-bit) • Windows Server 2003, Standard Edition with SP2 or later (32-bit) • Windows Server 2003, Enterprise Edition with SP2 or later (32-bit) • Windows Server 2008, Standard Edition with SP2 or later (32-bit and 64-bit) • Windows Server 2008, Enterprise Edition with SP2 or later (32-bit and 64-bit) • Windows Server 2008 R2 (64 bit only) • Windows Vista SP1+ (32- and 64-bit) • Windows 7 (32- and 64-bit) • Microsoft Windows XP Embedded (XPe) Service Pack 2 (SP2) (32-bit) • Microsoft Windows Embedded Point of Service (WEPOS) (32-bit) • Microsoft Windows Embedded Standard 2009 • Windows Embedded Standard 7 • Microsoft Windows XP Tablet PC Edition (32-bit) • Citrix® Access Gateway™ 4.5 • Citrix Presentation Server™ 4.0 for Windows Server 2003 SP1/SR2+ (32-bit) • Citrix Presentation Server 4.5 for Windows Server 2003 SP1/SR2+ (32- and 64-bit) • Citrix XenDesktop™ • Citrix XenApp™

Supported Databases

Lumension Endpoint Security supports multiple releases of Microsoft® SQL Server®. You should choose the database instance required by your network operating environment and the number of Application Servers and subscribed clients the application must support.

The database requirements for Lumension Endpoint Security components are outlined as follows.

Table 4: Database Requirements

Lumension Endpoint Security Component	Requirement
Database	One of the following: • Microsoft SQL Server® 2005, Standard Edition with SP2 or higher (32-bit and 64-bit) • Microsoft SQL Server 2005, Enterprise Edition with SP2 or higher (32-bit and 64-bit) • Microsoft SQL Server 2005, Express Edition with SP2 or higher (32-bit and 64-bit) • Microsoft SQL Server 2008, Standard Edition (32-bit and 64-bit) • Microsoft SQL Server 2008, Enterprise Edition (32-bit and 64-bit) • Microsoft SQL Server 2008, Express Edition (32-bit and 64-bit) • Microsoft SQL Server 2008 R2, Standard Edition (32-bit and 64-bit) • Microsoft SQL Server 2008 R2, Enterprise Edition (32-bit and 64-bit) • Microsoft SQL Server 2008 R2, Express Edition (32-bit and 64-bit)

Other Software Requirements

Lumension Endpoint Security requires the following additional software.

Additional software requirements for Lumension Endpoint Security components are outlined as follows.

Table 5: Other Software Requirements

Lumension Endpoint Security Component	Requirement
Database	No additional software requirements.

Lumension Endpoint Security Component	Requirement
Application Server	If you will be encrypting Windows user accounts for centralized Device Control encryption, you will need to install an enterprise level Certificate Authority. See *Microsoft Certificate Authority* (*http://technet.microsoft.com/en-us/library/cc756120.aspx*) for additional information about certificates. **Attention:** Certificate authority installation applies to Device Control only for centralized encryption capability. Certificate authority installation applies to both Device Control and Application Control for secure server communications. A Certificate Authority is required to use secure communications between clients and servers, and intra-server communications.
Management Console	Microsoft Visual C++ 2008 Redistributable Package.
Client	No additional software requirements.

Recommended Configuration

To maximize Lumension Endpoint Security for operation in a Microsoft Windows environment, you should configure your network environment database and client components using the following suggested configurations.

The recommended configurations for Lumension Endpoint Security components are outlined as follows. These settings represent the usual default settings, but should be confirmed before beginning Lumension Endpoint Security installation.

Table 6: Recommended Configuration

Lumension Endpoint Security Component	Requirement
Database	• Change the Windows **Event Viewer** settings to 1024 KB and choose to overwrite events as necessary. • Change Windows **Performance** settings to prioritize for background applications.
Application Server	None recommended.
Management Console	None recommended.

Lumension Endpoint Security Component	Requirement
Client	• If you are using Active Directory, configure a corresponding Domain Name System (DNS) server as Active Directory (AD) integrated and create a reverse lookup zone, to provide for name resolution within the Management Console. • Configure NIC to receive IP from DHCP service. • Change the Windows **Event Viewer** settings to 1024 KB and choose to overwrite events as necessary.

Client Supported Languages

The Lumension Endpoint Security client supports multiple languages in text format.

The Lumension Endpoint Security client is supported in the following languages:

- English
- French
- Italian
- German
- Spanish
- Japanese
- Simplified Chinese
- Traditional Chinese
- Russian
- Dutch
- Portuguese
- Swedish

Chapter 2

Installing Lumension Endpoint Security Components

In this chapter:

Lumension Endpoint Security component installation requires that you follow a series of interdependent tasks in a prescribed order. Before you begin, you must have a valid license key for each software application(s) that your are installing.

Successful installation of Lumension Endpoint Security requires you to install components in the following order:

1. Install the database.
2. Generate and save a public and private key pair. This action is not required, however, Lumension strongly recommends the use of a public-private key pair to provide the highest level of security.
3. Install the Application Server(s).
4. Install the Management Console.
5. Install and deploy the client.

Installation Overview

Lumension Endpoint Security component installation requires that you follow a series of interdependent tasks in a prescribed order. Before you begin, you must have a valid license key for each software application(s) that your are installing.

Use the following process to identify tasks for installing components installing Lumension Endpoint Security, for your convenience this process refers to the *Installation Checklist* on page 18.

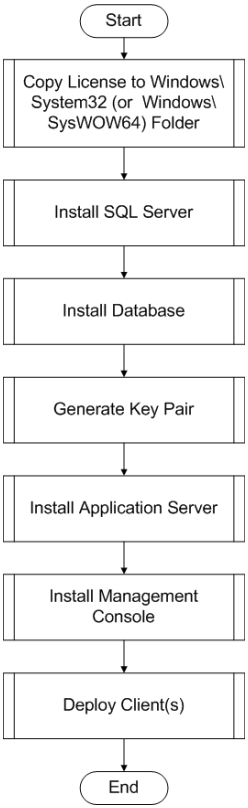


Figure 1: Lumension Endpoint Security Product Solution Installation Process Flow

Installation Checklist

The installation checklist outlines the detailed tasks that you must perform when installing the Lumension Endpoint Security solutions.

This checklist guides you through the installation process.

Important: For installation or upgrade to Lumension Endpoint Security version 4.4 SR11:

- You must have a license file that is valid specifically for version 4.4 or later.
- License files issued before Lumension Endpoint Security version 4.4 will not work with the Application Server and may cause your Application Servers to stop working. The Lumension Endpoint Security 4.4 license must be installed before you install or upgrade the Lumension Endpoint Security database, and then the Application Server.
- Request a new license file using the **Downloads** tab on the *Lumension Customer Portal* (*https://portal.lumension.com*).

To begin your installation:

1. Copy the Lumension Endpoint Security license file to the `\\Windows\System32` or `\\Windows\SysWOW64` folder, and rename the file to `endpoint.lic`. The license file may be installed after installing the database, however, the license file must installed before installing the Application Server.
2. Download the Lumension Endpoint Security application software from the *Lumension Customer Portal* (*https://portal.lumension.com*)
3. Create a device, media, or software application inventory which lists the items that you want Lumension Endpoint Security to control.
4. Document company policy that defines:
   - Device permissions.
   - Shadowing requirements.
   - Device encryption requirements.
   - Lumension Endpoint Security administrators and their roles.
   - Global domain groups for Lumension Endpoint Security administrators.
5. Plan your Lumension Endpoint Security network architecture, based on capacity requirements, that list the Application Server host names and IP addresses.
6. Create a dedicated Application Server domain user rights service account and set the following:
   - **User cannot change password**.
   - **Password never expires**.

   The domain account must have local administration rights when you plan to use the TLS communication protocol for client- Application Server and inter- Application Server data transfers.
7. Create **Impersonate a client after authentication** user rights for the Application Server. See *Impersonate a Client After Authentication* (*http://support.microsoft.com/kb/821546*) for additional information about impersonating a client after authentication user rights.
8. Verify that the Application Server domain account has **Log on as a service** user rights. See *Add the Log on as a service right to an account* (*http://technet.microsoft.com/en-us/library/cc739424(WS.10).aspx*) for additional information about logging on as a service user rights.
9. Install Microsoft® *Internet Information Services* on the same computer as the certification authority, otherwise the enterprise root certificate cannot be generated. See *Internet Information Services (IIS)* (*http://www.iis.net*) for additional information about installing *Internet Information Services*.
10. Install a Microsoft enterprise root certification authority to enable removable device encryption for Lumension Device Control. See *Install a Microsoft enterprise root certification authority* (*http://technet.microsoft.com/en-us/library/cc776709.aspx*) for additional information about installing an enterprise root certificate.
11. Install a Microsoft SQL Server® . See *Getting Started with SQL Server* (*http://msdn.microsoft.com/en-us/sqlserver/default.aspx*) for additional information about installing a SQL server.
12. Complete *Installing the Database* on page 20.
13. To install multiple Application Server s, create a shared file directory on a file server to share the Datafile directory component. This action is only required if you will be using more than one Application Server.
14. Complete *Generating a Key Pair* on page 23. This action is recommended, but not required.

15. Complete *Installing the Application Server* on page 25.

Important: The Application Server service account must have database owner (DBO) rights to the Lumension Endpoint Security database.

16. Complete *Installing the Management Console* on page 34.
17. Complete *Installing the Client* on page 39.
18. Test your Lumension Endpoint Security product solution installation for functionality.

Installing the Database

The Lumension Endpoint Security database is the first component that you install. The database serves as the central repository for device permissions rules and executable file authorizations.

Prerequisites:

Important: For installation or upgrade to Lumension Endpoint Security version 4.4 SR11:

- You must have a license file that is valid specifically for version 4.4 or later.
- License files issued before Lumension Endpoint Security version 4.4 will not work with the Application Server and may cause your Application Servers to stop working. The Lumension Endpoint Security 4.4 license must be installed before you install or upgrade the Lumension Endpoint Security database, and then the Application Server.
- Request a new license file using the **Downloads** tab on the *Lumension Customer Portal* (*https://portal.lumension.com*).

Before you can successfully install the Lumension Endpoint Security database, you must:

- Verify that you satisfy the minimum hardware and software system requirements.
- If you will be using a database cluster, you must specify an alternate *TDS* port during *SQL* server setup. See *Creating a Server Alias for Use by a Client (SQL Server Configuration Manager)* (*http://msdn.microsoft.com/en-us/library/ms190445.aspx*) for additional information about creating a server alias. You can install the Lumension Endpoint Security database on a server cluster, where there are at least two servers in the cluster running SQL Server. For additional information regarding database clustering, see *Microsoft Cluster Service (MSCS) Installation Resources* (*http://support.microsoft.com/kb/259267*).

1. Log in to a computer as an administrative user with access to a Microsoft® SQL Server®.
2. Close all programs running on the computer.
3. From the location where you saved the Lumension Endpoint Security application software, run the `\server\db\setup.exe` file.

   Step Result: The ***Installation Wizard Welcome*** page opens.

4. Click **Next**.

   Step Result: The ***License Agreement*** page opens.

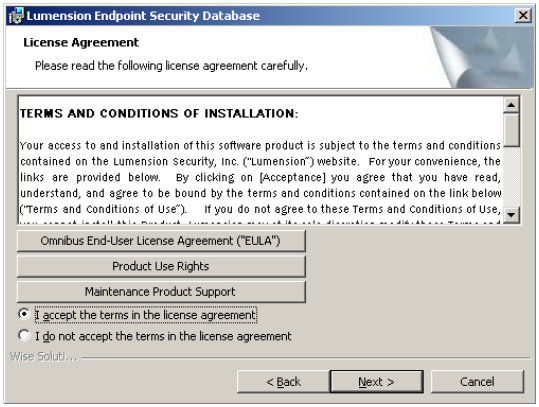


Figure 2: License Agreement Page

5. Review the license agreement and, if you agree, select **I accept the terms in the license agreement**.
6. Click **Next**.

   Step Result: The ***Destination Folder*** page opens.

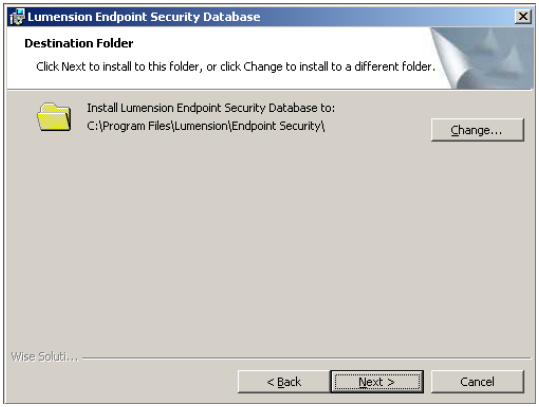


Figure 3: Destination Folder Page

7. You may choose an installation destination folder other than the default folder `C:\Program Files \Lumension\Endpoint Security`.

   a) Click **Change**

   Step Result: The ***Change Current Destination Folder*** page opens.

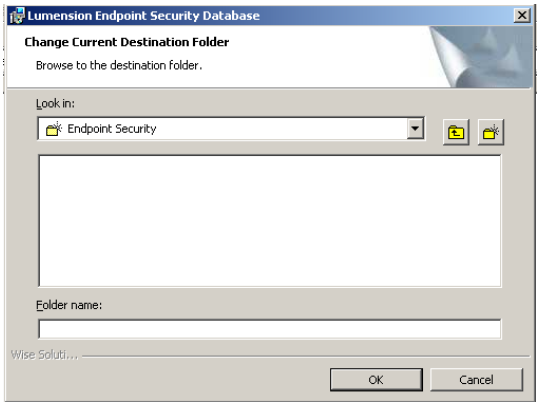


Figure 4: Change Current Destination Folder Page

   b) Select a folder from the **Look in:** field.

   c) Click **OK**.

   Step Result: The ***Change Current Destination Folder*** closes, and the ***Destination Folder*** page changes to reflect the new location.

8. Click **Next**.

   Step Result: The ***Ready to Install the Program*** page opens.

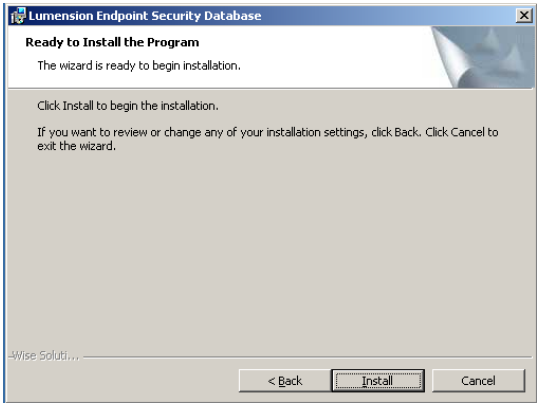


Figure 5: Ready to Install the Program Dialog

9. Click **Install**.

   A progress bar runs on the page, showing installation progress.

   Step Result: The ***Completed*** page opens.

10. Click **Finish**.

Result: Lumension Endpoint Security setup runs the SQL installation scripts and creates the Lumension Endpoint Security database for the SQL Server database instance that you specified.

Generating a Key Pair

The Application Server uses a symmetric encryption system to communicate with a client, using a public-private key pair that you generate during installation.

The Application Server and Lumension Endpoint Security clients contain a embedded default public and private key pair that should only be used with an evaluation license. Lumension provides a *Key Pair Generator* utility, which generates a key pair for fully licensed application installations. The key pair ensures the integrity for communication between the Application Server and clients.

When an Application Server cannot find a valid key pair at startup, the event is logged and Lumension Endpoint Security uses the default key pair.

Caution: When you are using Device Control, do not change the key pair:

- For media encrypted before exchanging a key pair, which will result in disabling password recovery for the previously encrypted media.
- During a Lumension Endpoint Security upgrade installation which will result in the loss of access to media previously encrypted centrally and subsequent loss of data.
- During a Lumension Endpoint Security upgrade installation when client hardening is enabled, which will cause Lumension Application Control and Lumension Device Control installations to fail.

1. From the location where you saved the Lumension Endpoint Security application software, run the `server\keygen\keygen.exe` file.

   Step Result: The ***Key Pair Generator*** dialog opens.

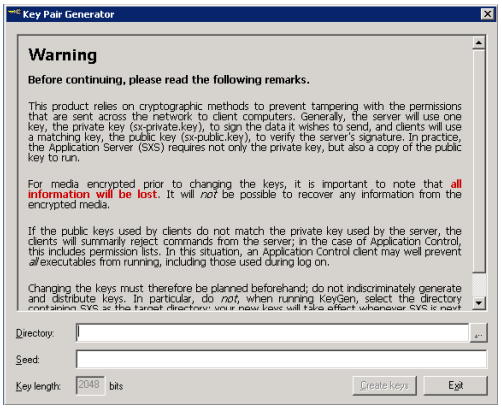


Figure 6: Key Pair Generator Dialog

2. In the **Directory** field, enter the name of the temporary directory where you will save the key pair.
3. In the **Seed** field, type a random alphanumeric text string.

   This text is used to initiate the random number generator; the longer the text string the more secure the key pair.
4. Click **Create keys**.

   Step Result: The ***Key Pair Generator*** confirmation dialog opens.

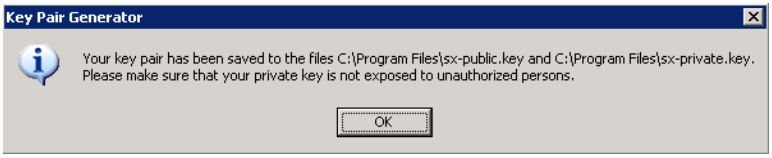


Figure 7: Key Pair Generator Dialog

5. Click **OK**.

   Step Result: You return to the ***Key Pair Generator*** dialog.

6. Click **Exit**.

Result: The keys are saved as `sx-private.key` and `sx-public.key` files in the directory you specified.

After Completing This Task:

Distribute the key pair by copying `sx-private.key` and `sx-public.key` files to the `\\%windir%\system32` directory on the computer(s) where you are installing the Application Server. At startup, the Application Server searches all drive locations for a valid key pair, stopping at the first valid key pair.

Installing the Application Server

The Application Server processes Lumension Endpoint Security client activities and is the only application component that connects to the database. One or more Application Servers communicate device and application

control information between the Lumension Endpoint Security database and Lumension Endpoint Security client(s).

Prerequisites:

Before you can successfully install the Application Server, you must:

- Verify that a valid Lumension Endpoint Security license file is listed in the `\Windows\System32` or `\Windows\SysWOW64` folder, and is name file to `endpoint.lic`.

  Important: For installation or upgrade to Lumension Endpoint Security version 4.4 SR11:

  - You must have a license file that is valid specifically for version 4.4 or later.
  - License files issued before Lumension Endpoint Security version 4.4 will not work with the Application Server and may cause your Application Servers to stop working. The Lumension Endpoint Security 4.4 license must be installed before you install or upgrade the Lumension Endpoint Security database, and then the Application Server.
  - Request a new license file using the **Downloads** tab on the *Lumension Customer Portal* (*https://portal.lumension.com*).

