
MSI Installer

Installation Guide



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About This Product

The MSI Installer is a program for installing software distributed in ".msi" file format. Our company normally distributes its software in exe file format, but some of our software is distributed in msi file format instead. By using the MSI Installer, automatic distribution and automatic installation of software from a server to a client computer is possible in an Active Directory environment.

About This Document

This installation guide explains how to automatically distribute software to a client computer using the MSI file installer and Active Directory, and install this software automatically without the user needing to do anything. This document is meant for Active Directory administrators. For information on how to install other software, refer to that software's user guide.

Usage Environment

The following system environments are used for the explanations in this document.

- Server: Computers with "Microsoft Windows Server 2008 R2"
- Client Computer: Computers with "Microsoft Windows 7"

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Dialog boxes

The dialog boxes shown in this manual are those that appear in Windows 7 and Windows Server 2008 R2.



Detail

The dialog boxes that appear in this document may differ from those that appear on your PC, depending on the installed devices, specified settings, and PC that you are using.

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1 Overview

1.1 About the MSI Installer

By linking the MSI file installer and Active Directory server, software can be automatically distributed from the server to a client computer and installed. Because installation/uninstallation is done automatically when the client computer is started up, no installation/uninstallation operations are required.

By configuring the distribution settings for multiple programs, the total amount of administration time needed to install the software can be reduced.

MSI files can also be installed directly using a client computer.

1.2 Required System Environment

Server

OS	Windows Server 2003 Standard Edition Windows Server 2003 Enterprise Edition Windows Server 2003 R2 Standard Edition Windows Server 2003 R2 Enterprise Edition Windows Server 2008 Standard Windows Server 2008 Enterprise Windows Server 2008 R2 Standard Windows Server 2008 R2 Enterprise Windows Server 2012 Standard Windows Server 2012 R2 Standard
Software	The MSI file of the distributed software
System Environment	A server on which Active Directory is installed

Client Computer

OS	Windows Vista Business Windows Vista Enterprise Windows Vista Ultimate Windows 7 Professional Windows 7 Enterprise Windows 7 Ultimate Windows 8 Pro / Windows 8.1 Pro Windows 8 Enterprise / Windows 8.1 Enterprise
Software	Microsoft Visual C++ 2005 SP1 (x64) ^{*1}
System Environment	A computer managed with Active Directory ^{*2}

*1 Required for distributing some MSI files.

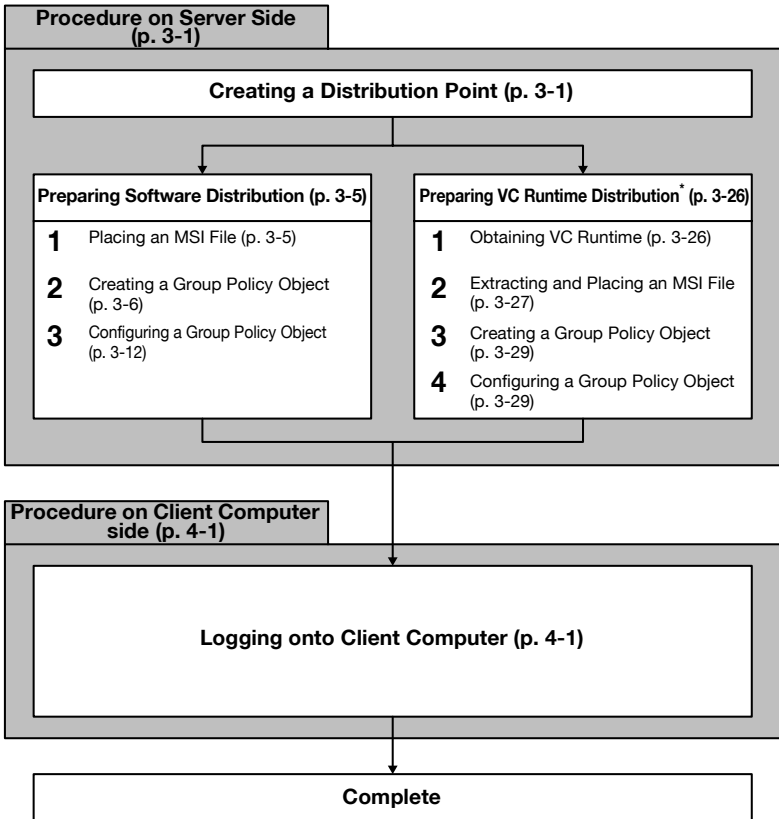
*2 The client computer must be on an Active Directory server domain.

Refer to the Readme file for the latest information about the operating environment.

2 Workflow

This section will explain the workflow up to software installation.

Operations are broadly categorized into server procedures and client computer procedures.



*VC Runtime must be installed in order to distribute some MSI files. When distributing and installing VC Runtime, follow the procedure in Preparing VC Runtime Distribution. Refer to "Preparing VC Runtime Distribution" on page 3-26 for details on software that requires VC Runtime.

3 Preparing the Server

This section will explain how to prepare the server.

The MSI file of the distributed software must be placed and configured.

3.1 Creating a Distribution Point

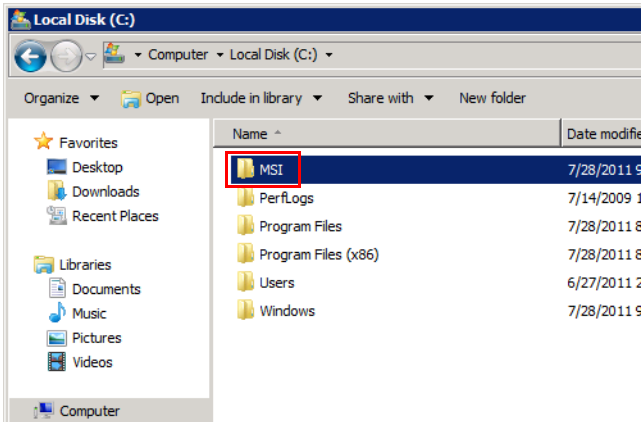
In order to install the software, the MSI file must be distributed to the client computer.

The file is distributed over a network, so a shared network folder that can be accessed from the client computer must be created on the server.

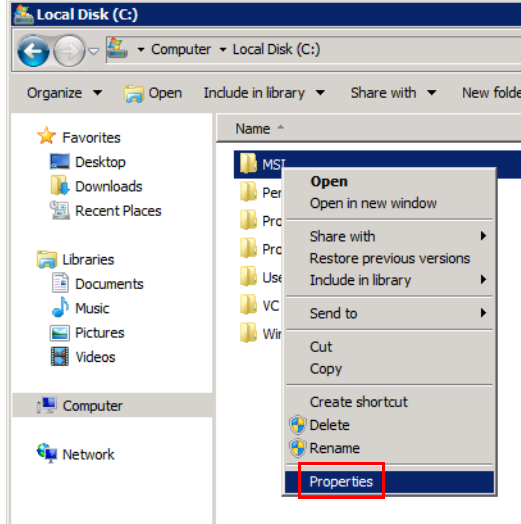
This shared network folder is called a "distribution point".

Procedure

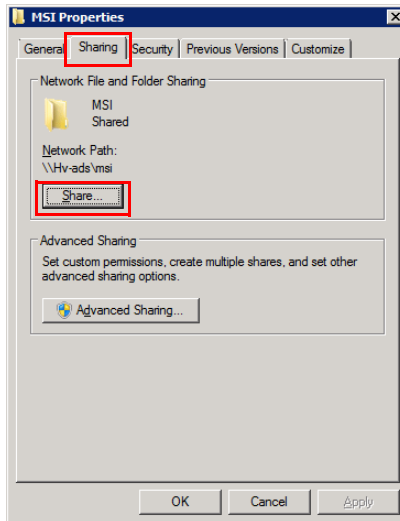
- 1 Create a folder with whatever name you like.
 - In this example, the folder is called "MSI" and is created on the C drive.
 - Do not use double-byte characters in the folder name.