- Verify that you satisfy the minimum hardware and software system requirements.

  Restriction: If you are installing the Lumension Application Control Terminal Services Edition, you must install the Application Server on a computer separate from the Citrix® Metaframe® Presentation Server.

- When using TLS protocol confirm TCP ports 33115 and 65229 are open. When not using TLS protocol open TCP port 65129. Depending upon how firewalls are setup in your environment, these ports may be closed.
- Configure the TCP/IP protocol to use a fixed IP address for the computer that runs the Application Server.
- Configure the Application Server host computer to perform fully qualified domain name (FQDN) resolution for the Lumension Endpoint Security clients that the server manages.
- Ensure that the Application Server host computer account is configured to read domain information using the Microsoft® Windows® Security Account Manager. See *Security Account Manager (SAM)* (*http://technet.microsoft.com/en-us/library/cc756748.aspx*) for additional information about the Microsoft Windows Security Account Manager.
- Synchronize the Application Server's system clock with the Lumension Endpoint Security database server's system clock using the Microsoft Windows time service. See *Time Service* (*http://support.microsoft.com/kb/816042*) for details about using the Microsoft Windows time service.

1. Log in with administrative user access to the computer where you are installing the Application Server.

   Important: For Active Directory environments, log in using the dedicated Application Server domain user rights service account. The Application Server installation process configures the Application Server service account for access to the database.

2. Close all programs running on the computer.
3. From the location where you saved the Lumension Endpoint Security application software, run `\server\sxs\setup.exe`.

4. Click **OK**.

   Step Result: The ***Installation Wizard Welcome*** page opens.

5. Click **Next**.

   Step Result: The ***License Agreement*** page opens.

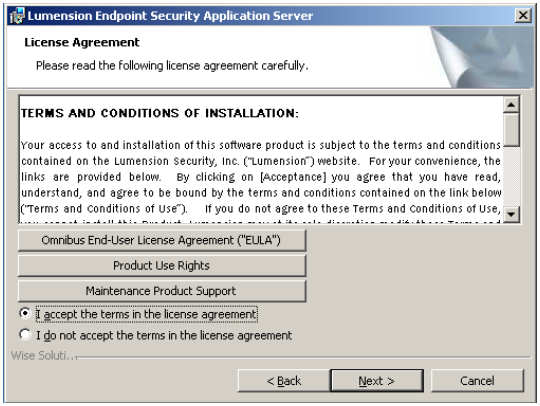


Figure 8: License Agreement Page

6. Review the license agreement and, if you agree, select **I accept the terms in the license agreement**.
7. Click **Next**.

   Step Result: The ***Setup*** dialog opens when the setup process detects an operating system that is subject to security changes concerning Remote Procedure Calls (RPC).

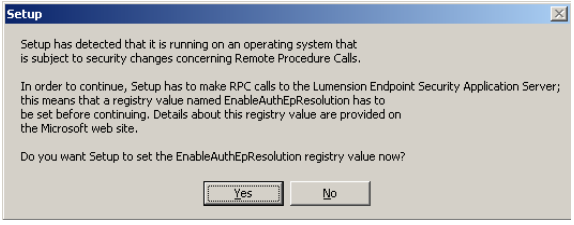


Figure 9: Setup Dialog

8. Click **Yes**.

   Step Result: A confirmation dialog opens after the registry value is reset.

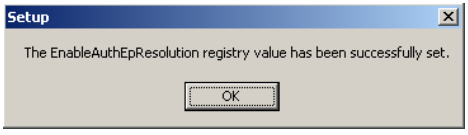


Figure 10: The Setup Dialog

9. Click **OK**.

Step Result: The ***Destination Folder*** page opens.

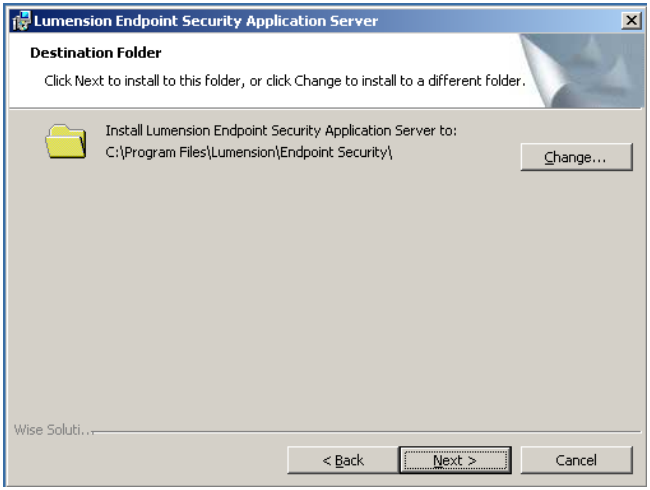


Figure 11: Destination Folder Page

10. You may choose an installation destination folder other than the Lumension Endpoint Security default folder `C:\Program Files\Lumension\Endpoint Security`.

a) Click **Change**.

Step Result: The ***Change Current Destination Folder*** page opens.

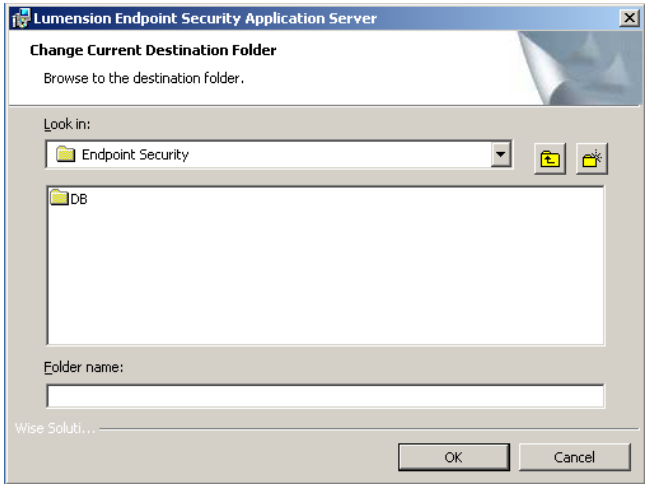


Figure 12: Change Current Destination Folder Page

b) Select a folder from the **Look in:** field.

c) Click **OK**.

Step Result: The ***Change Current Destination Folder*** closes, and the ***Destination Folder*** page changes to reflect the new location.

11. Click **Next**.

Step Result: The ***Service Account*** page opens.

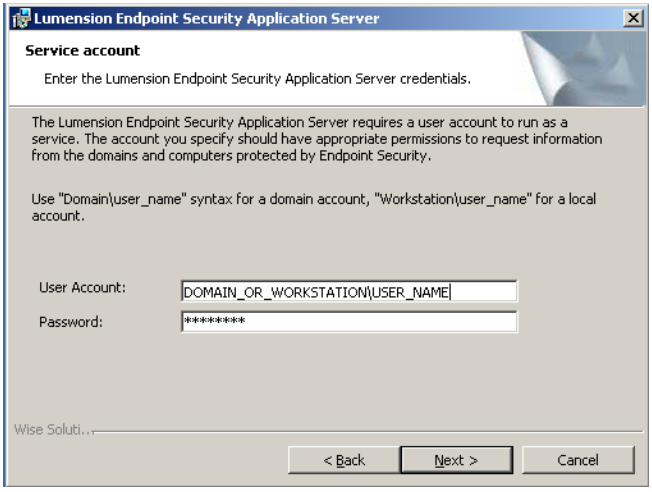


Figure 13: Service Account Page

12. Type the name of the user or domain in the **User Account** field for access to the Application Server.

Enter domain account information using the `Domain\User` format, and local account information using the `Computer\User` format. Lumension Endpoint Security supports use of standard NetBIOS computer names up to fifteen (15) characters long.

Tip: This is the user name that you created when you configured the domain service account for the Application Server .

13. In the **Password** field, type the user account access password.

14. Click **Next**.

Step Result: The ***Database Server*** page opens.

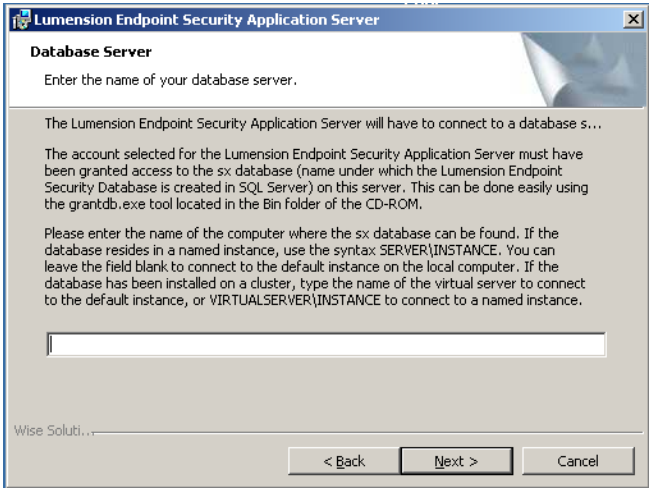


Figure 14: Database Server Page

15. Type the name of the database instance for the Application Server connection, using the `servername \instancename` format.

The default database instance is automatically populated, when installed on the same computer. Alternately, the `instancename` is not required if the database is installed in the default instance of Microsoft SQL Server.

16. Click **Next**.

Step Result: The ***Datafile directory*** page opens.

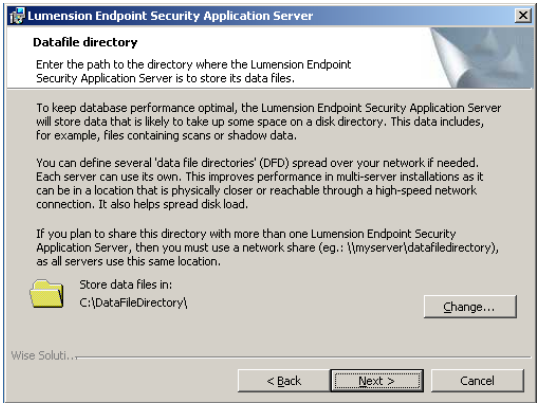


Figure 15: Datafile Directory Page

17. You may choose a folder other than the Lumension Endpoint Security default folder, `C:\DataFileDirectory\` , where Application Server log, shadow, and scan files are stored.

Tip: Use a permanent network share when you are installing more than one Application Server or a dedicated file server. To improve performance for a multi-server installation, assign a separate data file directory to each server to provide load balancing; although more than one server can access the same data file directory. Use a `Universal\Uniform Name Convention` path name; do not use a mapped drive name.

a) Click **Change**.

Step Result: The ***Select datafile directory*** page opens.

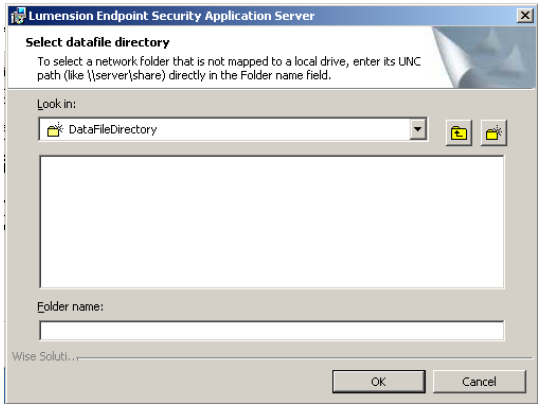


Figure 16: Select Datafile Directory Page

b) Type the name of the datafile directory in the **Folder name:** field.

c) Click **OK**.

18. Click **Next**.

Step Result: The ***Server communication protocol*** page opens.

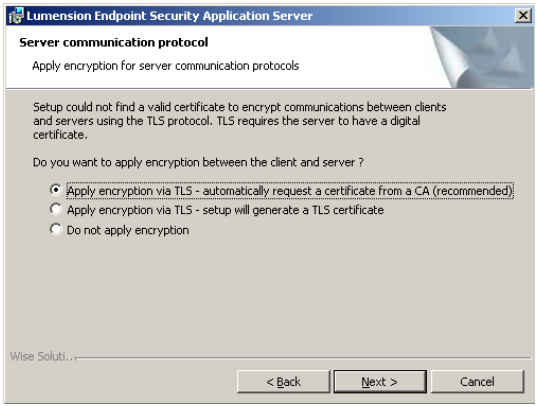


Figure 17: Server Communication Protocol Page

19. Select an encryption option.

Restriction: The server communication protocol options shown depend upon the client version supported and whether a certification authority digital certificate is installed.

20. Click **Next**.

Step Result: The ***Server communication protocol*** page opens.

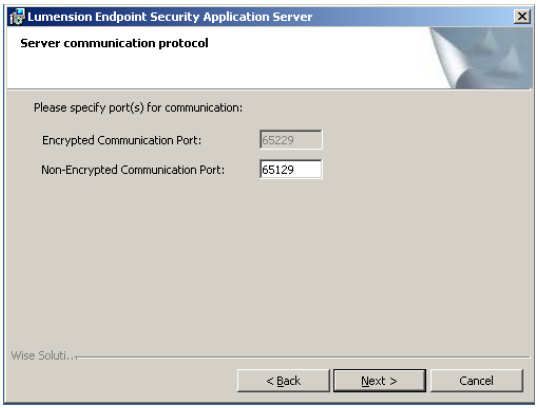


Figure 18: Server Communication Protocol Ports Page

21. Specify the communication port(s).

Restriction: The port field(s) shown depend upon the encryption communication protocol that you selected previously.

22. Click **Next**.

Step Result: The ***Syslog Server*** page opens.

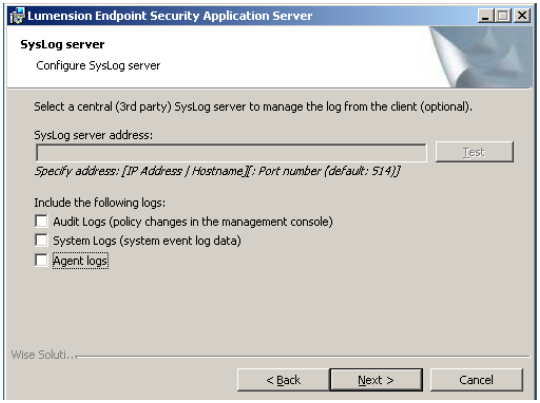


Figure 19: Syslog Server Page

23. Type the name or the IP address of the *SysLog* server in the **SysLog server address** field.

Important: This step is optional. You do not have to specify a *Syslog* server.

24. Select from the following options:

Option	Description
Audit Logs	Logs changes to policy administered through the Management Console .
System Logs	Logs system events.
Agent Logs	Logs events uploaded directly from the Lumension Endpoint Security client.

25. Click **Next**.

Step Result: The ***Ready to Install Program*** page opens.

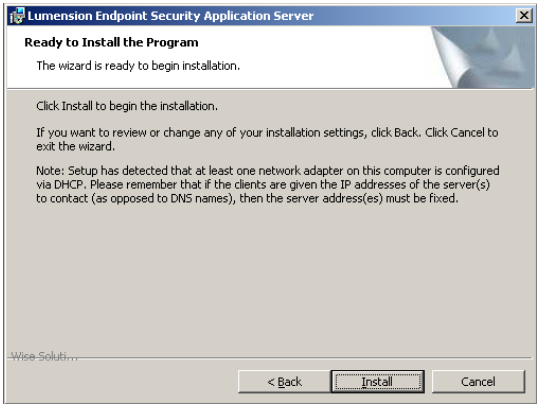


Figure 20: Ready to Install Program Page

26. Click **Install**.

A progress bar runs on the page, showing installation progress.

Step Result: The ***Completed*** page opens.

27. Click **Finish**.

Result: The Application Server files are installed and the server establishes a connection to the Lumension Endpoint Security database.

Installing the Management Console

The Management Console is the administrative tool that used to configure and run the Lumension Endpoint Security software.

Prerequisites:

Before you can successfully install the Management Console, you must:

- Verify that you satisfy the minimum hardware and software system requirements.

  Restriction: If you are installing the Lumension Application Control Terminal Services Edition, you must install the Management Console on a computer separate from the Citrix® Metaframe® Presentation Server.

- Install the Application Server.

1. Log in as an administrative user to the computer where you are installing the Management Console.

2. Close all programs running on the computer.

3. From the location where you saved the Lumension Endpoint Security application software, run the `\server\smc\setup.exe`.

Attention: The Management Console requires the Microsoft® Visual C++ 2008 Redistributable Package for proper operation. You may receive a message prompting you to allow setup to trigger the redistributable package installation, if Visual C++ Libraries are not already installed. After the redistributable package installs, the Management Console resumes installation as follows.

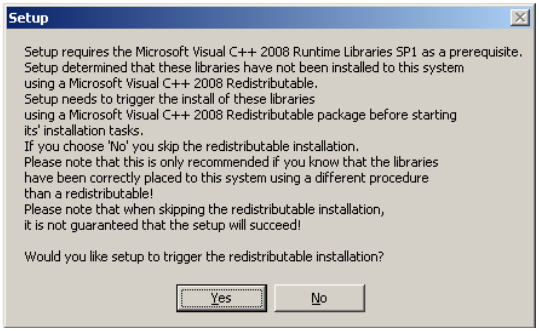


Figure 21: Microsoft Visual C++ 2008 Redistributable Package Setup

Step Result: The ***Installation Wizard Welcome*** page opens.

4. Click **Next**.

Step Result: The ***License Agreement*** page opens.

Figure 22: License Agreement Page

5. Review the license agreement and, if you agree, select **I accept the terms in the license agreement**.

6. Click **Next**.

   Step Result: The ***Setup Type*** page opens.

Figure 23: Setup Type Page

7. Select one of the following options:

Option	Description
Complete	Installs all program features.

Option	Description
Custom	Install selected program features where you specify the location.

a) If you select **Custom**, the ***Custom Setup*** page opens.

Step Result:

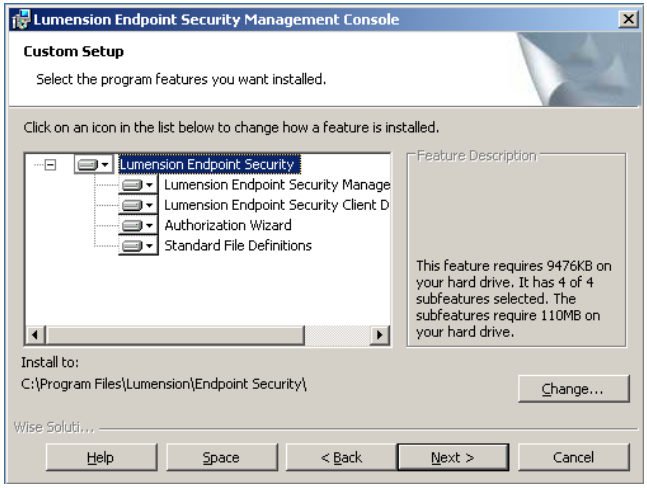


Figure 24: Custom Setup Page

b) Select the features you want to install.

The installation features shown depend upon the application you are licensed for.

Feature	License Type(s)
Management Console	Lumension Device Control Lumension Application Control
Lumension Endpoint Security Client Deployment Tool	Lumension Device Control Lumension Application Control
Standard File Definitions	Lumension Application Control
Authorization Wizard	Lumension Application Control

c) You may choose `C:\Program Files\Lumension\Endpoint Security\Console`.

Step Result: The ***Change Current Destination Folder Page*** opens.

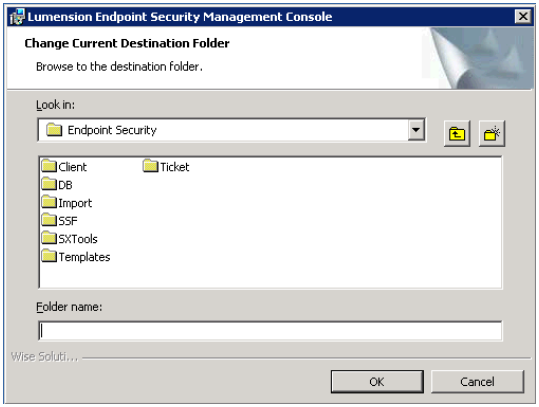


Figure 25: Change Current Destination Folder Page

d) Select a folder from the **Look in:** field.

e) Click **OK**.

Step Result: The ***Change Current Destination Folder*** closes, and the ***Destination Folder*** page changes to reflect the new location.

8. Click **Next**.

Step Result: The ***Ready to Install*** page opens.

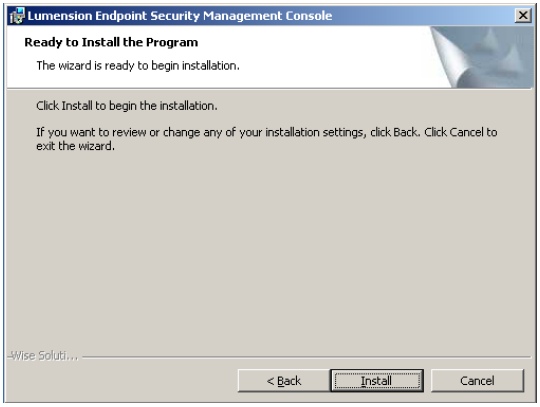


Figure 26: Ready to Install Page

9. Click **Install**.

A progress bar runs on the page, showing installation progress.

Step Result: The ***Completed*** page opens.

10. Click **Finish**.

Result: The Management Console files are installed.

After Completing This Task:

Define Lumension Endpoint Security administrator access as described in the *Lumension Device Control User Guide* (*http://portal.lumension.com*) or the *Lumension Application Control User Guide* (*http://portal.lumension.com*) depending upon your license type. By default, only users who are members of the *Administrators* group for the computer running the Management Console can connect to the Application Server.

Installing the Client

The Lumension Endpoint Security client manages permissions for device access and user access to software applications for endpoint computers.

Prerequisites:

Before you can successfully install the Lumension Endpoint Security client, you must:

- Verify that you satisfy the minimum hardware and software system requirements.
- Copy the `sx-public.key` file for the Lumension Endpoint Security client to the `Client` folder located where you downloaded the Lumension Endpoint Security software. The Lumension Endpoint Security client installer detects the public key during installation and copies the key to the target directory (`%windir%\sxdata`).
- Install the Application Server.
- Install the Management Console.
- When installing Lumension Application Control, you must create a list of authorized executable files, scripts and macros before setting **Execution blocking** default option to **Non-blocking mode**.
- When installing Lumension Application Control, you must ensure that the **Execution blocking** default option is set to **Non-blocking mode**; otherwise the Lumension Endpoint Security client computer will not restart after Lumension Endpoint Security client installation because executable system files cannot run until they are centrally authorized from the Management Console.

1. Verify that the domain information in the Lumension Endpoint Security database is synchronized as follows:

a) From the Management Console, select **Tools** > **Synchronize Domain Members**.

Step Result: The ***Synchronize Domain*** dialog opens.

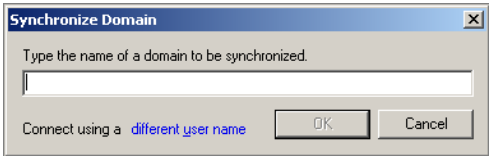


Figure 27: Synchronize Domain Dialog

b) Enter the name of the domain that you want to synchronize.

Note: When you enter a computer name that is a domain controller, the domain controller is used for synchronization. This is useful when replication between domain controllers is slow.

c) Click **OK**.

Attention: When you use Lumension Endpoint Security in a Novell environment, you must run the `ndssync_ldap.vbs` synchronization script found in the `scripts` folder where you stored the application software after downloading. This can be done manually when there are few changes in your eDirectory structure or you use automatically scheduling software.

2. Log in as an administrative user to the computer where you are deploying the Lumension Endpoint Security client.
3. Close all programs running on the computer.
4. From the location where you saved the Lumension Endpoint Security application software, run `\client\setup.exe` file.

   Step Result: The ***Installation Wizard Welcome*** page opens.

5. Click **Next**.

   Step Result: The ***License Agreement*** page opens.

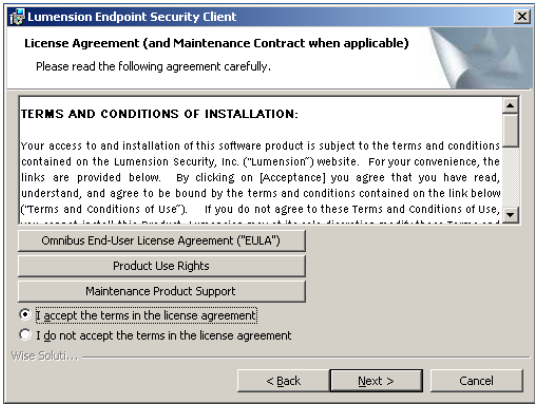


Figure 28: License Agreement Page

6. Review the license agreement, and, if you agree, select **I accept the terms in the license agreement**.

7. Click **Next**.

   Step Result: The ***Encrypted Communication*** page opens.

Figure 29: Encrypted Communication Page

8. Select one of the following options that matches the option you selected when installing the Application Server:

Option	Description
Server is using unencrypted protocol	Communication between the Application Server and Lumension Endpoint Security client is not using the TLS communication protocol. Communication is not encrypted but is signed using the private key.
Authentication certificate will be generated by setup	Communication between the Application Server and Lumension Endpoint Security client uses the TLS communication protocol. Communication is encrypted and the digital certificate is generated manually during installation.

Option	Description
Authentication certificate will be retrieved from a CA	Communication between the Application Server and Lumension Endpoint Security client uses the TLS communication protocol. Communication is encrypted and the digital certificate is retrieved automatically during installation.

Tip: Lumension recommends that you use the automatic TLS retrieval option to deploy *Certificate Authority* infrastructure for issuing valid digital certificates.

Step Result: If you opt to manually generate a certificate during setup, the ***Client Authentication*** dialog opens.

Figure 30: Client Authentication Dialog

9. To manually generate a certificate during setup specify the computer certificate location and parameters from the following options.

Option	Description
Generate certificate signed by certificate located in store	Generates a digital certificate during installation by using a signature certificate located in the local user store.
Generate certificate signed by certificate located in file	Generates a digital certificate during installation by using a signature certificate located in a specified file.
Import into store	Imports a signature certificate into the local user store.
Certificate parameters	Specifies the certificate parameters for the **Cryptographic service provider**, **Key length**, **Validity**, and **Signature**.

10. Click **Next**.

Step Result: The ***Lumension Endpoint Security Application Server***s page opens.

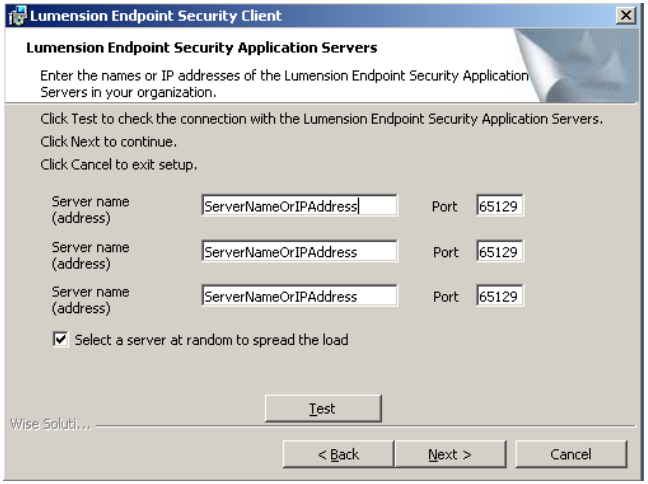


Figure 31: Application Server s Page

11. Specify up to three server names using fully qualified domain names (FQDN) or IP addresses that are managed from the Management Console.

Caution: Do not use IP address(es) when using the TLS communication protocol for encryption. You can only use FQDNs for when using the TLS communication protocol.

12. Verify that the Lumension Endpoint Security client connects to the Application Server by clicking **Test**.

Caution: You can proceed with client installation if the Application Server is unavailable, by clicking **OK** in the following dialog. The client can establish a connection with the server later, when the server is available.

Figure 32: Error Dialog

Step Result: By default, Lumension Endpoint Security connects with the first available server and retrieves default policy settings from the server.

13. If you are specifying more than one server, select or deselect the **Select a server at random to spread the load** option.

14. Click **Next**.

Step Result: The ***Destination Folder*** page opens.

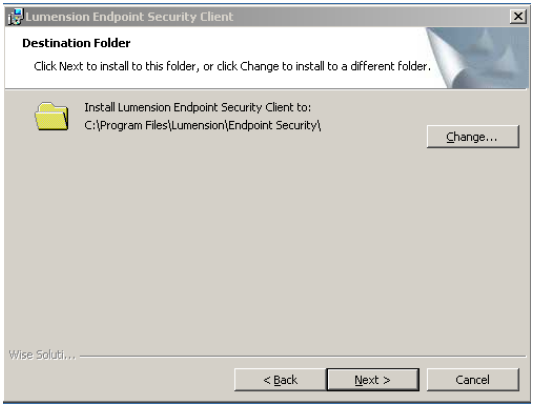


Figure 33: Destination Folder Page

15. You may choose an installation destination folder other than the Lumension Endpoint Security default folder `C:\Program Files\Lumension\Endpoint Security`, by clicking **Change**.

Step Result: The ***Change Current Destination Folder*** page opens.

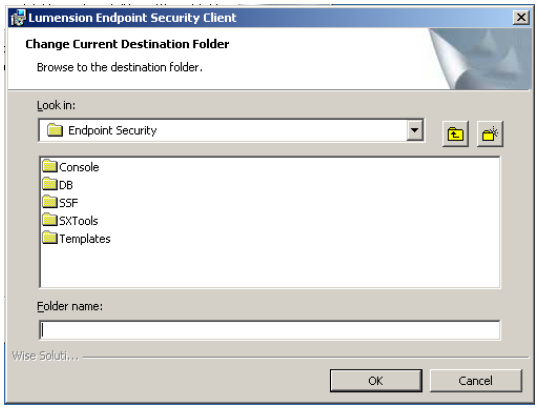


Figure 34: Change Current Destination Folder Page

16. Select a folder from the **Look in:** field.

17. Click **OK**.

Step Result: The ***Change Current Destination Folder*** closes, and the ***Destination Folder*** page changes to reflect the new location.

18. Click **Next**.

Step Result: The ***"Add or Remove Programs" list*** page opens.

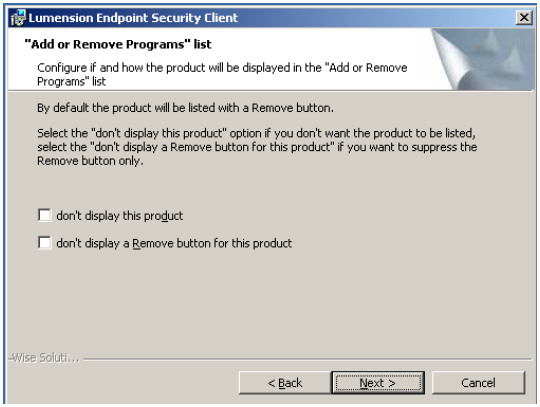


Figure 35: Add or Remove Programs List Page

19. You may select one of the following options, which are not required to proceed with installation:

Option	Description
Don't display this product	Does not display the Lumension Endpoint Security component names in the **Add or Remove Programs** list in the Windows ***Control Panel***.
Don't display the Remove button for this product	Displays the Lumension Endpoint Security component names in the **Add or Remove Programs** list in the Windows ***Control Panel*** without the **Remove** option.

20. Click **Next**.

Step Result: The ***NDIS Device Control*** page opens.

Note: NDIS enables Device Control to control 802.1x wireless adapters. If you do not need this protection, you may disable it here.

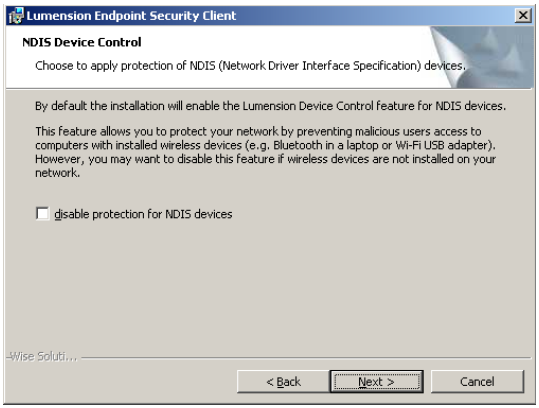


Figure 36: NDIS Device Control Page

21. Select the **disable protection for NDIS devices** check box to allow the use of wireless devices.

22. Click **Next**.

Step Result: The ***Ready to Install the Program*** page opens.

23. Click **Install**.

Step Result: A progress bar runs on the page, showing installation progress.

Attention: The ***Setup*** dialog warning opens when there is an invalid, non-reachable server address and no policy file exists.

24. Select one of the following options.

Option	Description
Abort	Does not retrieve the policy file and cancels the installation process.
Retry	Attempts to retrieve the policy file and continue setup.

Option	Description
Ignore	Skips policy file retrieval and continues setup, creating the risk of blocking the computer from all device and executable file access.

Danger: If you select **Ignore,** the Lumension Endpoint Security suite installs with the most restrictive default file execution policy that denies use of all devices and/or executable files. This type of installation will deny you access to devices and software that you use on your computer, which can make the computer inaccessible. When you install a client offline for use with Lumension Application Control you must provide a policy settings file. Refer the *Lumension Application Control User Guide* (*http://portal.lumension.com*) for more information about creating and exporting policy settings files.

Step Result: The ***Completed*** page opens.

25. Click **Finish**.

Result: The Lumension Endpoint Security client is installed and connects to the Application Server.

After Completing This Task:

You must restart your computer system for the Lumension Endpoint Security client configuration changes to become effective and enable the use of the Lumension Endpoint Security client.

Chapter 3

Using Lumension Device Control

In this chapter:

This chapter explains how Lumension Device Control works and describes how to define and manage device permissions.

Lumension Endpoint Security solutions include:

- Lumension Device Control, which prevents unauthorized transfer of applications and data by controlling access to input and output devices, such as memory sticks, modems, and PDAs.
- Lumension Device Control client for Embedded Devices, which moves beyond the traditional desktop and laptop endpoints to a variety of platforms that include ATMs, industrial robotics, thin clients, set-top boxes, network area storage devices and the myriad of other systems running Microsoft® Windows XP® Embedded.
- Lumension Application Control, which delivers granular control of application execution in an enterprise environment.
- Lumension Application Control Terminal Services Edition, which extends application control to Citrix® or Microsoft Terminal Services ® environments that share applications among multiple users.
- Lumension Application Control Server Edition, which delivers application control to protect enterprise servers, such as web servers, e-mail servers, and database servers.

Product Overview

The Device Control software application is based on a multi-tier software architecture that processes and stores data for Application Control and Device Control. Users can interact with the application through the client interface. A separate Management Console provides a user interface for network administrators.

The primary components of the Lumension Device Control solution are:

- The Device Control database which serves as the central repository of authorization information for devices and applications.
- One or more Application Servers that communicate between the database, the protected clients, and the Management Console.
- The Device Control client, which is installed on each computer, either end-point or server, that you want to protect.
- The Management Console, which provides the administrative user interface for the Application Server.

The following figure illustrates the relationships between the Device Control components.

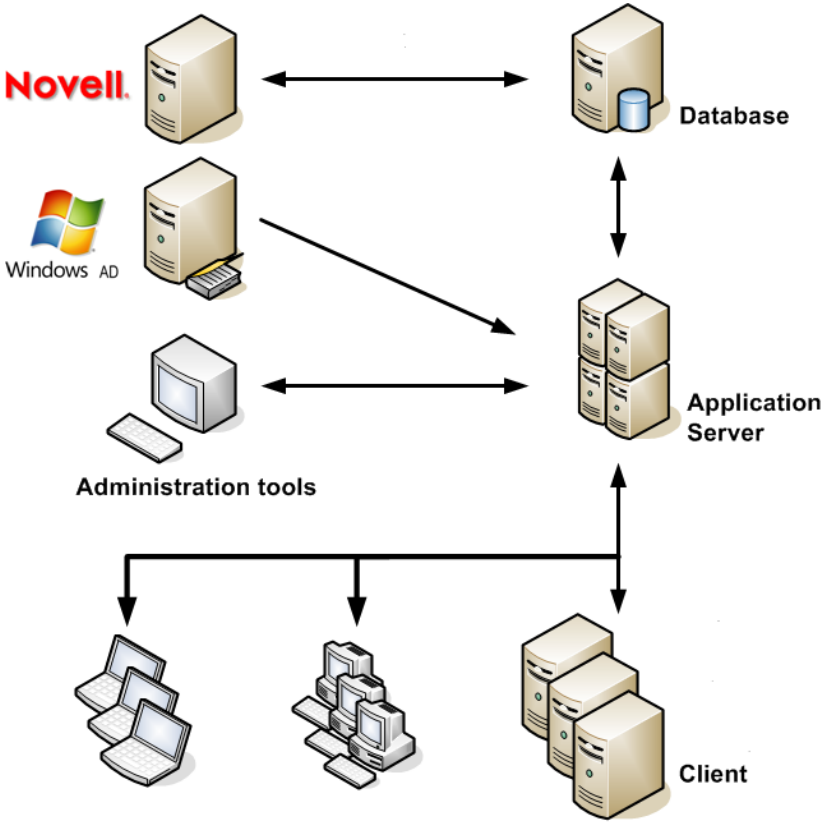


Figure 37: Device Control Component Relationships

Device Control Server, Database and Client Process

The Application Server communicates between the database and the protected client computers.

The following describes the communication process flow between the Device Control servers, database, and clients when using Device Control.