2 Right-click the folder and select [Properties].

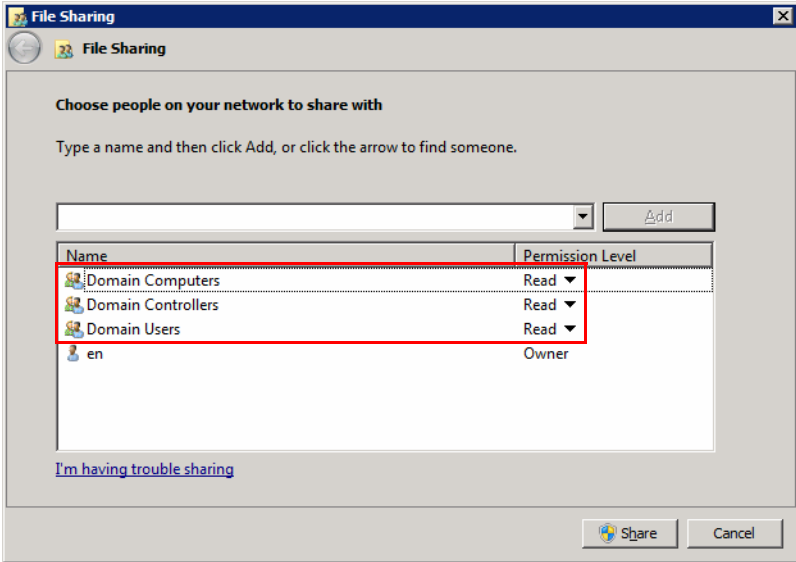


3 Under the [Sharing] tab, click [Share].



- 4 Add the following groups to the list of people to share with, and click [Share].
 - Domain Computers
 - Domain Controllers
 - Domain Users

Add and change the groups as necessary for your usage environment.





How to View an MSI File

This section will explain MSI filenames.

Make sure that the file you obtain matches the bit version and the language of the OS on the client computer.

File type	Description
32-bit MSI file	<p>BoxOperator_Setup_en_x86.msi</p> <p style="text-align: center;"> ⏟ ⏟ ⏟ ⏟ </p> <p style="text-align: center;"> Software Language CPU type </p> <p> ... </p> <p>Note <i>32-bit MSI files have x86 on the end.</i></p>

File type	Description
64-bit MSI file	<p data-bbox="456 181 1003 225">BoxOperator_Setup_en_x64.msi</p> <p data-bbox="508 256 605 280">Software</p> <p data-bbox="743 256 841 280">Language</p> <p data-bbox="874 256 983 280">CPU type</p> <p data-bbox="461 357 535 400"> ...</p> <p data-bbox="496 406 546 427">Note</p> <p data-bbox="496 430 848 451"><i>64-bit MSI files have x64 on the end.</i></p>
MSI file for both 32-bit and 64-bit	<p data-bbox="456 485 885 528">DirectPrint_Setup_en.msi</p> <p data-bbox="508 560 605 584">Software</p> <p data-bbox="743 560 841 584">Language</p> <p data-bbox="461 660 535 703"> ...</p> <p data-bbox="496 710 546 730">Note</p> <p data-bbox="496 734 1003 780"><i>MSI files for both 32-bit and 64-bit do not contain the CPU type in their name.</i></p>

List of Languages

Text	Language	Text	Language	Text	Language
de	German	fr	French	ko	Korean
en	English	it	Italian	zh-CN	Simplified Chinese
es	Spanish	ja	Japanese	zh-TW	Traditional Chinese

3.2 Preparing Software Distribution

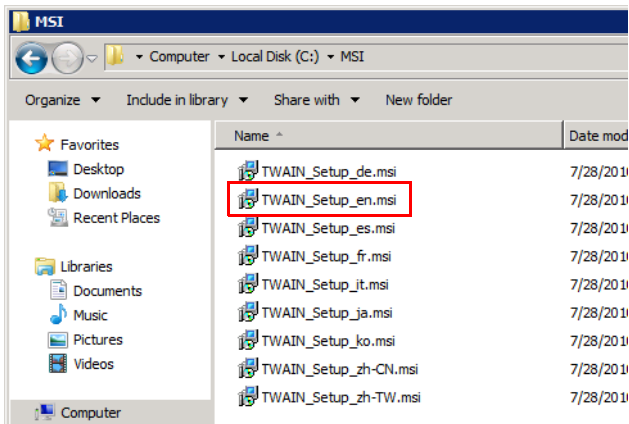
This section will explain how to place distributed MSI files, as well as create and configure group policy objects that determine the distribution rules.

3.2.1 Placing an MSI File

This section will explain how to place the MSI file of the distributed software.

Procedure

- 1 Place the MSI file of the distributed software in all of the shared folder distribution points.
 - Create a new folder distribution point into which the MSI file can be placed.
 - If MSI files of multiple languages are being placed in the distribution point, the software of the language used in the OS on the client computer will be installed. If the OS language on the client computer does not exist in the placed MSI file, the English version of the software will be installed.
 - If both 32-bit and 64-bit client computers are used, place both the 32-bit and the 64-bit MSI files in the distribution point. Either the 32-bit or the 64-bit version of the software will be installed, depending on the bit version of the OS on the client computer.
 - The 64-bit version of VC Runtime is required for distributing some MSI files. Make sure that the MSI file is placed when also distributing VC Runtime. All related files must be placed when placing files with VC Runtime, not only the MSI file. For information on how to obtain VC Runtime, refer to "Preparing VC Runtime Distribution" on page 3-26.



3.2.2 Creating a Group Policy Object

This section will explain how to create a template in which a policy for the account and group is defined.



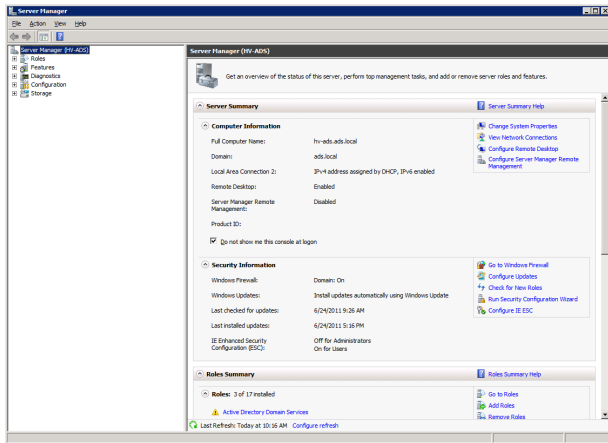
Note

When distributing VC Runtime, create a new group policy object for VC Runtime separate from the software.

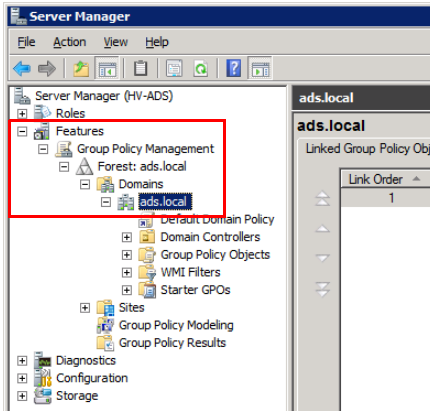
If a client computer is shared by multiple users, MSI files will be distributed to the computer instead of the users.

Procedure

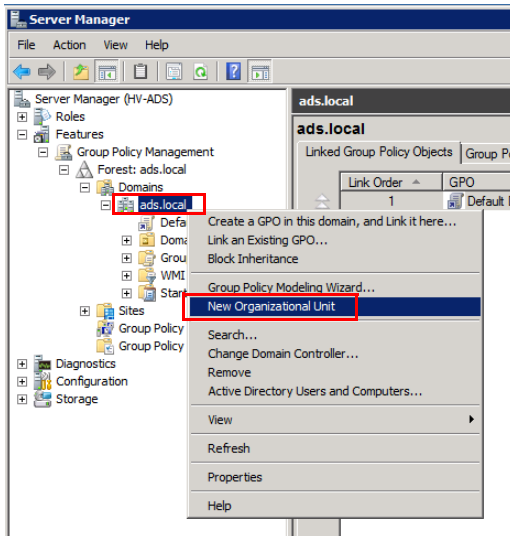
- 1 Launch the Server Manager.



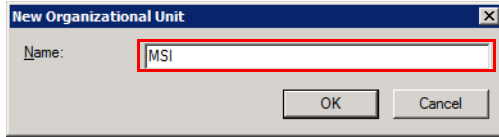
- 2 In the tree, expand [Features] - [Group Policy Management] - [Forest] - [Domains] - [ads.local (or the default domain)], in that order.
 - The "ads.local" domain is used as the example in this explanation.