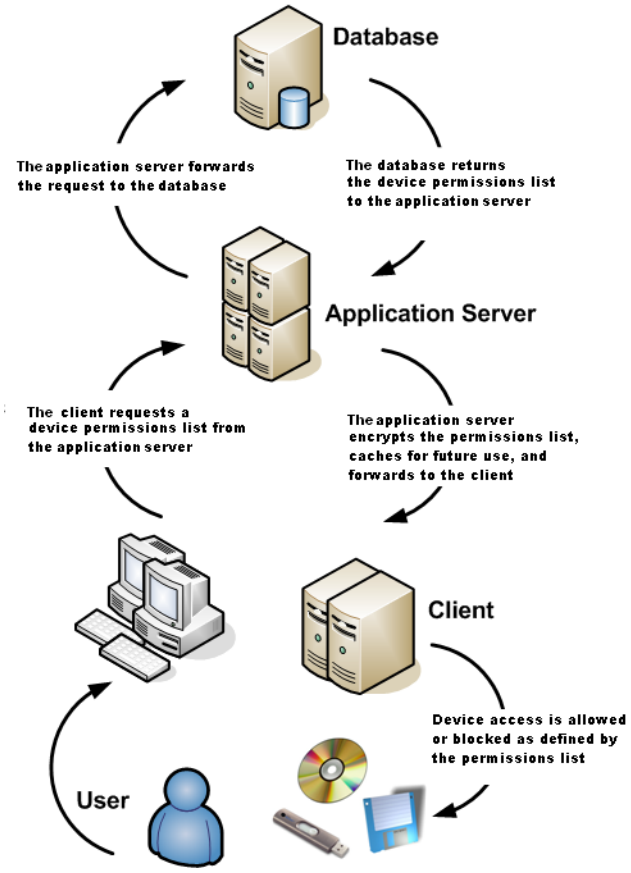


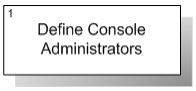
Figure 38: Device Control Process Flow

Using the Management Console

The Management Console allows the user to communicate with an Application Server to send and retrieve device permissions data from the database. The data is then sent from the server to a Lumension Endpoint Security client, thereby establishing device control on the client.

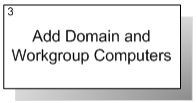
The Device Permissions Setup Process

After successfully installing Application Control, an administrator uses the Management Console to configure and define user access permissions and device permission rules required in a Lumension Endpoint Security environment that specify which devices each user can access, as described by the following process flow.

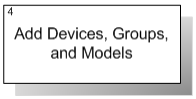


The *Enterprise Administrator* defines administrative roles for network *Administrator*s that have restricted access to the Management Console.

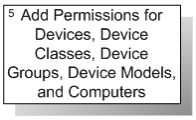
After defining *Administrator* roles, the *Enterprise Administrator* assigns the roles to *Administrator*s using the **User Access** tool.



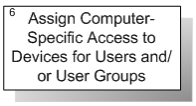
*Administrator*s add computers to a domain group or computer workgroup in the **Machine-specific settings** structure of the ***Device Explorer***.



Define user access permission rules for a devices, device classes, device groups, device models, and computers, by assigning one or more users or user groups to the devices. Initially, the default permissions for all devices that connect to a computer running the Lumension Endpoint Security client is **None**, which means that all user access is denied.



Assign permission rules for users to access devices, device classes, device groups, device models, and computers.



Assign computer-specific permission rules for users to access devices and device classes.

Permissions determine access to devices for authorized users or groups on any computer protected by Lumension Endpoint Security. You can change rules to grant, extend, or deny permissions. You can allow access to CD/DVD-ROMs for specific users or groups that otherwise do not have access as defined by permissions policies, because users cannot use unauthorized CD/DVDs.

Using the Management Console

The Management Console provides direct access to system management, configuration, file authorization, reporting, and logging functions.

The Management Console allows the user to communicate with an Application Server to send and retrieve device permissions data from the database. The data is then sent from the server to a Lumension Endpoint Security client, thereby establishing device control on the client.

Logging In to the Management Console

You access the application by logging in to the Management Console.

1. Select **Start** > **Programs** > **Lumension** > **Endpoint Security** > **Endpoint Security Management Console** > **Lumension Endpoint Security Management Console**.

   Step Result: Each time you access the Management Console, the ***Connect to* Lumension Endpoint Security Application Server** dialog appears.

2. From the **Application Server** drop-down list, select the Application Server you want to connect to.

   You can type the server name as an IP address with port if required in square brackets, NetBios name, or fully qualified domain name in the **Application Server** field.

3. Select one of the following options:

Option	Description
Use current user	By default the system connects to the Application Server using your credentials.
Log in as	Type the user name in the **Username** field and type the password in the **Password** field. **Tip:** Precede the user name by a computer workstation name and backslash for a local user, or by a domain name and backslash for domain users.

4. Click **OK**.

   Step Result: The ***Connect to* Lumension Endpoint Security Application Server** dialog closes.

Result: The ***Lumension Endpoint Security Management Console*** window opens.

Logging Out of the Management Console

When you log out from the Management Console you can choose to terminate the adminstrative session or disconnect from the Application Server.

1. To disconnect from the Application Server, select **File** from the navigation bar.
2. Select one of the following options:

Option	Description
Disconnect	The Management Console remains open.
Exit	The Management Console closes.

Result: The **Disconnect** or **Exit** action terminates your current administrative session.

Lumension Device Control Modules

The Device Control **Modules** provide access to the functions necessary for configuring and managing and are grouped into three modules, represented by the icons in the **Modules** section of the ***Control Panel***.

The following table describes the functions of the **Modules** icons.

Table 7: Lumension Device Control Modules

Module	Icon	Description
Device Explorer		Grants access to input/output (I/O) devices for specific users or groups. Establishes copy limits and activates file shadowing. Allows users to encrypt removable devices *on-the-fly* for decentralized encryption.
Log Explorer		Shows records of files transferred from any computer to authorized I/O devices and the contents of the files (shadowing). Shows user attempts to access or connect unauthorized devices. Provides templates to create customized reports.
Media Authorizer		Provides for central encryption of removable devices. Allows for users to access specific CD/DVD. Allows for users to use specific encrypted media.

Getting Started

The Management Console can only be accessed by authorized network administrators.

Before you begin to use Lumension Endpoint Security, you must define the following users in the domain:

- An administrative user with local `Administrator` rights.
- A Lumension Endpoint Security client user with domain user rights.

Managing Devices

When Device Control is initially installed, all removable storage devices that belong to standard Microsoft Windows® device classes are identified and added to the database. You can set up and manage user access permission rules for the different models and specific device types using the ***Device Explorer***.

Using the ***Device Explorer*** you can add devices and device types for computers and add computers that are not included in the *Active Directory* structure. You can define general user access permission policies based on the predefined device classes.

Restriction: You can add specific device models to all base device classes, except the **PS/2 ports** classes.

Device Permission Default Settings

When Device Control is initially installed, default user access permission rules apply to all supported predefined device classes.

The following table describes default permission settings for the predefined devices classes.

Table 8: Device Default Settings

Device Class	Permission	Shadow	Copy Limit
COM/Serial Ports	No access	Disable	Not available
CD/DVD Drives	No access	Disable	Not available
Floppy Disk Drives	No access	Disable	Not available
LPT/Parallel Ports	No access	Disable	Not available
Modems/Secondary Network Access Devices	No access	Disable	Not available
Portable Devices	No access	Not available	Not available
PS/2 Ports	Read/Write (Low Priority)	Not available	Not available
Removable Storage Devices	No access	Disable	No limit
Wireless Network Interface Cards (NICs)	Read/Write (Low Priority)	Not available	Not available

Device Types Supported

Device Control supports a wide range of device types that represent key sources of confidential data security breaches. You can define user access permission at the device class level to restrict access to specific device types. Device Control can detect *plug-and-play* devices.

The device types you can manage using Device Control are described in the following table.

Table 9: Supported Device Types

Device Type	Description
Biometric Devices	Includes *Password Managers* and *FingerPrint* readers.
Citrix Network Shares	Includes any mapped drive, whether a mapped network drive or a locally mapped device, when accessed through either a Citrix–delivered application or the Citrix desktop.
COM/Serial Ports	Includes serial ports and devices that use COM device drivers, such as modems, null modems and terminal adaptors. Some *PDA* cradles use a virtual serial port, even when connected through the *USB* port.
DVD/CD Drives	Includes CD-ROM and DVD access for full device lock and unlock.
Floppy Disk Drives	Includes disk drive access for complete lock and unlock mode or read-only mode of conventional diskettes and high capacity drives.

Device Type	Description
Imaging Devices	Includes USB or SCSI devices, scanners, and webcam.
LPT/Parallel Ports	Includes conventional parallel printer ports and variants such as ECB and Dongles.
Modems/Secondary Network Access Devices	Includes internal and external devices. Secondary network devices do not connect through normal channels.
Palm Handheld Devices	Includes conventional types of this device.
Portable Devices	Includes smart storage devices such as MP3 players, digital still cameras, mobile phones, mobile storage devices, and Windows Mobile 6.x OS PDAs.
Printers (USB/Bluetooth)	Includes USB/Bluetooth printers.
PS/2 Ports	Includes the conventional type of port used to connect keyboards.
Removable Storage Devices	Includes chip- and disk-based devices that are not floppy or CD-ROM devices, such as Jaz and PCMCIA hard drives and USB memory devices such as memory stick, Disk on Key, AIP, and most USB-connected MP3 players and digital cameras. **Note:** Non-system hard drives are treated as removable storage devices.
RIM Blackberry Handhelds	Includes handheld computers and mobile phones from Research in Motion (RIM) BlackBerry connected to a computer through a USB port.
Smart Card Readers	Includes eToken and fingerprint readers for smart cards.
Tape Drives	Includes conventional internal and external tape drives of any capacity.
User Defined Devices	Includes devices that do not fit standard categories, such as some PDAs, non-Compaq iPAQ, USB, non-Palm handheld USB, Qtec, HTC and webcams.
Windows CE Handheld Devices	Includes the HP iPAQ® or XDA, Windows Mobile 5 CE® devices and Windows CE® computers connected through a USB port.
Wireless Network Interface Cards (NICs)	Includes the device option to configure client permission rules use a wireless LAN adaptor.

Device Explorer Window

An administrator uses the ***Device Explorer*** hierarchy to create and manage device and computer user groups, as well as, assign permission rules for online, offline, temporary and scheduled device use. The ***Device Explorer*** module is also used to create and manage file shadowing rules.

The main window of the ***Device Explorer*** module displays a hierarchical structure of device classes, which is divided into two primary levels:

- **Default settings** which contain the user access permission rules that apply to every computer.
- **Machine-specific settings** which contain unique user access permission rules that apply to a specific computer or group of computers.

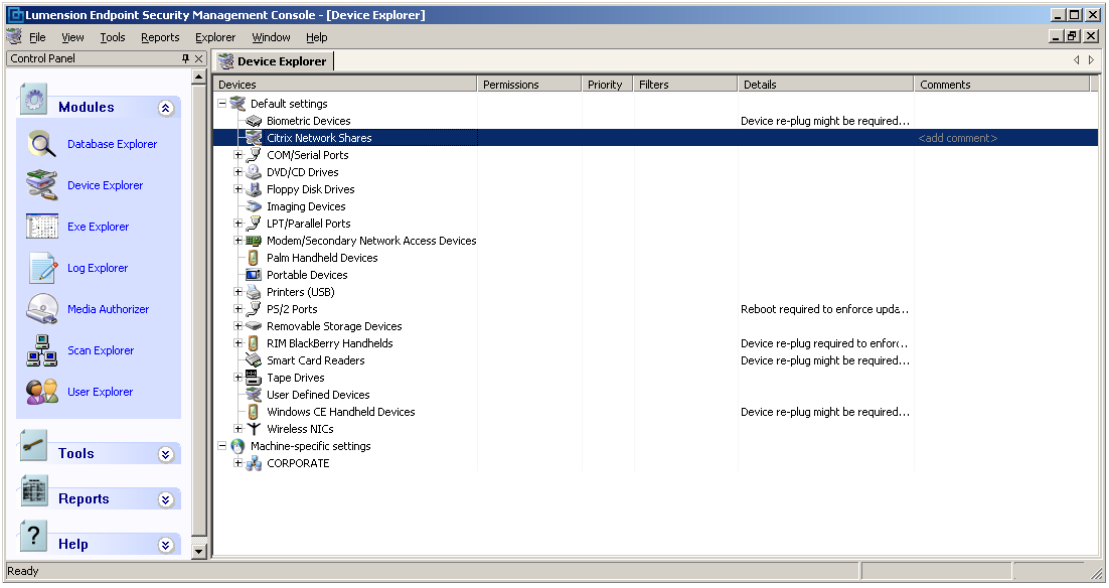


Figure 39: Device Explorer Main Window

The ***Device Explorer*** window is further divided into the following columns:

Table 10: Device Explorer Window Column Descriptions

Column	Description
Devices	Lists device classes and users or user groups with permission to access devices.
Permissions	Shows a description of the type of permission provided to users and user groups listed in the **Devices** column.
Priority	Shows a priority of **High** or **Low** assigned to rules listed in the **Permissions** column.
Filters	Shows a description of the file type filtering rules assigned to rules listed in the **Permissions** column.
Details	Shows a description of permissions rules details.
Comments	Lumension Endpoint Security administrators can select permission rules and enter comments by clicking the **Comments** column heading.

Permissions Dialog

An administrator uses the ***Permissions*** dialog to create and manage permission rules for devices and associate these rules with user and user group access rights.

The ***Permissions*** dialog is the primary tool that an administrator uses to:

- Assign and manage user access permission rules for devices connected to client computers.
- Force encryption of removable storage media that users are permitted to access.

The ***Permissions*** dialog is composed of five panels:

- ***User/Group***
- ***Permissions***
- ***Encryption***
- ***Bus***
- ***Drive***

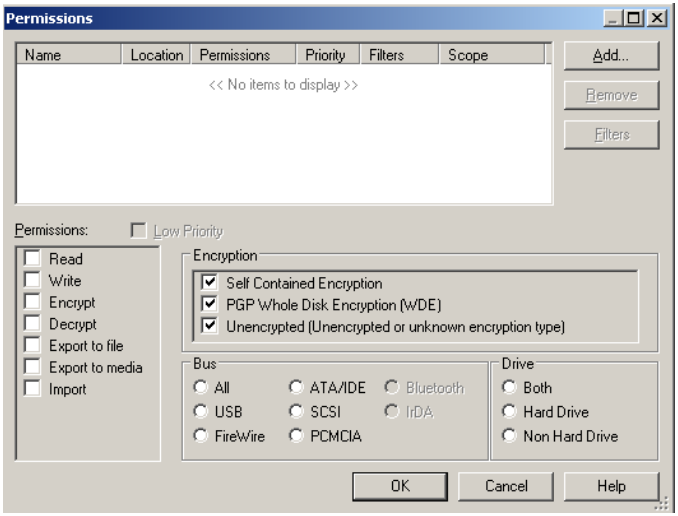


Figure 40: Permission Dialog

The following tables described the ***Permissions*** dialog panels.

Table 11: User/Group Panel

Column	Description
Name	Shows the name of the user or user group.
Location	Shows the user domain or work group name.
Permissions	Lists the rules defined by the ***Permissions*** panel.
Priority	Shows the permission priority specified as **High** or **Low**.
Filters	Shows the file types that the user or user group can access.

Column	Description
Scope	Shows the permission defined in the ***Encryption***, ***Bus***, and ***Drive*** panels.

Table 12: Permissions Panel

Option	Description
Read	A user or user group has read access.
Write	A user or user group has write access.
Encrypt	A user or user group can encrypt devices.
Decrypt	A user or user group can decrypt an encrypted device.
Export to file	The passphrases or public keys from user certificates are used to create a symmetric key for device encryption. When the **Self Contained Encryption** option is selected, the encryption key can be stored in a separate file and password protected. This is the most secure method, because the encryption key and the encrypted data can be transported separately.
Export to media	The passphrases or public keys from user certificates are used to create the symmetric key used to encrypt a device. When the **Self Contained Encryption** option is selected, the encryption key can be stored on the same device used for encryption and password protected. The only protection of the data is the password itself.
Import	When the **Self Contained Encryption** option is selected, a user can access encrypted media by specifying a separate key file, which is not stored on the encrypted media, and providing the associated password.

Restriction: Permission to **Encrypt**, **Decrypt**, **Export to file**, **Export to media**, and **Import** is available only for the **Removable Storage Devices** class.

Table 13: Encryption Panel

Option	Description
Self Contained Encryption	The assigned ***Permissions*** apply to the device when encrypted with Lumension Device Control self-contained encryption technology.
PGP Whole Disk Encryption (WDE)	The assigned ***Permissions*** apply to the device when encrypted with **PGP Whole Disk Encryption (WDE)** technology.

Option	Description
Unencrypted (Unencrypted or unknown encryption type)	The assigned ***Permissions*** apply to the device when unencrypted or encrypted with an unsupported technology.

Table 14: Bus Panel

Option	Description
All	***Permissions*** apply when a device is connected through any bus connection.
USB	***Permissions*** apply when a device is connected through a USB 1.1 and 2.0 or higher standard interface.
Firewire	***Permissions*** apply when a device is connected through a Firewire IEEE 1394 standard interface.
ATA/IDE	***Permissions*** apply when a device is connected through the ATA/IDE, SDATA-1, SATA-2 and eSATA variants interfaces.
SCSI	***Permissions*** apply when a device is connected through the SCSI narrow, wide and ultra variants interfaces.
PCMCIA	***Permissions*** apply when a device is connected through the PCMCIA CARDBUS interface, including the Expresscard/34 and /54 variants.
Bluetooth	***Permissions*** apply when a device is connected through the Bluetooth standard interface.
IrDA	Permissions apply when a device is connected through the IrDA (infrared) standard interface.

Restriction: Only standard interface types supported by the device class you select are available for defining permissions.

Table 15: Drive Panel

Options	Description
Both	Permission rules apply to the hard drive and non-hard drive for the device class selected.
Hard Drive	Permission rules apply only to the hard drive for the device class selected.
Non-Hard Drive	Permission rules apply to the non-hard drive for the device class (including Removable Storage Devices) selected.

Manage Devices

Within a device class, you can create groups that contain models or unique device IDs. Managing devices in groups reduces the administrative burden for assigning and tracking device permissions.

You can assign device permissions at the following levels:

- Class
- Group
- Model
- Unique Device ID

Restriction: You can not add specific device model types to the **PS/2 Ports** class.

1. In the Management Console select **View** > **Modules** > **Device Explorer**.
2. In the hierarchical device structure shown in the ***Device Explorer*** window, right-click **Default settings**.
3. Select **Manage Devices** from the right-mouse menu.

   Step Result: The ***Manage Devices*** dialog opens.

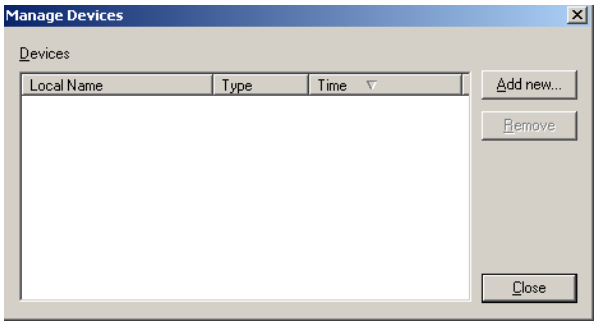


Figure 41: Manage Devices Dialog

4. Click **Add new**.

   Step Result: The ***Devices*** dialog opens.

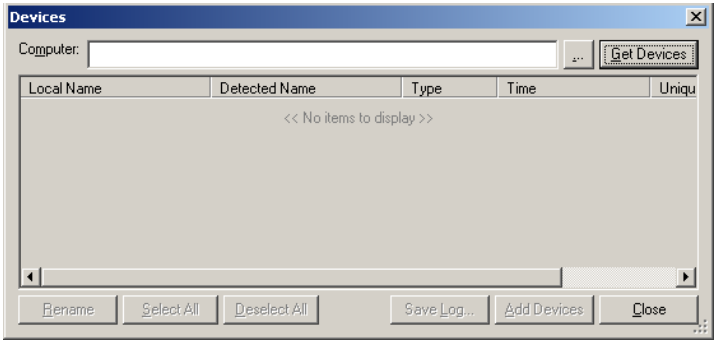


Figure 42: Devices Dialog

5. Click the ellipses ... to show a list of computer names registered in the Active Directory, synchronized to the database, and/or logged in to the network.
6. Select a computer from the ***Select Computer*** dialog and click **OK**.
7. Click **Get Devices**.

   Step Result: The ***Devices*** dialog refreshes to show a list of devices detected for the computer you selected.

8. Select device(s) using the check box adjacent to the device name.
9. Click **Add Devices**.

   Step Result: The ***Devices*** dialog refreshes showing the devices you added as greyed selections.

   Tip: You can save a log entry for all the devices connected to the selected computer by clicking **Save Log**.

10. Click **Close**.

Result: The new device(s) are shown in the ***Device Explorer*** window.

Add Computers

You can add computers to a domain group or computer workgroup in the **Machine-specific settings** structure of the ***Device Explorer***.

When Device Control is used for computers in a workgroup, rather than a domain, then there is no domain controller list of users. You must add the computers individually to a workgroup.

1. In the Management Console select **View** > **Modules** > **Device Explorer**.
2. Right-click the **Machine-specific settings** level in the hierarchical device structure.
3. From the right-mouse menu, select **Insert Computer**.

4. From the ***Select Computer*** dialog, click **Search**.
5. Select one or more computers from the list shown.
   a) To add a computer that is not listed, click **Add**.
   b) Type the name of the computer to be added in the corresponding field.
6. Click **OK**.

Result: The computers you selected are added to the domain group.

Tip: You can drag-and-drop computers from one group to another, or you can right-click a computer and use **Cut** and **Paste** from the right-mouse menu.

Assign Permissions by Devices

You can assign permission rules for users to access devices and device classes with any computer the user selects.

Permission rules can be assigned in the ***Device Explorer*** to the:

- Root node of the **Default settings** hierarchy.
- Device class node of the **Default settings** hierarchy.
- Device group within a device class node shown in the **Default settings** hierarchy.
- Device by make and/or model.
- Device by unique serial number.

Note: Root node permissions are assigned to the root of the ***Device Explorer*** hierarchy and apply to all devices for specific users or user groups.

1. In the Management Console select **View** > **Modules** > **Device Explorer**.
2. Right-click a node from the **Default settings** division of the ***Device Explorer*** hierarchical structure.
3. Select **Add/Modify Permissions** from the right-mouse menu.

   Step Result: The ***Permissions*** dialog opens.
4. Click **Add**.

   Step Result: The ***Select Group, User, Local Group, Local User*** dialog opens.
5. Click **Search** or **Browse**.
6. Select a user or user group.
7. Click **OK**.
8. In the ***Permissions*** dialog, select the user or user group to assign user access permission rules.
9. Select the permission options.

Important: Only the permissions options available for the device or device class selected are shown.

10. To limit user access to certain file types, click **Filter**.

Restriction: File filtering is available only for the **Removable Storage Devices**, **Floppy Disk Drives**, and **CD/DVD Drives** device classes.

Step Result: The ***File Type Filtering*** dialog opens.

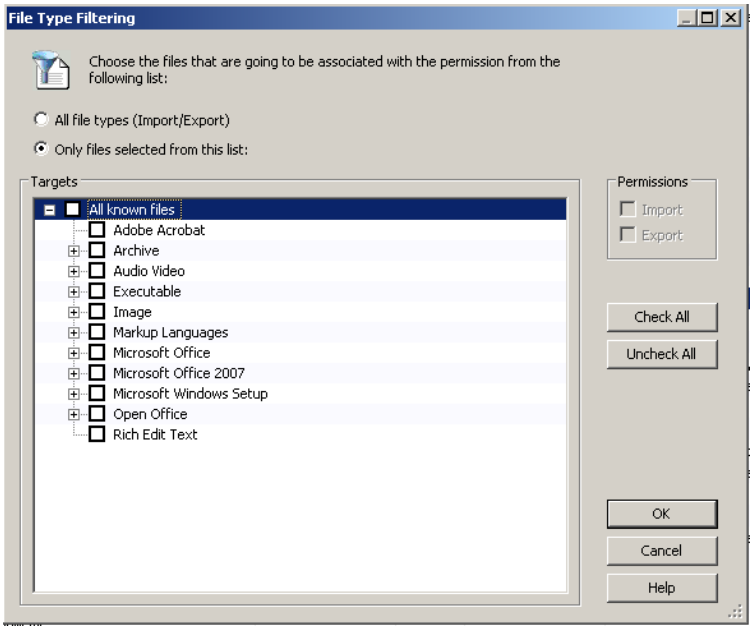


Figure 43: File Type Filtering Dialog

11. Select one of the following options:

Option	Description
All file types (Import/Export)	Permission rules apply to all file types that are imported and exported by the user or user group for the specified device or device class.
Only files selected from this list:	Permission rules apply to only to selected file types that are imported and/or exported by the user or user group for the specified device or device class.

A complete list of the file filter types supported by Lumension Device Control is shown in the ***Targets*** panel. Select file types using the check boxes adjacent to the file type name.

12. In the ***Permissions*** panel, select one or both of the following options:

Option	Description
Export	Allows a user to copy files from the Lumension Endpoint Security client computer to an external device.
Import	Allows a user to copy files from an external device to the Lumension Endpoint Security client computer.

Important: You must select **Import** or **Export** at a minimum, to enforce file filtering rules.

13. Click **OK**.
14. In the ***Permissions*** dialog, click **OK**.

Result: The **Permissions**, **Priority**, and **Filters** you assign to the device or device class are shown in the ***Device Explorer*** hierarchical structure.

After Completing This Task:

You should send new or updated permissions immediately to Lumension Endpoint Security client computers using the **Control Panel** > **Tools** > **Send Updates** option. If you do not send updates to protected clients immediately, they automatically receive updates when they restart or at next user log in.

Assign Temporary Permissions to Users

You can assign time-limited, once-per-occurrence permission rules on a computer-specific basis for user access to a device.

An administrator can allow access to a device for a limited period without having to subsequently delete the permission. This provides some reduction in administrative burden.

1. In the Management Console select **View** > **Modules** > **Device Explorer**.
2. From the **Machine-specific settings** division of the ***Device Explorer*** hierarchical structure, select computer or computer group.
3. Right-click a device or device class.
4. Select **Temporary Permissions** from the right-mouse menu.

   Step Result: The ***Choose User on*** (per selected device) dialog opens.

5. Click **Add**.

   Step Result: The ***Select Group, User, Local Group, Local User*** dialog opens.

6. Click **Search** or **Browse** to select a user or user group.
7. Select a user or user group and click **OK**.

   Step Result: The ***Choose Permission*** dialog opens.

8. Click **Next**.
9. Select the **Read** and/or **Write** permissions that you want to apply.
10. Click **Next**.

    Step Result: The ***Choose Period*** dialog opens.

11. Select one of the following options:

Options	Action
Immediately	Permission rules apply immediately (within 5 minutes).
From	Permission rules apply for the period you specify.

12. Click **Next**.
13. Click **Finish**.

Result: The temporary permission access rules appear in the **Details** column of the ***Device Explorer*** window.

Assign Scheduled Permissions to Users

You can schedule user access permissions rules to limit the use of devices to hourly and daily periods of the week.

You can assign global or computer-specific scheduled device permissions for users and user groups.

1. In the Management Console select **View** > **Modules** > **Device Explorer**.
2. In the **Default settings** division of the ***Device Explorer*** hierarchical structure, right-click a device or device class.
3. Select **Add Schedule** from the right-mouse menu.

    Step Result: The ***Choose User on Default Settings*** dialog opens, per selected device.

4. Click **Add**.

    Step Result: The ***Select Group, User, Local Group, Local User*** dialog opens.

5. Click **Search** or **Browse** to select a user or user group.
6. Select a user or user group and click **OK**.

    Step Result: The ***Choose User on Default Settings*** (per selected device) dialog opens.

7. Select the user or user group and click **Next**.
8. Select from the listed user access options.

Restriction: Only user access options for the device class selected are shown.

9. Click **Next**.

   Step Result: The ***Choose Timeframe*** dialog opens.

10. Specify hourly time ranges using the **To** and **From** field dropdown lists.
11. Select one or more weekdays from the **Weekdays** panel.
12. Click **Next**.
13. Click **Finish**.

Result: The scheduled permission access rule appears in the **Details** column of the ***Device Explorer*** window.

Add Shadowing

An administrator can establish visibility for the file content read from and written to devices connected to clients. This type of visibility is referred to as file shadowing.

File shadowing can be applied to the following device classes:

- **COM/Serial Ports**
- **LPT/Parallel Ports**
- **DVD/CD Drives**
- **Modem/Secondary Network Access Devices**
- **Removable Storage Devices**
- **Floppy Disk Drives**

You can also apply file shadowing to:

- Device groups
- Computer-specific devices or device model types

1. In the Management Console select **View** > **Modules** > **Device Explorer**.
2. From the **Default settings** division of the ***Device Explorer*** hierarchy, right-click a device, device class, or device type.
3. Select **Add Shadow** from the right-mouse menu.
4. Click **Add**.

   Step Result: The ***Select Group, User, Local Group, Local User*** dialog opens.

5. Select the user or user group and click **Next**.

   Step Result: The ***Choose Bus*** dialog opens.

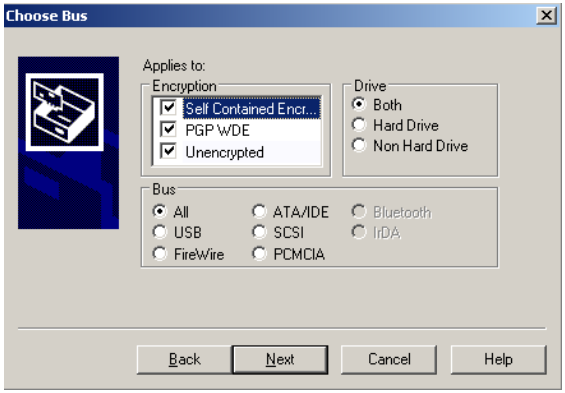


Figure 44: Choose Bus Dialog

6. Select **All** or individual bus types.

Important: The available bus types shown are dependent upon the device class you select. The ***Encryption*** panel is only active, with all options selected by default, for the **Removable Storage Devices** and **DVD/CD Drives** device classes.

7. Select a **Drive** option.
8. Click **Next**.

   Step Result: The ***Choose Permissions*** dialog opens.

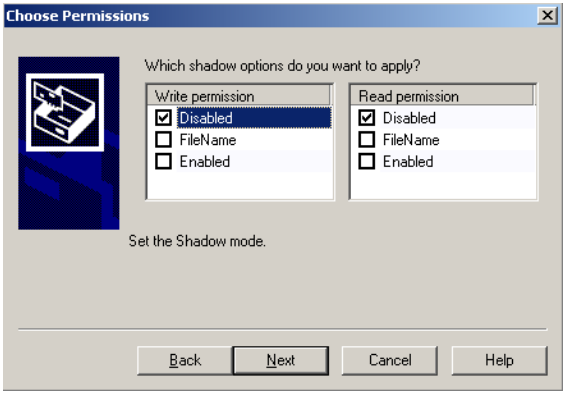


Figure 45: Choose Permission Dialog

9. In the ***Read*** and/or ***Write*** panels, choose one of the following options:

Option	Description
Disabled	File content copying is not active.
FileName	File content copying is not active; only the file name for a file copied to or from a device is saved in the Lumension Endpoint Security database.
Enabled	File content copying is active.

Restriction: Only the ***Write*** panel is active for the **COM/Serial Ports** and **LPT/Parallel Ports** device classes.

10. Click **Next**.
11. From the ***Finish*** dialog, click **Finish**.

Result: The shadow rule permission details are shown in the **Permissions** column of the ***Device Explorer*** hierarchical structure. The shadow permission details are displayed in the ***Permissions*** column of the ***Device Explorer*** module. A value of **R** means that shadowing is enabled for files read to and from the device, **W** means that it is on when files are written to and from the device; no letter means that shadowing is enabled for both reading and writing files. You can review shadowed files using the ***Log Explorer*** module.

View Shadow Files

To view shadow files, you can use predefined templates. When a predefined template does not contain the type of data that you want to review, you can create your own template query to view shadow files.

Prerequisites:

To view shadow files, Lumension recommends that you show only log entries that display attachments by filtering templates.

The file name, date, and administrator name are logged for every instance a shadowed file is accessed.

1. In the Management Console select **View** > **Modules** > **Log Explorer** > **Templates**.

   Step Result: The ***Select and edit template*** dialog opens.

2. Select a predefined shadow template from the list shown.

   Caution: Avoid opening files exceeding 350 MB unless sufficient resources are available.

3. Click **Select**.
4. Click **Query**.
5. To view shadow files using a custom query:

   a) Click **Settings**.
   b) Select **Attachment**.

c) Click **Criteria**.
d) Select **With**.
e) Click **OK**.
f) Click **Execute Query**.

Step Result: The ***Select and edit template*** dialog closes and the query runs.

Result: When the **Shadow** rule is enforced, the entries listed show attached files that are exact copies of the shadowed files:

- Copied to or from authorized devices
- Read by users

Depending on the selected fields, the date shown for shadow files are:

- ***Traced On*** - when files were copied or read, to or from, the device
- ***Transferred On*** - when a file was uploaded to the database

Device Control tracks the:

- User name for the copied file
- Computer name used for the copy action
- Filename
- Content
- Device name

After Completing This Task:

Once you list the files, right-click any attachment showing the `True` value, which indicates that the full content is shadowed, and select one of the following options:

Table 16: Shadow File Output Column Descriptions

Option	Description
View	Allows you to view the contents of the file in an internal binary viewer administered by Device Control.
Open	Opens the file with the associated application as defined in Windows Explorer®. If there is no association, this command is equivalent to Open With. **Restriction:** Only available for full shadowing and when selecting one log registry.
Open with	Allows you choose the application that opens the file. **Restriction:** Only available for full shadowing and when selecting one log registry.
Save as	Allows you to save the file to a local or network drive and use an external utility or program to open the file.

Filtering Templates

You can create subsets of the templates listed in the ***Select and Edit Templates*** dialog.

You can select multiple filtering criteria to narrow the focus of template sets shown, thereby reducing the number of templates that are listed.

1. From the Management Console, select **View** > **Modules** > **Log Explorer** > **Templates**.

   Step Result: The ***Select and Edit Templates*** dialog opens.

2. Click **Filter**.

   Step Result: The ***Filter*** dialog opens.

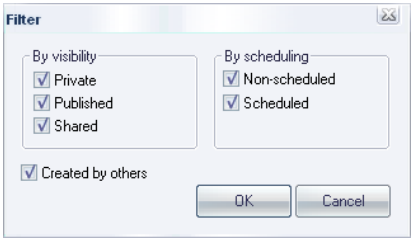


Figure 46: Filter Dialog

3. Select one or more of the following options:

Option	Description
Private	Shows templates visible only to the template owner and *Enterprise Administrator*.
Published	Shows templates visible to all Management Console users within your system that can only be changed by the template owner and *Enterprise Administrator*.
Shared	Shows templates viewed and changed by any Management Console users within your system.
Non-scheduled	Shows templates used to generate specific reports.
Scheduled	Shows templates automatically run periodically to generate regular reports. These are saved in a shared folder on your network or e-mailed to specified recipients.
Created by others	Shows templates created by users other than the *Enterprise Administrator*.

4. Click **OK**.

Result: A subset of all available templates is shown.

Sending Updates to All Computers

After you define or update device permissions or file permissions, you can send the information to all client computers immediately. Otherwise, updated information will automatically upload the next time a user logs in or the computers are restarted.

1. From the Management Console, select **Tools** > **Send Updates to All Computers**.

   Step Result: The ***Send updates to all computers*** dialog opens.

2. Select one of the following options from the ***Send updates to all computers*** dialog.

Option	Description
Yes	Immediately updates connected computers. Lumension Endpoint Security can take a long time to send updates depending on the number of computer connections. The Management Console dialog remains open until the Application Server finishes sending the updates.
No	Asynchronously updates connected computers. The Management Console dialog closes while the Application Server finishes sending the updates. You can continue working with the console while the update is done in the background.
Cancel	Closes the ***Send updates to all computers*** dialog and halts the update process.

Result: Updates are distributed to all computers running the Lumension Endpoint Security clients that are registered in the Application Server (s) online table(s). A message appears in the ***Output*** window when the updates are complete.

Remember: Any computer that is switched off, locked, or disconnected from the network receives the updates at the next network connection.

Authorizing CD/DVDs

The Device Control **Media Authorizer** module provides administrators the ability to encrypt non-bootable hard disk or flash removable storage media, and authorize user access to the encrypted media. Removable storage media are defined for Device Control as any device recognized by the Windows *removable storage devices* class through the *plug-and-play* feature.

With the **Media Authorizer** you can:

- Add CD/DVD media to the database.
- Authorize user access to individually specified CD/DVD media in the network environment.
- Perform centralized data encryption for removable storage media.
- Perform centralized data encryption for removable storage media used when computers and users are connected to your network environment.
- Rename CD/DVD disk media that has been added to the database.
- Authorize user access to encrypted removable storage media in the network environment.
- Export encryption keys to provide access to encrypted media used outside your network environment.

Add CD/DVD Media

An administrator can add CD/DVD media to the database.

Prerequisites:

To successfully add CD/DVD media to the database, the following conditions must be met:

- The administrator have **Read** or **Read/Write** permission assigned as using the ***Device Explorer*** module.
- A client is installed on the same computer as the Management Console where user access is authorized.