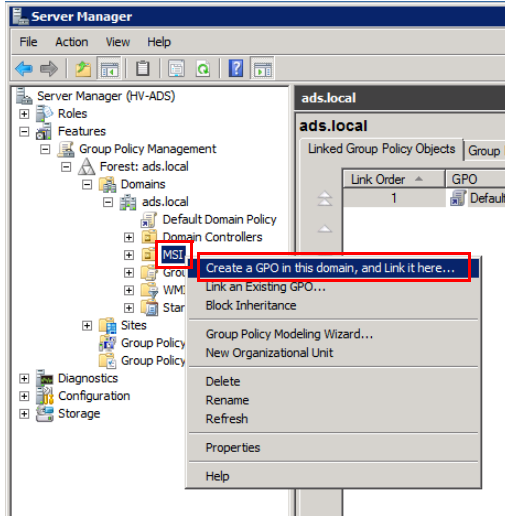
- 3 Right-click [ads.local] and select [New Organizational Unit].



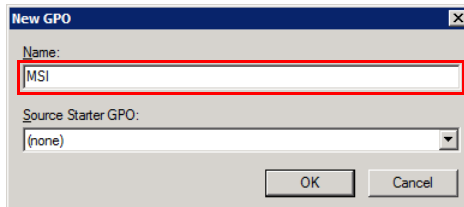
- 4 Enter the name, and click [OK].
 - In this example, an organizational unit (OU) with the name "MSI" is created.



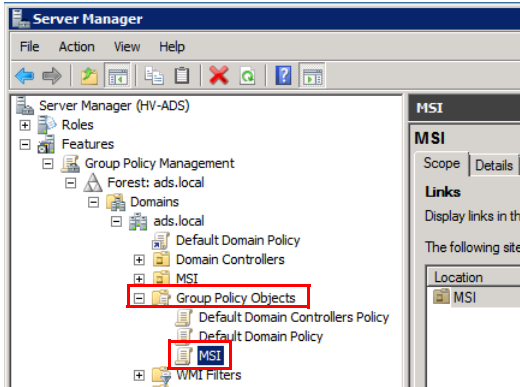
- 5 Right-click the created organizational unit (OU) and select [Create a GPO in this domain, and Link it here].



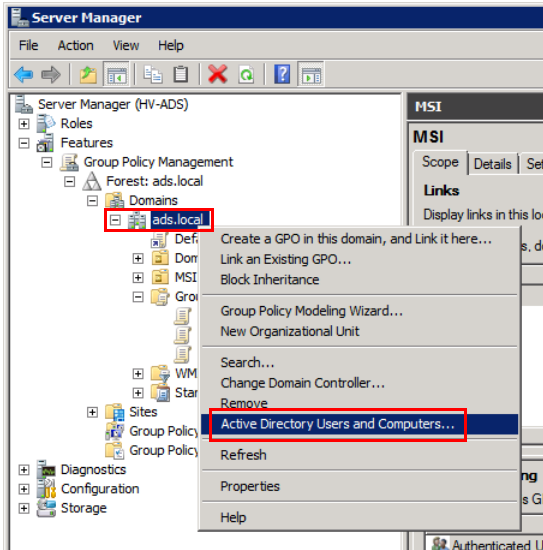
- 6 Enter the name, and click [OK].
 - In this example, a group policy object (GPO) with the name "MSI" is created.



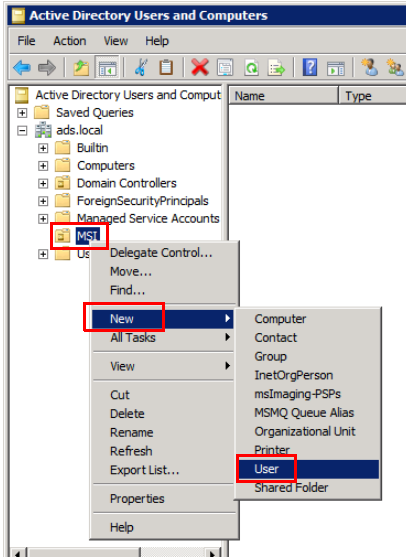
- 7 Check to make sure the group policy object (GPO) was created in [Group Policy Objects].



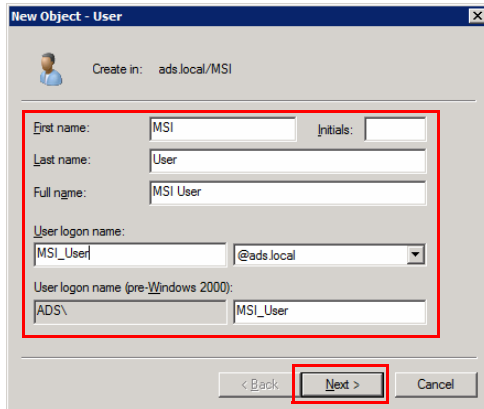
- 8 Create an Active Directory user for the group policy object (GPO) in the organizational unit (OU) or transfer an existing user to the OU.
 - In Box Operator, you must create an applicable Active Directory Computer or transfer an existing computer beforehand.
 - Right-click [ads.local (or the default domain)] and select [Active Directory User and Computers].



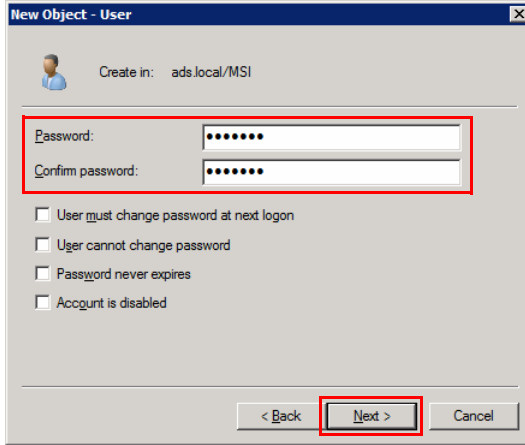
9 Right-click the organizational unit (OU) and select [New] - [User].



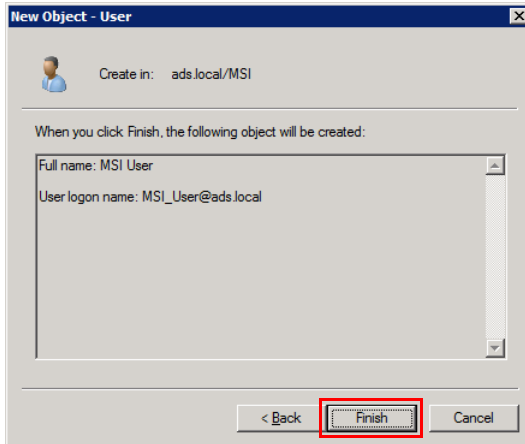
10 Enter the information of the user for the distribution, and click [Next].



11 Enter the password, and click [Next].

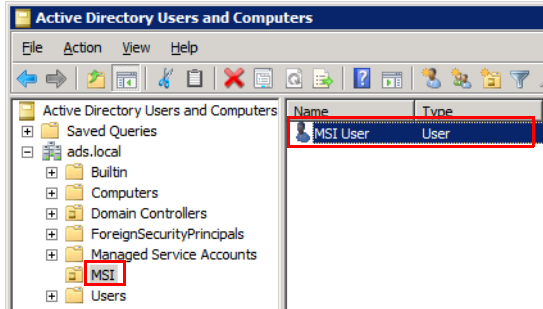


12 Click [Finish].



13 Check to make sure the user was created.

- The software will be distributed to the created users, so add users as necessary.



3.2.3 Configuring a Group Policy Object

This section will explain how to configure MSI file distribution rules.



Note

Administrator privileges for the client computer must be given to the Active Directory user in order to properly distribute some MSI files. If the administrator privileges were not given to the Active Directory user, add them. Refer to "Adding Administrator Privileges" on page 4-3 for information on how to add the administrator privileges.

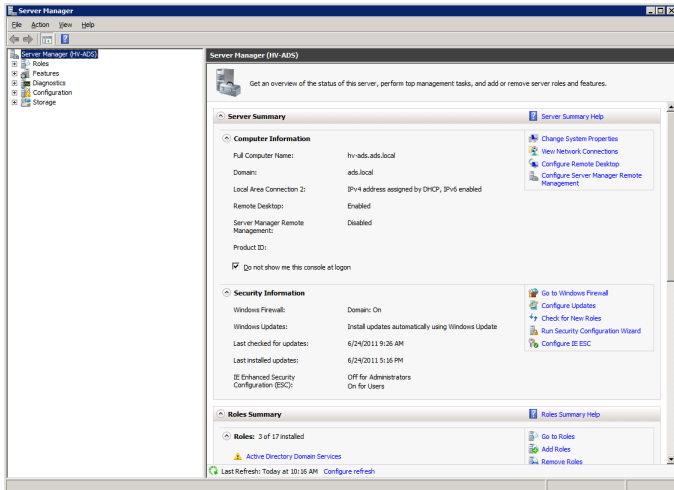


Note

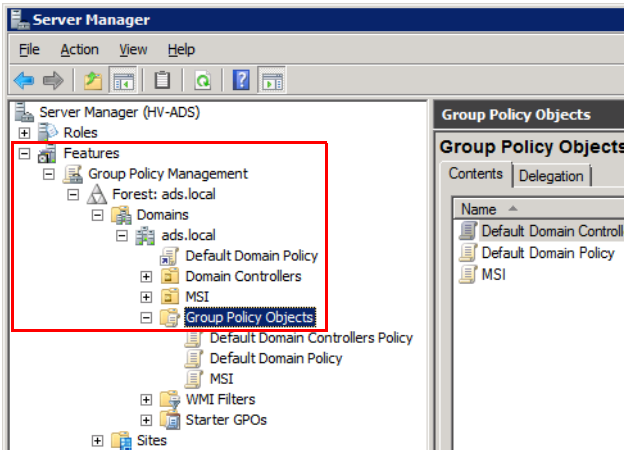
When upgrading a previous version of the software that has already been distributed, refer to "Configuring a Group Policy Object (Upgrade)" on page 3-19.

Procedure

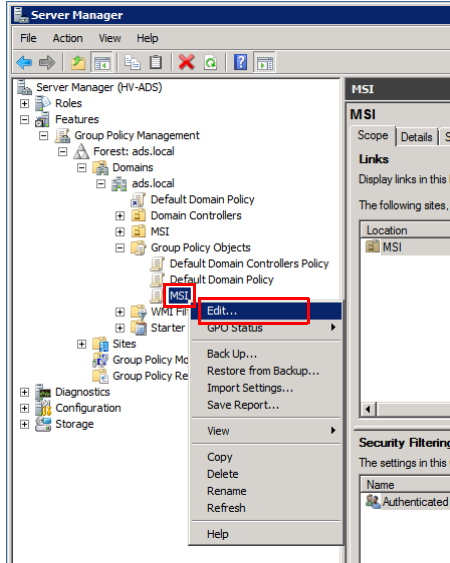
1 Launch the Server Manager.



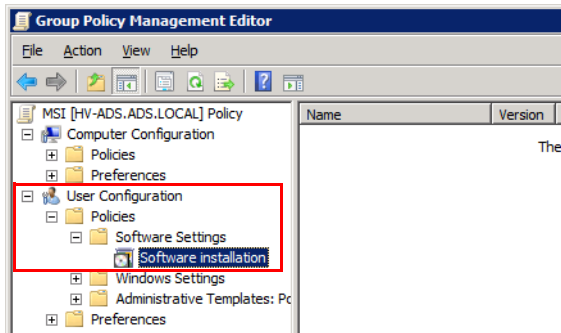
2 In the tree, expand [Features] - [Group Policy Management] - [Forest] - [Domains] - [ads.local (or the default domain)] - [Group Policy Objects], in that order.



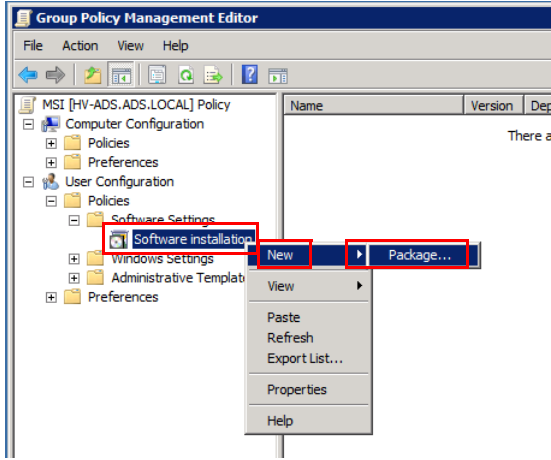
- Under [Group Policy Objects], right-click [MSI (or the default group policy object)], and select [Edit].



- In the tree in the Group Policy Management Editor, expand [User Configuration] - [Policies] - [Software Settings] - [Software installation], in that order.

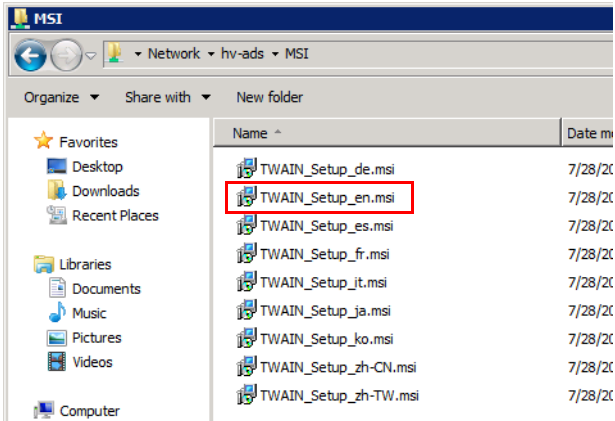


5 Right-click [Software installation] and select [New] - [Package].

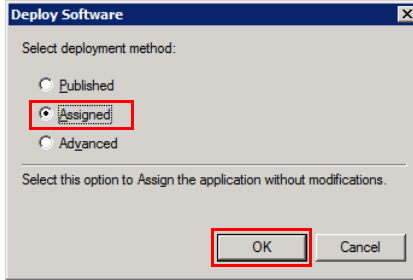


6 Select the MSI file placed in the shared folder distribution point, and click [Open].

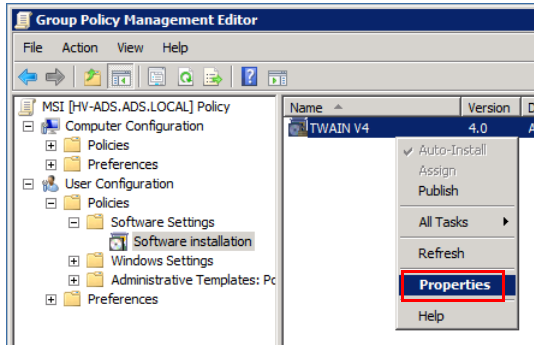
- Designate the path to the MSI file using a network path (\\<Name of server>\<Name of shared folder>\<Name of MSI file>). Files cannot be obtained on a client computer with a local path.



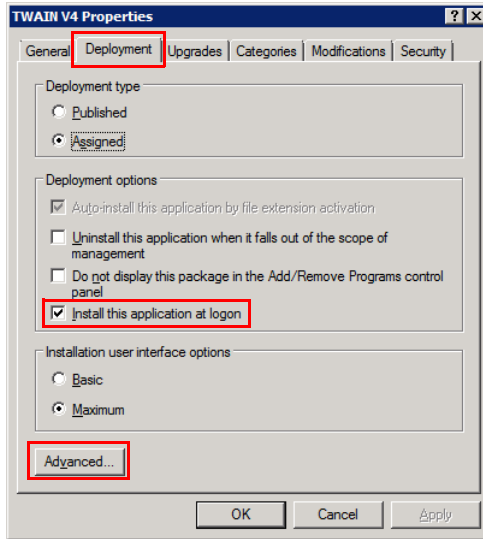
7 Select [Assigned] and click [OK].