1. In the Management Console select **View** > **Modules** > **Media Authorizer**.
2. Click **Add CD/DVD**.

   Step Result: You are prompted to insert a CD/DVD.

3. Insert the CD/DVD.

   Step Result: The ***Media Authorizer*** calculates a unique cryptographic signature and displays the ***Media Name*** dialog.

4. Click **OK**.

Result: The **Media Name** label is used to register the CD/DVD in the database.

Log Explorer Templates

The operation of the ***Log Explorer*** module is based on templates that allow you generate custom reports containing results that match specific criteria.

You use the ***Log Explorer*** templates to change criteria options, column size and order, columns are displayed in the ***Results*** panel and custom reports, and the whole sets of configurable options to create templates. A template is a set of rules used for displaying audit and activity log data in the ***Log Explorer***.

You can create your own templates or use predefined templates created by Lumension. You can save customized templates for future use.

Note: The list of predefined templates depends upon your license type.

View Administrator Activity

You can use the **Log Explorer** module to monitor Lumension Endpoint Security administrator activity.

Administrator activity includes changing user access rights, device permissions, and file authorizations. Access to audit log information depends upon administrative user access rights established when you define user access rights in the **Tools** module.

1. From the Management Console, select **View** > **Modules** > **Log Explorer**.

   Step Result: The ***Log Explorer*** window opens.

2. Select the **Audit by Admin** template.

Note: You may also use a template that you create.

3. Click **Query**.

Result: A list of administrator audit log events is shown in the ***Log Explorer*** window.

Upload Latest Log Files

You may need to view the most current log information to help you quickly troubleshoot problems or verify that permissions or authorizations are set correctly.

Clients upload log information to the Application Server at the time specified when you define default options. You can use the Log Explorer to fetch log activity as needed, rather than waiting for the next log activity upload.

1. From the Management Console, select **View** > **Modules** > **Log Explorer**.

Step Result: The ***Log Explorer*** window opens.

2. Click **Fetch Log**.

Step Result: The ***Select Computer*** dialog opens and prompts you to specify the client computer to fetch the logs from.

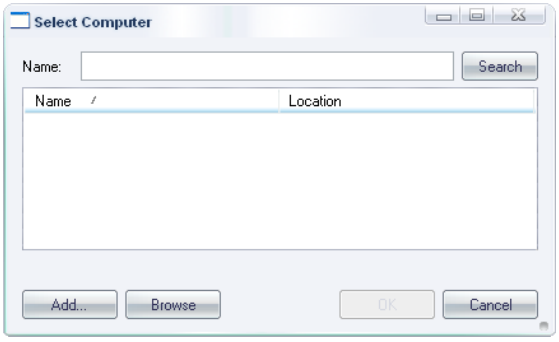


Figure 47: Fetch Logs - Select Computer

3. Click **Search** or **Browse** to select from a list.
4. Click **OK**.

Result: The computer logs are uploaded to the Application Server and stored in the database. Updated log files are shown in the **Log Explorer** window.

Restriction: The time delay between retrieving the log entries from the client and the availability of the latest logs depends on the queue size and the database availability at the time of upload.

Reporting

Lumension Endpoint Security provides pre-defined reports designed to provide a comprehensive view of your computing environment for activities.

Reports provide a way to view current device permission policy information. Reports are generated as HTML files that are displayed in the main window of any module. You can be print, copy, convert, save, and modify as necessary. In addition to the standard reports, you can customize and generate your own reports, using the ***Log Explorer*** module.

After saving a report, you can view it using any web browser that you system supports. You can change the date format for a report by selecting ***Windows*** **Control Panel** > **Regional and Language Options**. The regional options or settings vary according to the Windows operating system you are using.

Opening a Report

You open a report by selecting a predefined report type listed in the **Reports** module.

1. From the Management Console, select **Reports**.
2. Select a report type from the list.

Result: The report you select is displayed as an HTML file in the ***Management Console*** main window.

Printing a Report

You may print a report that you generate.

1. From the Management Console, select **File** > **Print**.

   Step Result: The standard Windows ***Print*** dialog opens.

2. Select a printer.
3. Click **Print**.

   Step Result: The Windows ***Print*** dialog closes.

Saving a Report

You may save a report that you generate.

1. From the Management Console, select **File** > **Save as**.

   Step Result: The ***Windows*** dialog for saving a web page opens.

2. Select the file path.
3. Type the file name.
4. Select the file type from the **Save as type** dropdown list.
5. Select an encoding method from the **Encoding** dropdown list.

6. Click **Save**.

   Step Result: The ***Windows*** dialog for saving a web page closes.

User Permissions Report

You can generate a report that shows the permission rules defined for each user or user group that you specify. You may select one or more users to view report results for.

The name of the specific user you select is shown preceding the report results.

User Permissions

- **LocalSystem** *(Well-known User)*

Devices	Computer	Permissions	Priority	Details	User / Group Name
COM/Serial Ports	Default Settings	Disabled	High	Shadow Option	Via Everyone
DVD/CD Drives	Default Settings	Disabled	High	Shadow Option	Via Everyone
Floppy Disk Drives	Default Settings	Disabled	High	Shadow Option	Via Everyone
LPT/Parallel Ports	Default Settings	Disabled	High	Shadow Option	Via Everyone
Modem/Secondary Network Access Devices	Default Settings	Disabled	High	Shadow Option	Via Everyone
PS/2 Ports	Default Settings	Read / Write	Low	n/a	Via Everyone
Removable Storage Devices	Default Settings	Disabled	High	Shadow Option	Via Everyone
		No Limit	High	Copy Limit	Via Everyone
Wireless NICs	Default Settings	Read / Write	High	n/a	Via Everyone

- **Guest** *(Local User)*

Devices	Computer	Permissions	Priority	Details	User / Group Name
COM/Serial Ports	Default Settings	Disabled	High	Shadow Option	Via Everyone
DVD/CD Drives	Default Settings	Disabled	High	Shadow Option	Via Everyone
Floppy Disk Drives	Default Settings	Disabled	High	Shadow Option	Via Everyone
LPT/Parallel Ports	Default Settings	Disabled	High	Shadow Option	Via Everyone
Modem/Secondary Network Access Devices	Default Settings	Disabled	High	Shadow Option	Via Everyone
PS/2 Ports	Default Settings	Read / Write	Low	n/a	Via Everyone
Removable Storage Devices	Default Settings	Disabled	High	Shadow Option	Via Everyone
		No Limit	High	Copy Limit	Via Everyone
Wireless NICs	Default Settings	Read / Write	High	n/a	Via Everyone

- **Everyone** *(Well-known Group)*

Devices	Computer	Permissions	Priority	Details	User / Group Name
COM/Serial Ports	Default Settings	Disabled	High	Shadow Option	Everyone
DVD/CD Drives	Default Settings	Disabled	High	Shadow Option	Everyone
Floppy Disk Drives	Default Settings	Disabled	High	Shadow Option	Everyone
LPT/Parallel Ports	Default Settings	Disabled	High	Shadow Option	Everyone
Modem/Secondary Network Access Devices	Default Settings	Disabled	High	Shadow Option	Everyone
PS/2 Ports	Default Settings	Read / Write	Low	n/a	Everyone
Removable Storage Devices	Default Settings	Disabled	High	Shadow Option	Everyone
		No Limit	High	Copy Limit	Everyone
Wireless NICs	Default Settings	Read / Write	High	n/a	Everyone

Figure 48: User Permissions Report

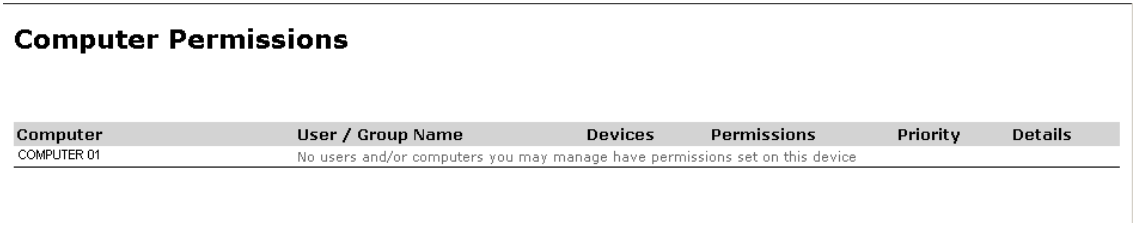
The following table describes the report columns.

Table 17: User Permissions Column Descriptions

Column	Description
Device	Shows the name of the device class or a specific device.
Computer	Shows whether default permission settings apply to all computers or computer-specific permission setting apply to a specific computer or groups of computers.
Permissions	Shows the type(s) of permission that applies to the device class.
Priority	Shows whether the permission is applied with a high or low priority. A low priority indicates that computer-specific exceptions to the permissions rules shown can be applied.
Details	Show whether the file shadowing and/or copy limit rules are applied to the permission rule.
User/Group Name	Shows the name of the user or user group assigned to the permission rule.

Computer Permissions Report

You can generate a report that shows the permissions rules defined for specific computers.


Computer Permissions

Computer	User / Group Name	Devices	Permissions	Priority	Details
COMPUTER 01	No users and/or computers you may manage have permissions set on this device				

Figure 49: Computer Permissions Report

The following table describes the report columns.

Table 18: Computer Permissions Column Description

Column	Description
Computer	Shows the name of the computer selected for the report.

Column	Description
User/Group Name	Shows the name of the user or user group assigned to the permission rule.
Device	Shows the name of the device class or a specific device.
Permissions	Shows the type(s) of permission that applies to the device class.
Priority	Shows whether the permission is applied with a high or low priority. A low priority indicates that computer-specific exceptions to the permissions rules shown can be applied.
Details	Show whether the file shadowing and/or copy limit rules are applied to the permission rule.

Using the Device Control Client

The client provides user access to encryption options for CD/DVDs and removable storage devices.

A user can encrypt and manage devices with the client, provided that the network administrator establishes the necessary device permission and user access policies with the Management Console.

Chapter 4

Using Lumension Application Control

In this chapter:

This chapter explains how Lumension Application Control works and describes how to scan, import, and manage software file authorizations.

Lumension Endpoint Security solutions include:

- Lumension Device Control, which prevents unauthorized transfer of applications and data by controlling access to input and output devices, such as memory sticks, modems, and PDAs.
- Lumension Device Control client for Embedded Devices, which moves beyond the traditional desktop and laptop endpoints to a variety of platforms that include ATMs, industrial robotics, thin clients, set-top boxes, network area storage devices and the myriad of other systems running Microsoft® Windows XP® Embedded.
- Lumension Application Control, which delivers granular control of application execution in an enterprise environment.
- Lumension Application Control Terminal Services Edition, which extends application control to Citrix® or Microsoft Terminal Services ® environments that share applications among multiple users.
- Lumension Application Control Server Edition, which delivers application control to protect enterprise servers, such as web servers, e-mail servers, and database servers.

Product Overview

Lumension Endpoint Security software is based on a multi-tier software architecture that processes and stores data for Application Control and Device Control. Users can interact with the application through the client interface. A separate Management Console provides a user interface for network administrators.

The primary components of the Lumension Application Control solution are:

- The Application Control database which serves as the central repository of authorization information for devices and applications.
- One or more Application Servers that communicate between the database, the protected clients, and the Management Console.
- The Management Console, which provides the administrative user interface for the Application Server.
- The Application Control client, which is installed on each computer, either endpoint or server, that you want to protect.

The following figure illustrates the relationships between the Lumension Endpoint Security components.

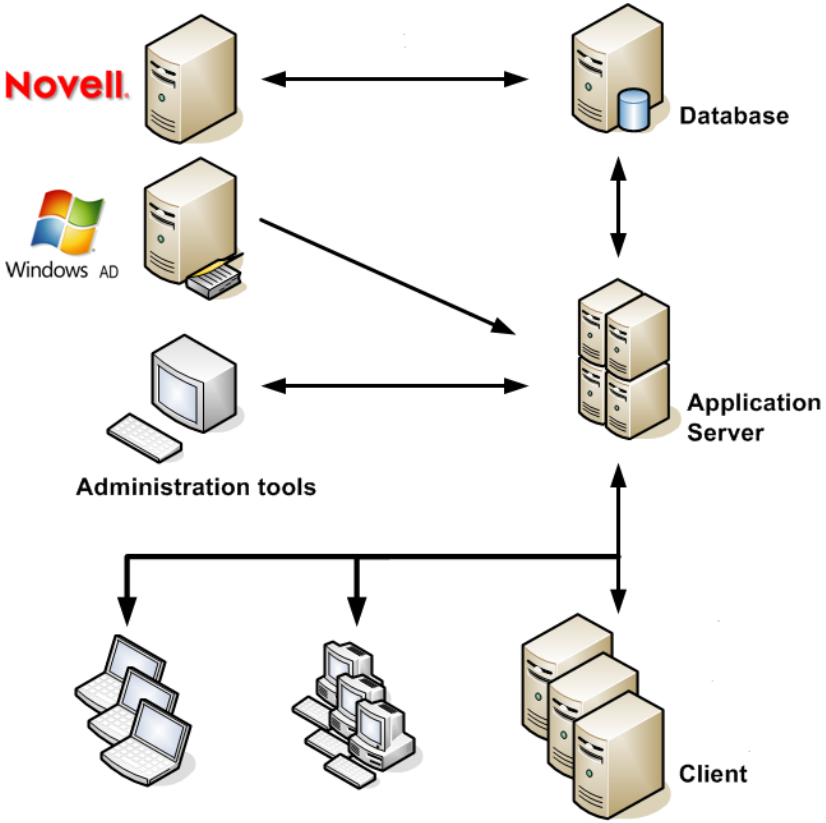


Figure 50: Application Control Component Relationships

Application Control Server, Database and Client Process

The Application Server communicates between the database and the protected client computers.

The following describes the communication process flow between the Application Servers, database, and clients when using Application Control.

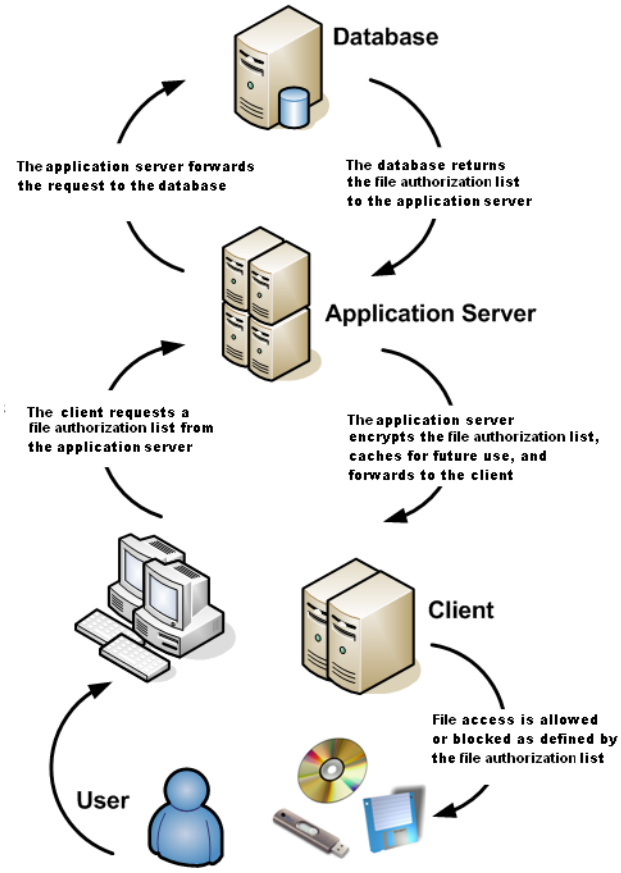


Figure 51: Application Control Process Flow

Using the Management Console

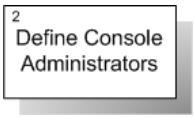
The Management Console allows the user to communicate with an Application Server to send and retrieve file authorization data from the database. The data is sent from the server to a client, thereby establishing application control on the client. The Management Console provides direct access to system management, configuration, file authorization, reporting, and logging functions.

The File Authorization Setup Process

After successfully installing Application Control, an administrator uses the Management Console to configure and define user access permissions and file authorization rules required in a Lumension Endpoint Security

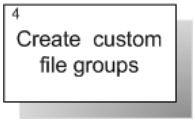
environment that specify which executable files, scripts, and macros each user can use, as described by the following process flow.

You can use standard Microsoft file definitions to quickly build a central file authorization list for executable files, macros, and scripts.



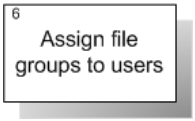
You can assign administrator access rights using the **User Access** tool. An *Administrator* has restricted access to the Management Console and can be assigned various administrative roles by an *Enterprise Administrator*.

After defining *Administrator* roles, you can use the **User Access** tool to assign the defined roles to *Administrators*.

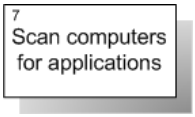


File groups simplify the process of administering large numbers of executable, script, and macro files for users. Instead of individually authorizing files, you can group files together logically by creating file groups.

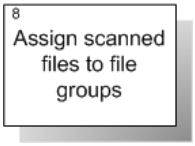
Lumension Endpoint Security verifies which file group is associated with an executable, script, or macro and whether the user has access permission for the file group. You can assign specific permissions to local users and user groups. Only authorized applications and scripts assigned to a user or a user group can run on the client.



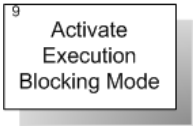
After creating the file groups and parent-child relationships you want to use, you can assign file groups to users or user groups.



You can create a template and scan a target computer running the client. You can scan all files on a computer, or you can create a template to scan selected directories or specific file types for example, *.exe, *.com, *.dll, *.ocx, *.sys, *.drv, *.cpl, *.vbs, *.js, to reduce the scan time required.



After you create the necessary file groups and required parent-child relationships, you can assign executable files, scripts, and macros to file groups.



Activating **Execution blocking** prohibits user access to unauthorized files. Local authorization is permitted only for the administrators and LocalSystem account.

Once you identify all your files, categorize them into file groups, and assign the file groups to users or user groups, these files are centrally authorized and immediately available to be run by all allowed users.

When a user wants to run an executable, script, or macro, the following actions take place automatically:

- A file that is identified as an executable, script, or macro, by the operating system is stored in the Lumension Endpoint Security database ready for execution (but not actually executed).
- A file is identified by Lumension Endpoint Security as an executable, script, or macro, has the entire file content checked to determine its digital signature (hash) before being allowed to execute by the operating system.
- The digital signature is compared to the digital signatures (stored in a central file authorization list) for files that are authorized to run.
- If, and only if, the file signature corresponds exactly to a file signature in the central file authorization list, in other words, the digital signatures are identical and the file is authorized for execution for the user or computer requesting authorization, can the file run.

Note: When an executable file is launched by the user, Lumension Application Control will identify and determine the digital signature (hash) of that executable regardless of the current mode (blocking or non-blocking). Although rarely detected by the user, this process of identifying the executable and determining the hash could result in a noticable delay on some systems.