8 Right-click the created package and select [Properties].

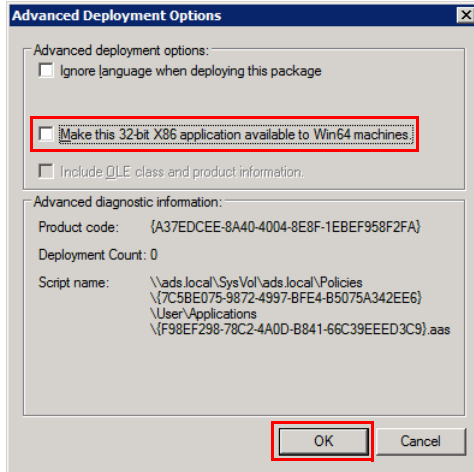


- 9 Select the [Deployment] tab and check [Install this application at logon].
 - If it is a VC Runtime MSI file, do not check [Install this application at logon].



- 10 Click [Advanced].

- 11** Check [Make this 32-bit X86 application available to Win64 machines] if appropriate for the MSI file, and click [OK].
- It does not need to be checked if both 32-bit and 64-bit MSI files are separately arranged, but does need to be checked if it is a shared MSI file for both 32-bit and 64-bit.
 - It does not need to be checked if it is a VC Runtime 64-bit MSI file.



- 12** Repeat steps 5 to 11 for all distributed software.

3.2.4 Configuring a Group Policy Object (Upgrade)

This section will explain how to distribute a new version of the software in order to upgrade a previous version of the software. As a precondition, the distribution settings must already be configured for the previous version of the software.

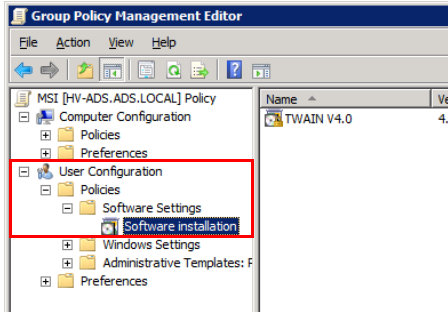


Note

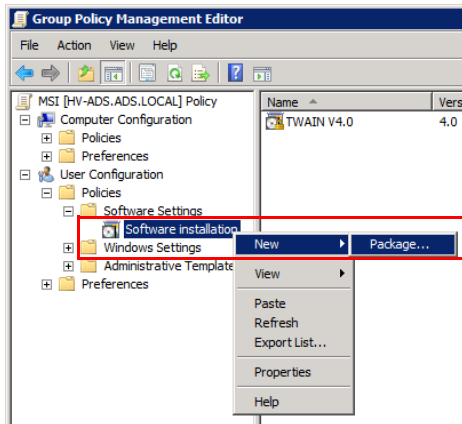
If the software was installed using a setup file in exe file format, Active Directory cannot be used to distribute software in order to upgrade a previous version of the software.

The software can be upgraded only if the previous version of the software was distributed in MSI file format.

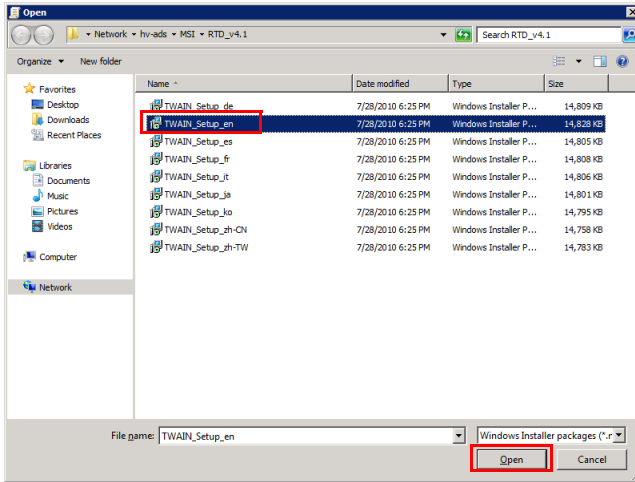
- 1 In the tree in the Group Policy Management Editor, expand [User Configuration] - [Policies] - [Software Settings] - [Software installation], in that order.



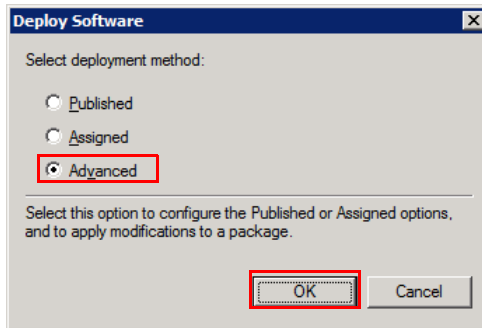
- 2 Right-click [Software installation] and select [New] - [Package].



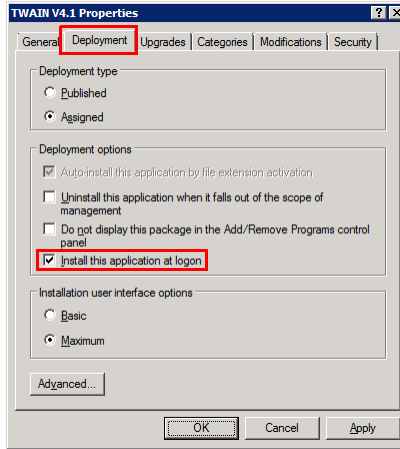
- 3 Select the upgrade MSI file placed in the shared folder distribution point, and click [Open].



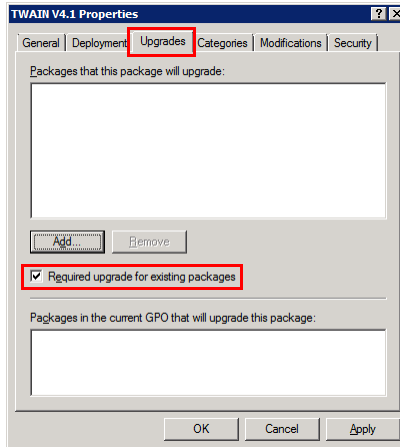
- 4 Select [Advanced] and click [OK].



- 5 Select the [Deployment] tab, select [Assigned], and check [Install this application at logon].
 - For the settings in [Advanced], use the same settings as when installing the package as a new package.

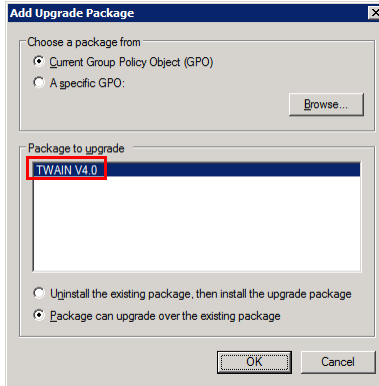


- 6 Select the [Upgrades] tab and check [Required upgrade for existing packages].

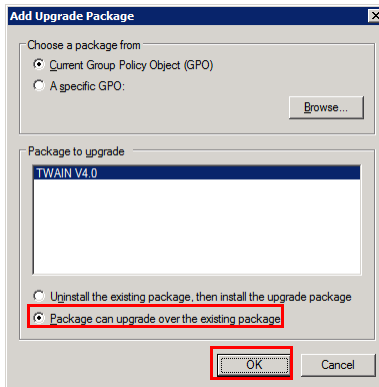


- 7 Click [Add].

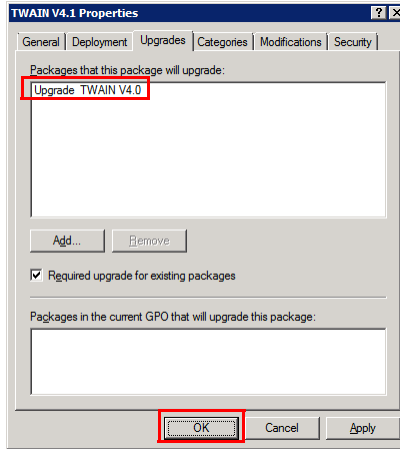
- 8 In the "Package to upgrade" list, select the previous version of the package.
 - If the distribution settings have been configured for multiple previous versions of the package, add all of the existing previous versions of the package, not just the most recent previous package.



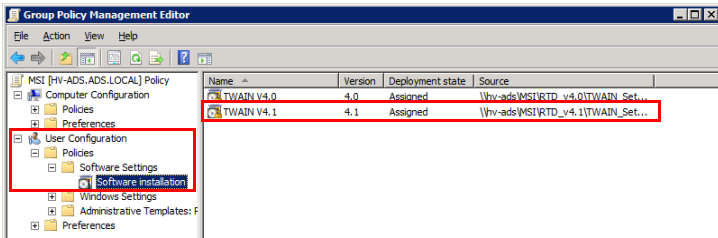
- 9 Select [Package can upgrade over the existing package] and click [OK].



- 10 Confirm that the upgrade target package has been added to the "Packages that this package will upgrade" list, and click [OK].



- 11 Confirm that the software upgrade package has been set.

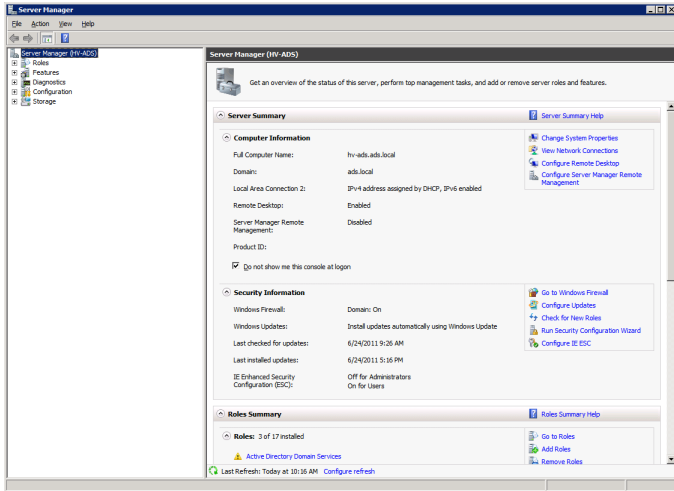


3.2.5 Checking the Group Policy Object Settings

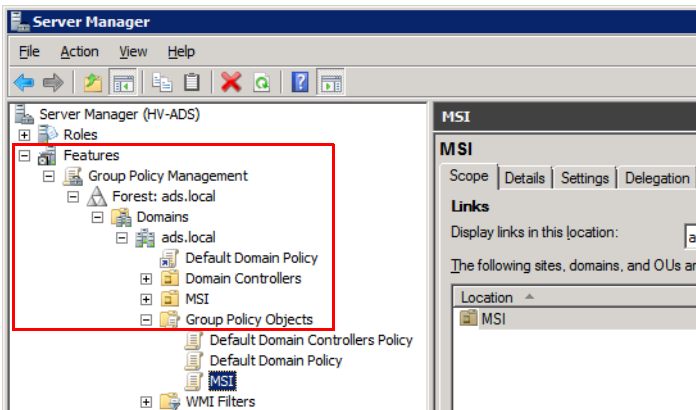
This section will explain how to check the settings of the distributed software.

Procedure

- 1 Launch the Server Manager.

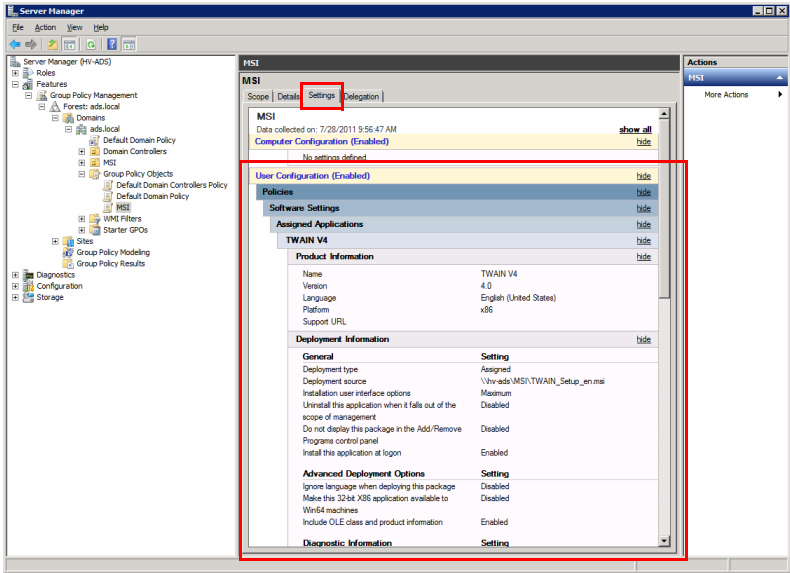


- 2 In the tree, expand [Features] - [Group Policy Management] - [Forest] - [Domains] - [<The default domain>] - [Group Policy Objects], in that order, and select the group policy object you wish to check.



3 Select the [Settings] tab.

- You can check the settings from here.
- If the bars are closed, expand them as necessary.



3.3 Preparing VC Runtime Distribution

VC Runtime must be installed in order to distribute some MSI files. VC Runtime automatically distributes and installs MSI files, like other software. This section will explain how to obtain VC Runtime and extract MSI files.

Software required for VC Runtime:

- 64-bit Box Operator (versions earlier than version 3.2.08000)
- 64-bit Direct Print (all versions)



Note

For 64-bit Box Operator version 3.2.08000 and later, the procedure in "Preparing VC Runtime Distribution" is not necessary.

3.3.1 Obtaining VC Runtime

If installing VC Runtime, you must obtain the Microsoft Visual C++ 2005 SP1 redistributable package (x64) from the Microsoft website beforehand.

Source: Microsoft Download Center

<http://www.microsoft.com/download/en/default.aspx>

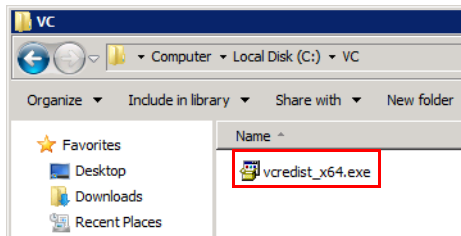


Note

If the above URL no longer works, search for the package from the home page of the "Microsoft Download Center".

Procedure

- 1 Create a folder with whatever name you like directly on the C drive, and download "vcredist_x64.exe" into it.
 - In this example, a folder with the name "VC" is created.
 - Do not use double-byte characters in the folder name.

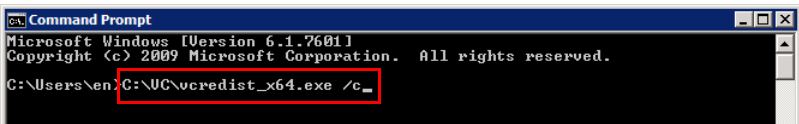


3.3.2 Extracting and Placing an MSI File

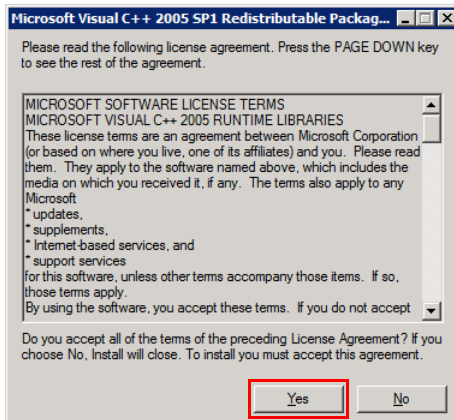
The downloaded VC Runtime file is in exe format, so it cannot be used as-is. You must retrieve the MSI file from the exe file.

Procedure

- 1 Launch the Command Prompt on the server. Type in "C:\VC\vcredist_x64.exe /c_" and press Enter.

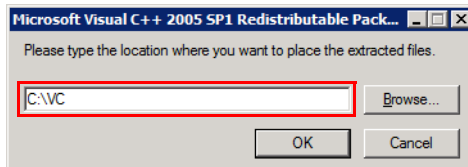


- 2 The License Agreement will be displayed. Click [Yes].

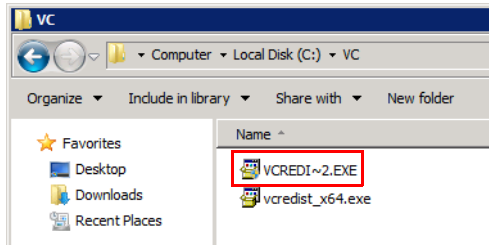


- 3 Designate the location where the file will be expanded and click [OK].

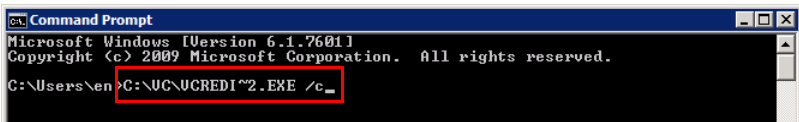
- Designate the VC folder.