Using Application Control

The Management Console provides direct access to system management, configuration, file authorization, reporting, and logging functions.

The Management Console allows the user to communicate with an Application Server to send and retrieve file authorization data from the database. The data is sent from the server to a client, thereby establishing application control on the client. The Management Console provides direct access to system management, configuration, file authorization, reporting, and logging functions.

Logging In to the Management Console

You access the application by logging in to the Management Console.

1. Select **Start** > **Programs** > **Lumension** > **Endpoint Security** > **Endpoint Security Management Console** > **Lumension Endpoint Security Management Console**.

   Step Result: Each time you access the Management Console, the ***Connect to*** **Lumension Endpoint Security Application Server** dialog appears.

2. From the **Application Server** drop-down list, select the Application Server you want to connect to.

   You can type the server name as an IP address with port if required in square brackets, NetBios name, or fully qualified domain name in the **Application Server** field.

3. Select one of the following options:

Option	Description
Use current user	By default the system connects to the Application Server using your credentials.
Log in as	Type the user name in the **Username** field and type the password in the **Password** field. **Tip:** Precede the user name by a computer workstation name and backslash for a local user, or by a domain name and backslash for domain users.

4. Click **OK**.

   Step Result: The ***Connect to* Lumension Endpoint Security Application Server** dialog closes.

Result: The ***Lumension Endpoint Security Management Console*** window opens.

Logging Out of the Management Console

When you log out from the Management Console you can choose to terminate the adminstrative session or disconnect from the Application Server.

1. To disconnect from the Application Server, select **File** from the navigation bar.
2. Select one of the following options:

Option	Description
Disconnect	The Management Console remains open.
Exit	The Management Console closes.

Result: The **Disconnect** or **Exit** action terminates your current administrative session.

Lumension Application Control Modules

The Application Control **Modules** provide access to the functions necessary for configuring and managing and are grouped into several modules, represented by the icons in the **Modules** section of the ***Control Panel***.

The Lumension Application Control **Modules** provide access to the functions necessary for configuring and managing Lumension Endpoint Security and are grouped into five modules, represented by the icons in the **Modules** section of the **Control Panel**:

Table 19: Lumension Application Control Modules

Module	Icon	Description
Database Explorer		Shows the list of executable files, scripts, and macros that are stored in the Lumension Endpoint Security database and manages file assignment details.
Exe Explorer		Builds a list of executable files, scripts, and macros that are allowed to run on Lumension Endpoint Security clients, and assigns files to file groups.
Log Explorer		Shows logs of applications, scripts, and macros that were run, files for which access was denied, and files authorized locally.
Scan Explorer		Scans a computer or domain to identify executable files, scripts, and macros to be authorized, and assigns files to a file group using templates.
User Explorer		Links users or user groups with file groups, granting permission to use the files assigned to file groups.

Getting Started

The Management Console can only be accessed by authorized network administrators.

Before you begin to use Lumension Endpoint Security, you must define the following users in the domain:

- An administrative user with local `Administrator` rights.
- A Lumension Endpoint Security client user with domain user rights.

Building a Central File Authorization List

You can use Standard File Definitions (SFD) to simplify the task of building a central file authorization list.

Standard File Definitions (SFDs) contain digital signatures corresponding to standard executable files that are distributed with Microsoft Windows operating systems.

Using SFDs:

- Simplifies initial setup.
- Includes information necessary to automatically allocate files to predefined file groups and assign files to well-known user and user groups.
- Minimizes the risk of authorizing tampered versions of operating system files.
- Simplifies operating system upgrades because Lumension Endpoint Security recognizes the standard files, and respective default file groups. Lumension Endpoint Security automatically saves upgraded file definitions to the same locations as the originals.

The following table describes the system users/groups that can access the default SFD file groups.

Table 20: Standard File Definition File Groups and System Users/Groups

File Group Name	Users/Groups Assigned
16 Bit Applications	Administrators (group)
Accessories	Administrators (group), Everyone (group)
Administrative Tools	Administrators (group)
Boot files	Local Service (user), LocalSystem (user), Network Service (user)
Communication	Administrators (group)
Control Panel	Administrators (group)
DOS Applications	Administrators (group)
Entertainment	Administrators (group)
Logon files	Everyone (group)
Lumension Endpoint Security support files	Administrators (group), Everyone (group)
Setup	Administrators (group)
Windows Common	Everyone (group)

Importing Standard File Definitions

You can use standard Microsoft file definitions to quickly build a central file authorization list for executable files, macros, and scripts.

1. From the Management Console, select **Tools** > **Standard File Definitions**.

   Step Result: The ***Import Standard File Definitions*** dialog opens.

Figure 52: Import Standard File Definitions Dialog

2. Click **Add**.

   Step Result: The ***Open*** dialog opens and displays files with an `.sfd` extension.

   Tip: You can import standard file definitions from the *Lumension Customer Portal* (*https://portal.lumension.com*) by downloading to a local computer and unzipping the archived files.

3. Select the standard definition file(s) to import.
4. Click **Open**.

   Step Result: The file(s) are shown in the ***Add*** window.

5. Select one or more of the following options:

Option	Description
Assign File Groups to Well Known Users Automatically	Assigns the executable files, scripts, and macros found in the scan to the system users/groups.
Process Known Files Automatically	The wizard adds the file to the database if they have the same name but different digital signature.

Option	Description
Import SFD with file hashes and create predefined File Groups:	Lumension Endpoint Security automatically imports standard file definition digital signatures, then creates and assigns the files to predefined file groups.
Import SFD without file hashes and create predefined File Groups:	Predefined file groups for standard file definitions are created but no digital signatures are imported. Lumension Endpoint Security partially assists you by identifying file names and proposing file groups for authorization during scanning.

6. Click **Import**.
7. After importing standard file definitions, click **OK**.
8. Click **Close**.

Result: The designated standard file definitions are now authorized and assigned to respective predefined file groups and system users/groups.

> **Caution:** When you import standard file definitions, you should authorize logon and boot files. If these are not authorized, the system will not work properly. This is especially important for system updates.

After Completing This Task:

Assign the imported predefined file groups to users/groups, if you did not select the **Assign File Groups to Well Known User Automatically** option.

Authorizing File Execution

An initial scan using the ***Scan Explorer*** module allows you to quickly add executable files, scripts, and macros to the Lumension Endpoint Security database.

Once your initial scan is complete, you create files groups and assign the authorized files to file groups. You manage the files added to the database with the ***User Explorer*** and ***Database Explorer*** modules by linking file groups to users or user groups. Files not added to the database are designated as unauthorized and are denied execution.

Creating a File Scanning Template

You can create a template to identify new file authorization changes to make when new software is installed.

You can scan for files by creating a template with the following rules:

- Scan all executables matching the pattern `*.exe` or `*.dll` in the `%SYSTEMROOT%` directory and subdirectories.
- Scan all files matching the pattern `*.exe` or `*.dll` in the `%PROGRAMFILES%` directory and subdirectories.

1. From the Management Console, select **View** > **Modules** > **Scan Explorer** > **Perform New Scan** > **Create New Template**.

   Step Result: The ***Create New Template*** dialog opens.

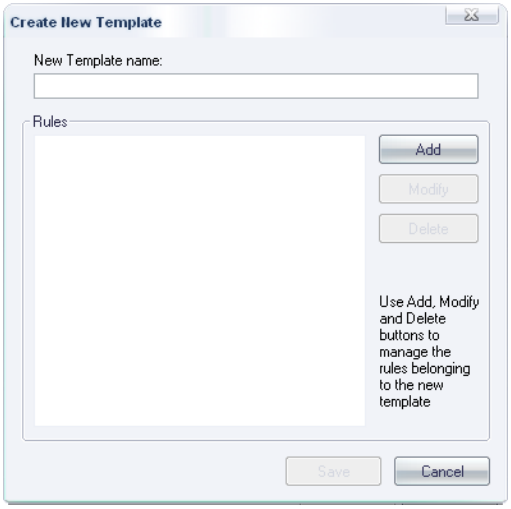


Figure 53: Create New Template Dialog

2. In the **New Template name:** field, enter the name for the new template.
3. Click **Add**.

   Step Result: The ***New Rule*** dialog opens.

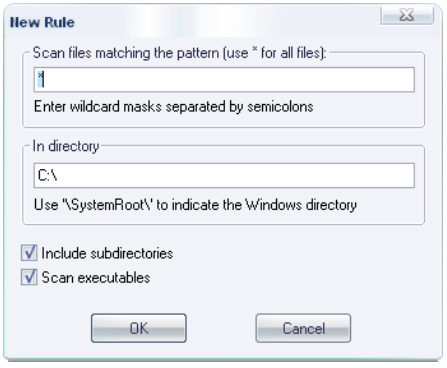


Figure 54: New Rule Dialog

4. In the **Scan files matching the pattern (use * wildcard for all files)** field, enter the name patterns to use for scanning.

   Caution: When you specify wildcard masks, for example: `*.com`, you can miss scanning for files that do not use standard file extensions such as: `*.exe`, or `*.dll`, and so forth. The result is that these types of files will not be authorized, which means that these applications will not work or work properly.

5. In the **In directory** field, enter the path name for the directory you want to scan.
6. Select one or more of the following options:

Option	Description
Include subdirectories	Scan subdirectories of the root directory.
Scan executables	Scan for executable files and ignore all other file types. The scan also searches for 16-bit executables. **Attention:** If you do not select the **Scan Executables** option, you must specify the `*.exe` and `*.sys` for the matching pattern to scan for these types of files.

7. Click **OK**.

   Step Result: The ***New rule*** dialog closes and the rules you define appear on the ***Rules*** box.

8. Click **Save**.

Result: The ***Perform New Scan*** dialog lists the new template in the ***From Template*** drop-down list.

Scanning Files on a Client Computer

You can scan all files on a computer, or you can create a template to scan selected directories or specific file types for example, *.exe, *.com, *.dll, *.ocx, *.sys, *.drv, *.cpl, *.vbs, *.js, to reduce the scan time required.

Prerequisites:

Before you scan a computer, create a file scanning template.

Important: If you are using Application Control with Device Control enabled, you must set the following Device Control permissions before performing a scan on a secondary hard drive.

Device Class: **Removable**

User: **LocalSystem**

Permissions: **Read**

Encryption: **Unencrypted (Unencrypted or unknown encryption type)**

Bus: **All**

Drive: **Hard Drive**

1. From the Management Console, select **View** > **Modules** > **Scan Explorer**.

   Step Result: The ***Scan Explorer*** window opens.

2. Click **Perform New Scan**.

   Step Result: The ***Perform New Scan*** dialog opens.

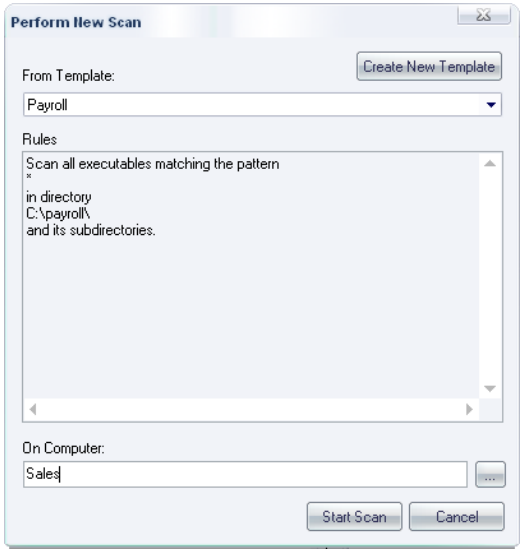


Figure 55: Perform New Scan Dialog

3. In the **From Template** field, select a template from the drop-down list.
4. Click the ellipsis ... adjacent to the **On Computer** field.

   a) Type the computer name.
   b) Click **Search** or **Browse**.
   c) Select the computer from the list.
   d) Click **OK**.

   You can type the computer name directly or use wildcard, such as * and ?.

   Step Result: The ***Select Computer*** dialog opens.

5. Click **Start Scan**.

   Step Result: The ***Perform New Scan*** dialog opens.

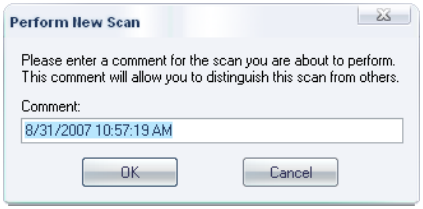


Figure 56: Perform New Scan Dialog - Comment

6. Enter a name or comment to distinguish this scan in the **Comment** field.
7. Click **OK**.

Result: Lumension Endpoint Security scans the specified file directories, calculates digital signatures for all executable files, scripts, and macros, and adds these digital signatures to the database. The results are shown in the ***Scan Explorer*** main window as follows.

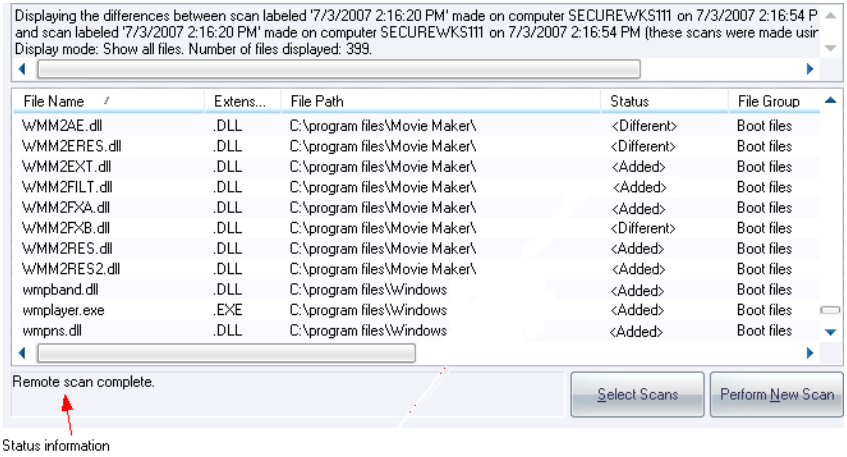


Figure 57: Scan Explorer Window

Adding a File Group

File groups simplify the process of administering large numbers of executable, script, and macro files for users. Instead of individually authorizing files, you can logically group files together logically by creating file groups.

1. In the Management Console, select **View** > **Modules** > **Exe Explorer** > **Explorer** > **Manage File Groups**.

   Step Result: The ***File Group Management*** dialog opens.

2. Click **Add File Group**.

   Step Result: The ***Add File Group*** dialog opens.

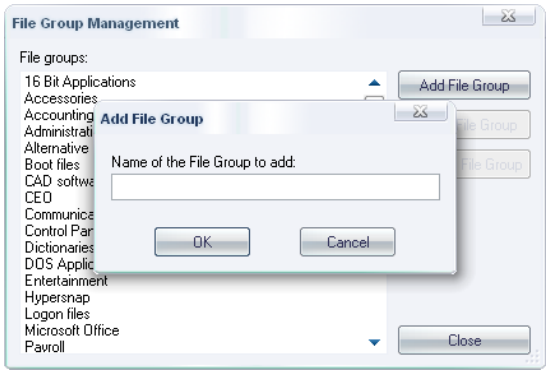


Figure 58: Add File Group Management Dialog

3. Enter the name of the file group in the **File Group** field.
4. Click **OK**.

   Step Result: The file group is added to the **File Groups** list.

5. Click **Close**.

Result: The file group is added to the list. You can now assign files to the new file group.

> **Note:** You must grant dedicated accounts such as `LocalSystem` the right to use the appropriate file groups containing services. For example, if you create a `Windows File Group` where you place all operating system executable files (including Windows services that run with the `LocalSystem` account), you should grant `LocalSystem` the right to use this Windows file group.

Assigning Files to File Groups

After you create the necessary file groups and required parent-child relationships, you can assign executable files, scripts, and macros to file groups.

1. In the Management Console, select **View** > **Modules** > **Database Explorer**.
2. Select the file(s) to assign to a file group.
3. Right-click the file selection.

4. Select the ***Assign to File Group*** option.

   Step Result: The ***Assign Files to a File Group*** dialog opens.

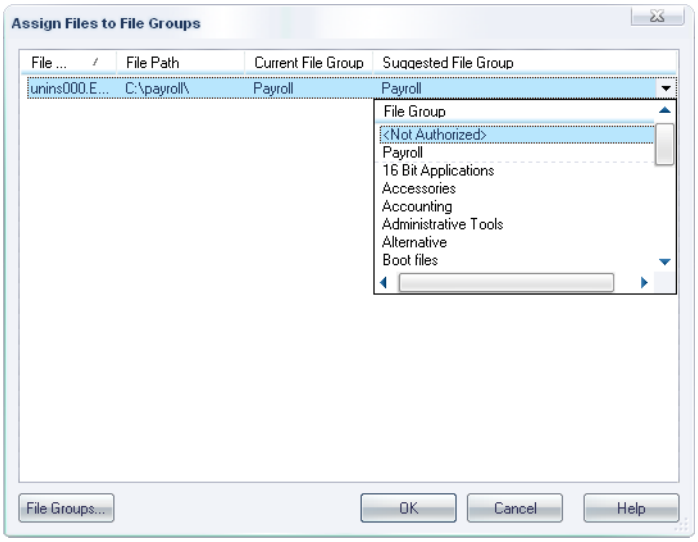


Figure 59: Assign Files to File Groups Dialog

Table 21: Assign Files to File Groups Columns

Column	Description
File	Name of the file including extension.
File Path	Complete file path name, including the drive.
Current File Group	The file group to which the file currently belongs. Files that are not assigned to a file group are designated as **<Not Authorized>**.
Suggested File Group	A proposed file group based on the file name. A file having the same name as another file in the database is suggested to belong to the same file group as the initial file.

5. Select a file group from the drop-down list in the **Suggested File Group** column.
6. Click **OK**.

Result: The file(s) are now assigned to the designated file group.

Note: You can assign a script or macro to a file group as a script, as distinguished from an executable file.

Creating Parent-Child Relationships

You administer parent-child relationships between file groups using the ***Database Explorer Groups*** tab.

Prerequisites:

You must create parent and child file groups before creating parent-child relationships.

Parent-child relationships may be direct or indirect. A direct relationship exists when a file group has a direct line of descendants between parent and child file groups. All other file group relationships are indirect relationships.

1. From the Management Console, select **View** > **Modules** > **Database Explorer**.

   Step Result: The ***Database Explorer*** page opens.

2. Select the ***Groups*** tab.
3. Select the desired group from the ***File Groups*** list.
4. To assign a relationship, by selecting a file group from the ***Relationships*** list and click one of the following:
   - **Add child**
   - **Add parent**
   - **Remove**

   Step Result: The **Type** column changes from `Available` to:
   - `Child`
   - `Parent`
   - `Child (Indirect)`
   - `Parent (Indirect)`

Result: The parent-child relationship associations are shown with one of the following icons indicating the relationship status:

Table 22: File Group Relationship Status Icons

Icon	Description
	The file group is a parent of the one selected in the ***File Groups*** panel.
	The file group is child of the one selected in the ***File Groups*** panel.
	The file group is an indirect parent of the one selected in the ***File Groups*** panel.
	The file group is an indirect child of the one selected in the ***File Groups*** panel.