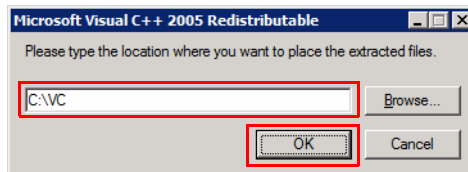
The file named "VCREDI~2.EXE" will be expanded in the designated folder.



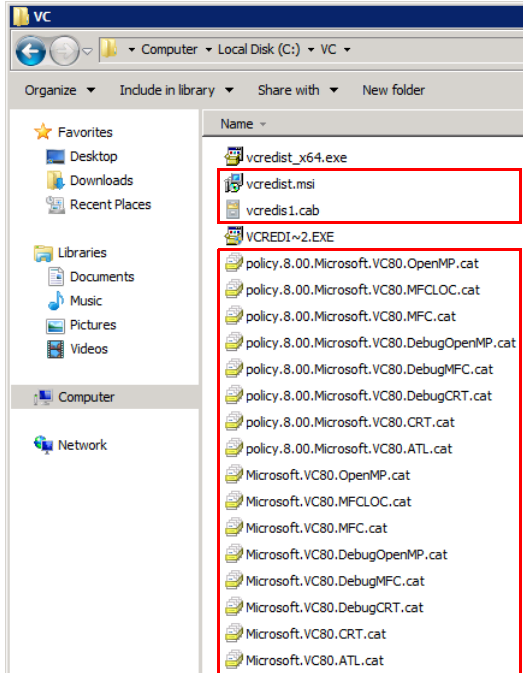
- 4 Launch the Command Prompt. Type in "C:\VC\VCREDI~2.EXE /c" and press Enter.



- 5 The User Account Control dialog box will be displayed. Click [OK].
 - It may not be displayed, depending on the server environment.
- 6 Designate the location where the expanded file will be saved and click [OK].
 - Designate the "VC" folder.



- 7 The designated save location will open.
- The files in the red frame are the files related to the VC Runtime MSI file.



3.3.3 Creating and Configuring a Group Policy Object

Refer to "Preparing Software Distribution" on page 3-5 for information on how to create and configure a group policy object through VC Runtime distribution.

4 Preparing a Client Computer

The software is installed automatically when the user logs into the client computer, according to the configured group policy object.

No user operations are required during the installation, but it may take some time until the logon finishes.

**Note**

The client computer must be on an Active Directory domain for the automatic installation to work. Refer to the Active Directory manual for information on how to join a domain.

In addition, administrator privileges for the client computer must be added to the Active Directory user for some software. Refer to "Adding Administrator Privileges" on page 4-3 for information on how to add the administrator privileges.

**Note**

Some software requires the system to be restarted during the initial login, after which the installation will finish during the second login.

**Note**

After the software has been distributed, it will not install when you are logged in. You must restart the client computer and log in again.



...

Note

To install My Print Manager Port or My Print Notifier on a client computer, carry out the following preparations in advance.

- If the client computer is running Windows Vista, Windows 7, Windows 8 or Windows 8.1, select [Control Panel] - [Programs and Features] - [Turn Windows features on or off], then select the [Microsoft .NET Framework 3..*] check box ("*.*" is different depending on operating systems).*



...

Reminder

Installation-related messages are not normally displayed during the installation. However, messages may be displayed if the group policy settings are changed on the server. Refer to "Displaying Group Policy Messages" on page 5-11 for details.

4.1 Adding Administrator Privileges

This section will explain how to add administrator privileges for the client computer to an Active Directory user.

Software that requires administrator privileges: 32-bit/64-bit Box Operator versions earlier than version 3.2.08000



Note

For 32-bit/64-bit Box Operator version 3.2.08000 and later, the procedure in "Adding Administrator Privileges" is not necessary.

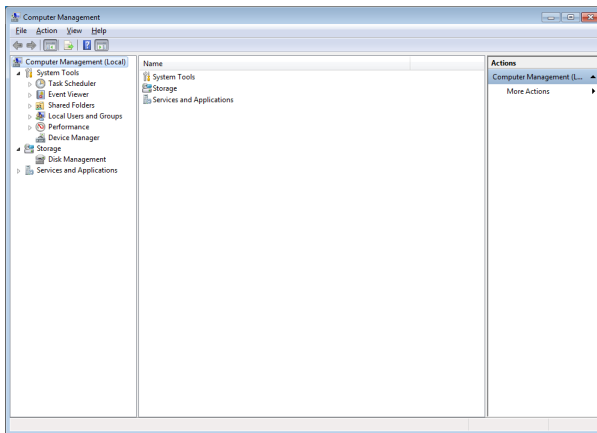


Note

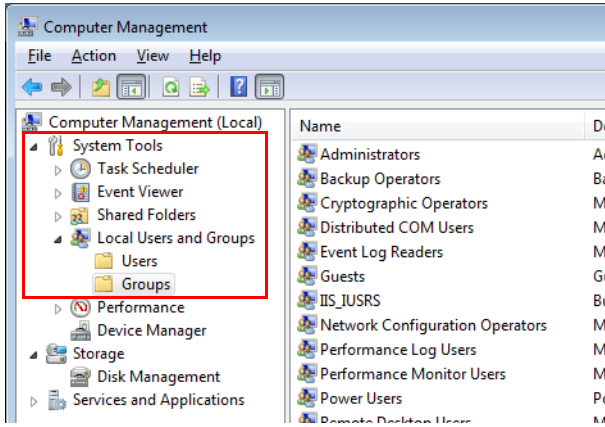
The client computer must be on an Active Directory domain before you add administrator privileges.

Procedure

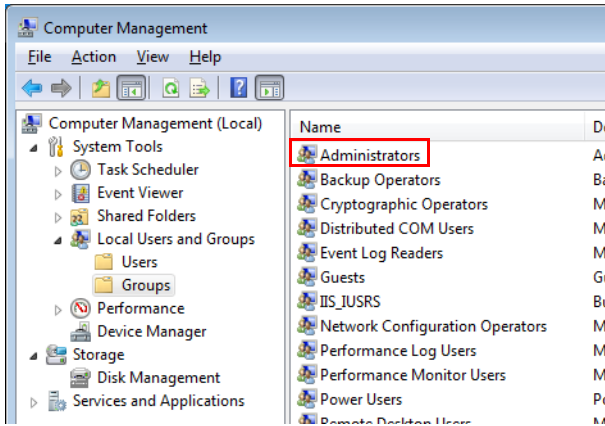
- 1 Log on to the client computer using a local user account that has administrator privileges.
 - Do not log on using an Active Directory user account. Be sure to log on to the client computer using a local user account that has administrator privileges.
- 2 Click [Start] - [Control Panel] - [Administrative Tools] - [Computer Management].



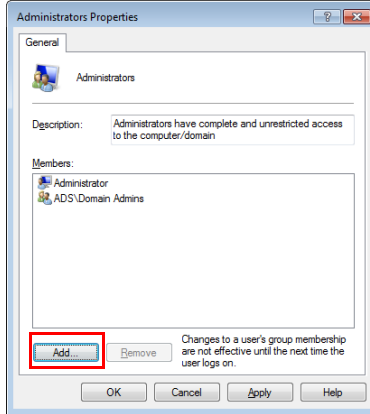
- 3 In the tree, expand [System Tools] - [Local Users and Groups] - [Groups] in that order.



- 4 Click [Administrators] to open the Administrators Privileges dialog box.