Icon	Description
	A file group created by a Lumension Endpoint Security administrator that can be deleted or renamed.
	A file group created by the program that is blocked and cannot be deleted.

Note: You cannot delete indirect relationships, you must first proceed to the directly related file group and then remove the relationship.

The following examples demonstrate hierarchical parent-child file group relationships.

Example:

The file group `16 Bit Applications` is the parent of `Accessories`, and also has indirect child `Alternative` and `CAD software`:

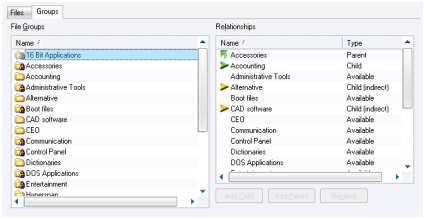


Figure 60: File Group Parent Relationship

The File Group `Accounting` is the child of `Marketing` who also has an indirect child `Payroll`:

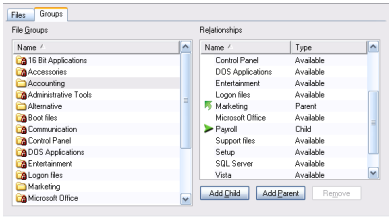


Figure 61: File Group Child Relationship

This is the consequence of the following parent-child assignments:

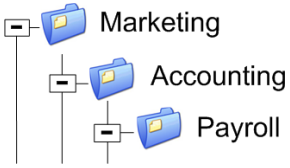


Figure 62: File Group Parent-Child Relationship

When assigning the file group `Payroll` to a user or user group; there is also an indirect assignment because of this relationship:

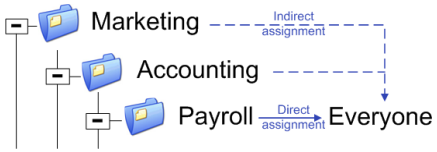


Figure 63: File Group Indirect Assignment

You can view indirect parent-child relationship assignments by using the ***File Groups by User*** tab of the ***User Explorer*** module.

Assigning File Groups to Users

After creating file groups and parent-child relationships you want to use, you can assign file groups to users or user groups.

1. In the Management Console, select **View** > **Modules** > **User Explorer**.

   Step Result: The ***User Explorer*** window opens.

2. Select the ***File Groups by User*** tab.
3. In the **Users, Groups, Computers and Domains** panel, select a user or user group.
4. Select one or more file groups from the ***Not Authorized*** list.
5. Select one of the following options:

Command	Action
Authorize	Adds the selected file group to the list of file groups directly authorized for the selected user or user group.
Authorize All	Adds the names of file listed as **Not Authorized** to file groups directly authorized for the selected user or user group.

Note: Changes to file authorizations or user membership for a file group can remove users that are indirectly authorized for a file group.

Result: The user or user group is now assigned to the designated file group.

After Completing This Task:

You can send the updated authorization(s) immediately to the client computers using the **Control Panel** > **Tools** > **Send Updates** option. If you do not send updates to protected clients, they automatically receive updates when they restart or at next user log in.

Sending Updates to All Computers

After you define or update device permissions or file permissions, you can send the information to all client computers immediately. Otherwise, updated information will automatically upload the next time a user logs in or the computers are restarted.

1. From the Management Console, select **Tools** > **Send Updates to All Computers**.

   Step Result: The ***Send updates to all computers*** dialog opens.

2. Select one of the following options from the ***Send updates to all computers*** dialog.

Option	Description
Yes	Immediately updates connected computers. Lumension Endpoint Security can take a long time to send updates depending on the number of computer connections. The Management Console dialog remains open until the Application Server finishes sending the updates.
No	Asynchronously updates connected computers. The Management Console dialog closes while the Application Server finishes sending the updates. You can continue working with the console while the update is done in the background.
Cancel	Closes the ***Send updates to all computers*** dialog and halts the update process.

Result: Updates are distributed to all computers running the Lumension Endpoint Security clients that are registered in the Application Server (s) online table(s). A message appears in the ***Output*** window when the updates are complete.

Remember: Any computer that is switched off, locked, or disconnected from the network receives the updates at the next network connection.

Viewing Database Records

The **Database Explorer** module displays a list of the executable, script, and macro files, digital signatures, and assigned file groups stored in the Lumension Endpoint Security database.

1. From the Management Console, select **View** > **Modules** > **Database Explorer**.

   Step Result: The ***Database Explorer*** page opens.

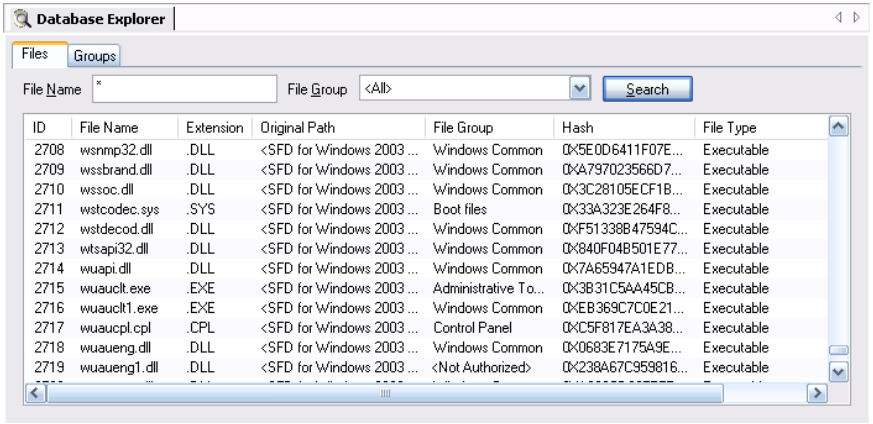


Figure 64: Database Explorer Module

2. Select the ***Files*** tab.
3. Type a file name in the ***File name*** field. You can use wild cards (* and ?).
4. Select a file group from the ***File Group*** list.
5. Click **Search**.

Result: You can view the files stored in the database including the digital signature and file group assignment.

> **Caution:** Your request may process slowly when you have a large Lumension Endpoint Security database.

Local Authorization

Local authorization allows users to locally authorize executable files, scripts, and macros that are not in the central authorization list. Then, the user can then use the software locally, providing users with the flexibility to run specific software applications without first requesting central authorization. You should limit use of

this feature to avoid compromising the central network protection policy provided by Lumension Application Control.

Prerequisites:

- Using **Tools** > **Default Options**, verify that:
  - On the ***Computer*** tab, the **Local Authorization** default option is **Enabled**.

    Tip: You can also use this option to disable local authorization on all computers.

  - On the ***User/User Group*** tab, **Execution Blocking** default option is set to: **Ask user for *.exe only**, for the **Blocking mode**. The user is prompted to authorize the executable only. After the executable file is authorized, any DLLs or other executable files used by the authorized file will automatically be authorized.

    Tip: You may type a customized user notification message in the **Notification Text** field, such as `Do you want to authorize this file locally?`

- On the ***User Explorer*** module ***File Groups by User*** tab, the users and user groups permitted to use local authorization are listed.

1. Log in to a Lumension Endpoint Security client computer using a locally authorized user or user group account.
2. Select an executable file, script, or macro to run that is not centrally authorized.

   Step Result: The ***Lumension Endpoint Security - Unauthorized Application Detected*** dialog shows detailed information about the application that is about to run.

Figure 65: Lumension Endpoint Security - Unauthorized Application Detected

3. Select one of the following options:

Option	Description
Deny	Denies local authorization of the specific executable file, script, or macro. The user is notified the next time an attempt is made to run the software application.
Deny All	Denies local authorization of all executable file, scripts, and macros.
Authorize	Authorizes the program locally only for that specific computer.

Result: A progress bar appears at the bottom of the dialog. The ***Lumension Endpoint Security - Unauthorized Application Detected*** dialog closes and the authorized application runs or is denied, based on the option selected.

Note: The file is automatically denied and the dialog closes, if you do not respond within the time-out period.

Log Explorer Templates

The operation of the ***Log Explorer*** module is based on templates that allow you generate custom reports containing results that match specific criteria.

You use the ***Log Explorer*** templates to change criteria options, column size and order, columns are displayed in the ***Results*** panel and custom reports, and the whole sets of configurable options to create templates. A template is a set of rules used for displaying audit and activity log data in the ***Log Explorer***.

You can create your own templates or use predefined templates created by Lumension. You can save customized templates for future use.

Note: The list of predefined templates depends upon your license type.

View Administrator Activity

You can use the **Log Explorer** module to monitor Lumension Endpoint Security administrator activity.

Administrator activity includes changing user access rights, device permissions, and file authorizations. Access to audit log information depends upon administrative user access rights established when you define user access rights in the **Tools** module.

1. From the Management Console, select **View** > **Modules** > **Log Explorer**.

   Step Result: The ***Log Explorer*** window opens.

2. Select the **Audit by Admin** template.

   Note: You may also use a template that you create.

3. Click **Query**.

Result: A list of administrator audit log events is shown in the ***Log Explorer*** window.

Upload Latest Log Files

You may need to view the most current log information to help you quickly troubleshoot problems or verify that permissions or authorizations are set correctly.

Clients upload log information to the Application Server at the time specified when you define default options. You can use the Log Explorer to fetch log activity as needed, rather than waiting for the next log activity upload.

1. From the Management Console, select **View** > **Modules** > **Log Explorer**.

   Step Result: The ***Log Explorer*** window opens.

2. Click **Fetch Log**.

   Step Result: The ***Select Computer*** dialog opens and prompts you to specify the client computer to fetch the logs from.

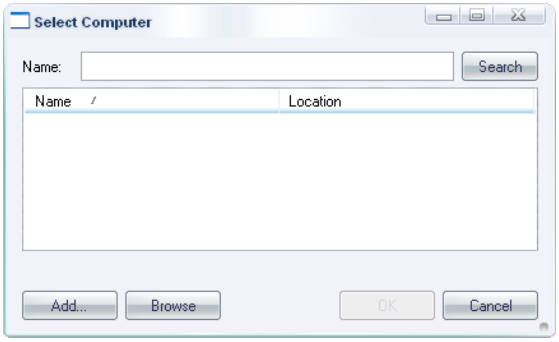


Figure 66: Fetch Logs - Select Computer

3. Click **Search** or **Browse** to select from a list.
4. Click **OK**.

Result: The computer logs are uploaded to the Application Server and stored in the database. Updated log files are shown in the **Log Explorer** window.

Restriction: The time delay between retrieving the log entries from the client and the availability of the latest logs depends on the queue size and the database availability at the time of upload.

Reporting

Lumension Endpoint Security provides pre-defined reports designed to provide a comprehensive view of your computing environment for activities.

Reports provide a way to view current device permission policy information. Reports are generated as HTML files that are displayed in the main window of any module. You can be print, copy, convert, save, and modify as necessary. In addition to the standard reports, you can customize and generate your own reports, using the ***Log Explorer*** module.

After saving a report, you can view it using any web browser that you system supports. You can change the date format for a report by selecting ***Windows*** **Control Panel** > **Regional and Language Options**. The regional options or settings vary according to the Windows operating system you are using.

Opening a Report

You open a report by selecting a predefined report type listed in the **Reports** module.

1. From the Management Console, select **Reports**.
2. Select a report type from the list.

Result: The report you select is displayed as an HTML file in the ***Management Console*** main window.

Printing a Report

You may print a report that you generate.

1. From the Management Console, select **File** > **Print**.

   Step Result: The standard Windows ***Print*** dialog opens.

2. Select a printer.
3. Click **Print**.

   Step Result: The Windows ***Print*** dialog closes.

Saving a Report

You may save a report that you generate.

1. From the Management Console, select **File** > **Save as**.

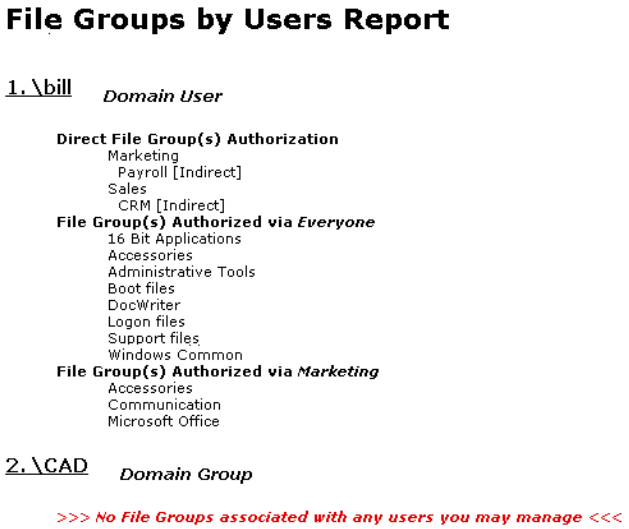
   Step Result: The ***Windows*** dialog for saving a web page opens.

2. Select the file path.
3. Type the file name.
4. Select the file type from the **Save as type** dropdown list.
5. Select an encoding method from the **Encoding** dropdown list.
6. Click **Save**.

   Step Result: The ***Windows*** dialog for saving a web page closes.

File Groups by User

You can generate a report showing the file groups assigned to an individual user or users in a group.



File Groups by Users Report

1. \bill *Domain User*

Direct File Group(s) Authorization
- Marketing
  - Payroll [Indirect]
- Sales
  - CRM [Indirect]

File Group(s) Authorized via *Everyone*
- 16 Bit Applications
- Accessories
- Administrative Tools
- Boot files
- DocWriter
- Logon files
- Support files
- Windows Common

File Group(s) Authorized via *Marketing*
- Accessories
- Communication
- Microsoft Office

2. \CAD *Domain Group*

>>> No File Groups associated with any users you may manage <<<

Figure 67: File Groups by User Report

The following table describes the report rows.

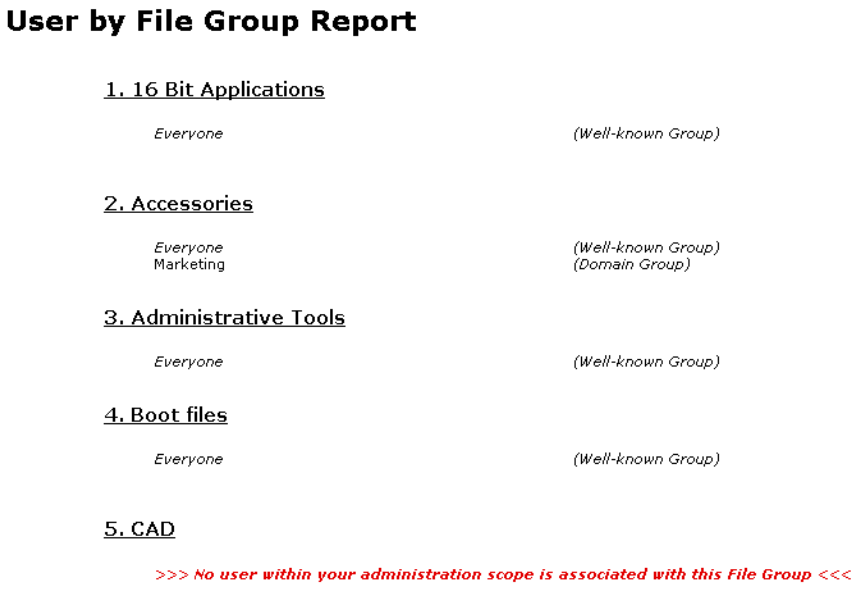
Table 23: File Groups by User Report Row Description

Row Name	Description
User Name	Full user name including domain.
User Group	Full user group name including domain.
Direct Group File Authorization	Group files directly authorized to the user or user group by the administrator.
Indirect Group File Authorization	Group files indirectly authorized to the user or user group through a parent-child relationship with file groups that are directly authorized for the user or user group.
Warning Message	Warns that you do not have permission to view the user or user group file group assignments selected.

User by File Group

You can generate a report showing the users assigned to each file group.

The report shows the users directly and indirectly assigned to the file group.



User by File Group Report

1. 16 Bit Applications

Everyone	*(Well-known Group)*

2. Accessories

Everyone	*(Well-known Group)*
Marketing	*(Domain Group)*

3. Administrative Tools

Everyone	*(Well-known Group)*

4. Boot files

Everyone	*(Well-known Group)*

5. CAD

>>> No user within your administration scope is associated with this File Group <<<

Figure 68: User by File Group Report

The following table describes the report rows.

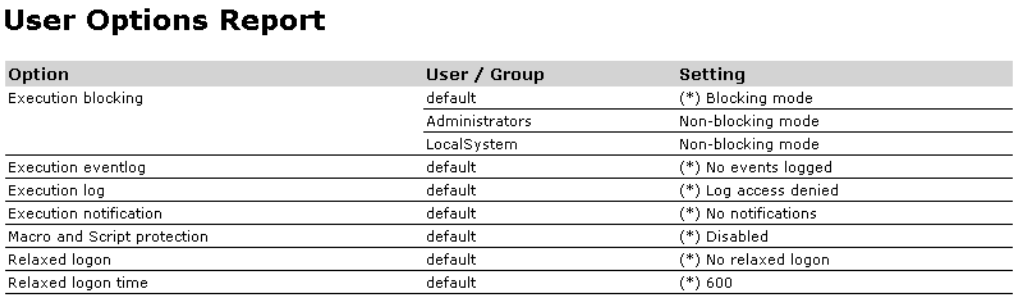
Table 24: User by File Group Report Row Description

Row Name	Description
Direct Group File Authorization	Group files directly authorized to the user or user group by the administrator.
Indirect Group File Authorization	Group files indirectly authorized to the user or user group through a parent-child relationship with file groups that are directly authorized to the user or user group.
User Name	Full user name including domain.
User Group	Full user group name including domain.
Warning Message	Warning that you do not have permissions to view the file group assignments selected.

User Options

You can generate a report showing the Lumension Endpoint Security options settings status.

The report settings describe the types of Application Control activities that the user is permitted and that are monitored by Lumension Endpoint Security.



User Options Report

Option	User / Group	Setting
Execution blocking	default	(*) Blocking mode
	Administrators	Non-blocking mode
	LocalSystem	Non-blocking mode
Execution eventlog	default	(*) No events logged
Execution log	default	(*) Log access denied
Execution notification	default	(*) No notifications
Macro and Script protection	default	(*) Disabled
Relaxed logon	default	(*) No relaxed logon
Relaxed logon time	default	(*) 600

Figure 69: User Options Report

The following table describes the report columns.

Table 25: User Options Column Description

Column	Description
Option	The name of the option shown the ***Default Options*** dialog.
User/Group	The user or user group for which this option is set; **Default** is the value configured for all users and represents the default value.
Setting	The actual value of the option; the asterisk (*) indicates that the option is set to the default value.