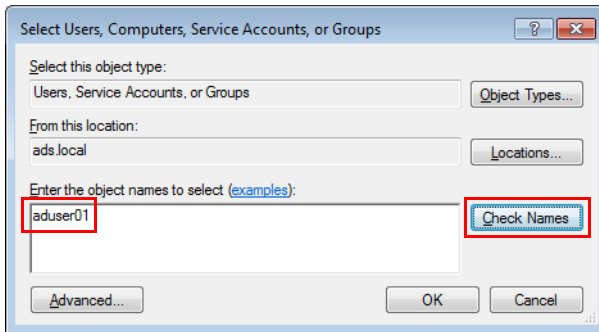


5 Click [Add].

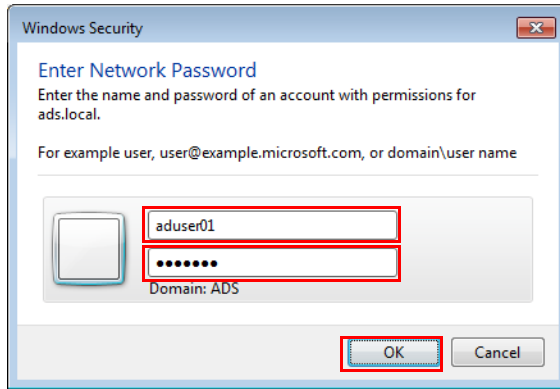


6 In the "Enter the object names to select" box, enter the name of the Active Directory user to add the administrator privileges to, and click [Check Names].

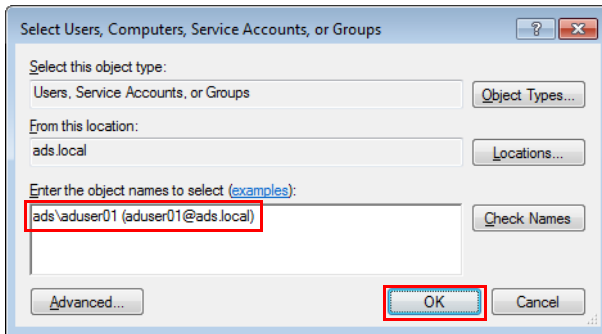
- The "aduser01" Active Directory user is used as the example in this explanation.



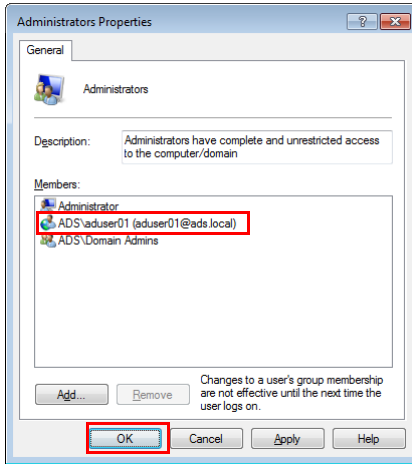
- 7 In the network password dialog box, enter the Active Directory user name and password, and click [OK].



- 8 Confirm the Active Directory user name in the "Enter the object names to select" box, and click [OK].



- 9 Confirm that the Active Directory user has been added to the Administrators Properties dialog box, and click [OK].



5 Other Operations

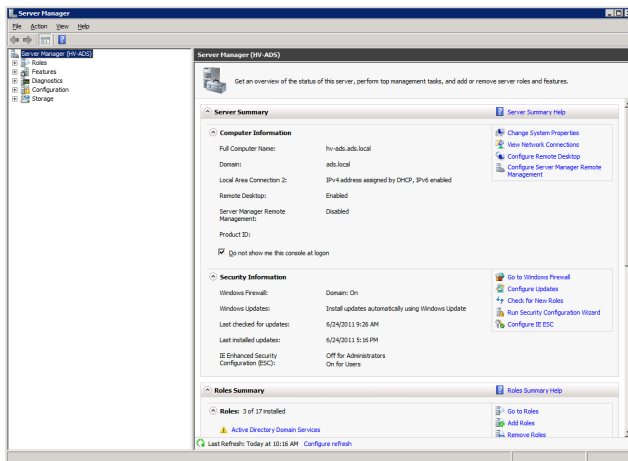
This section will explain how to uninstall software, manually update group policies, and output event logs.

5.1 Uninstalling Software

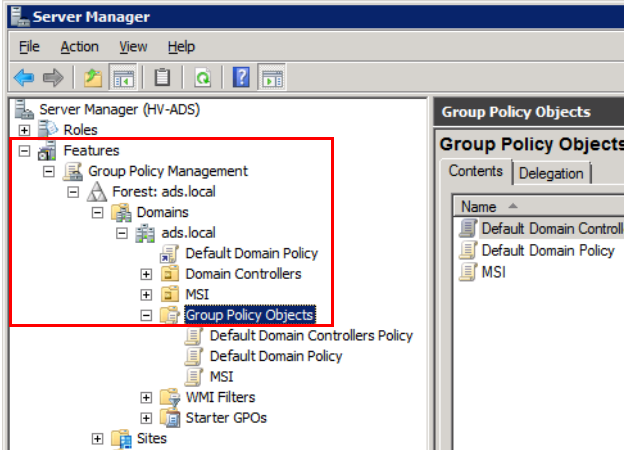
Software installed on a client computer is uninstalled on the server.

Procedure

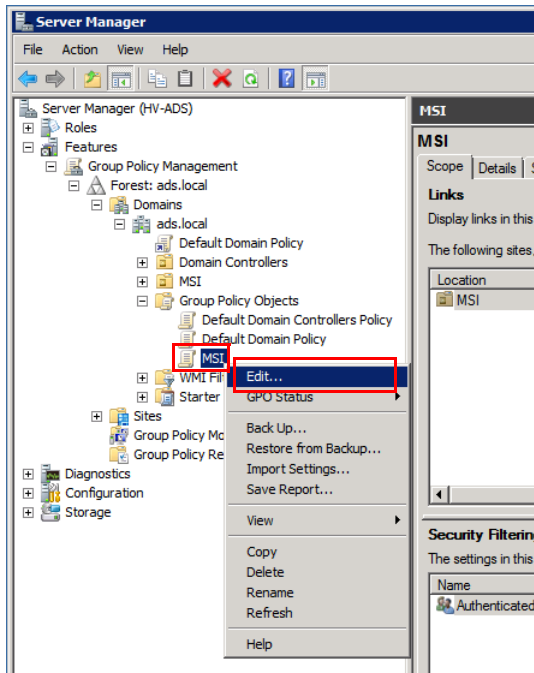
- 1 Launch the Server Manager.



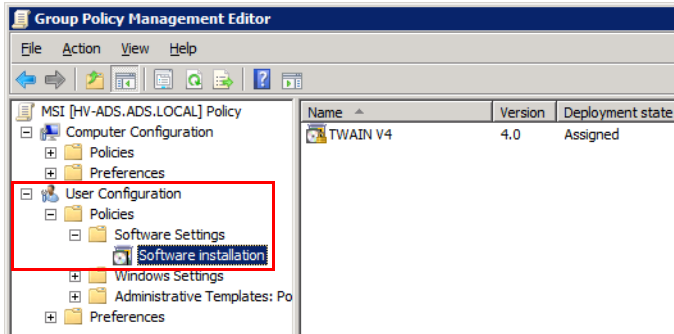
- 2 In the tree, expand [Features] - [Group Policy Management] - [Forest] - [Domains] - [ads.local (or the default domain)] - [Group Policy Objects], in that order.



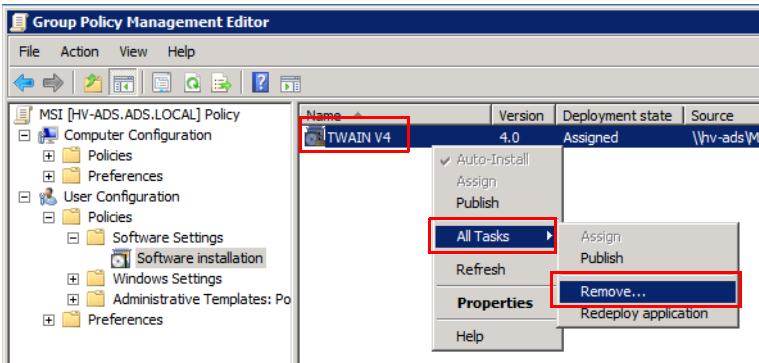
- 3 Under [Group Policy Objects], right-click [MSI (or the default group policy object)], and select [Edit].



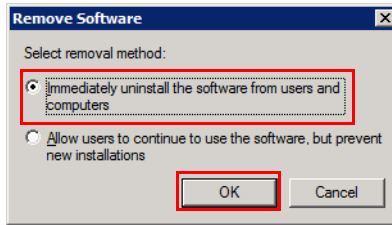
- 4 In the tree in the Group Policy Management Editor, expand [User Configuration] - [Policies] - [Software Settings] - [Software installation], in that order.



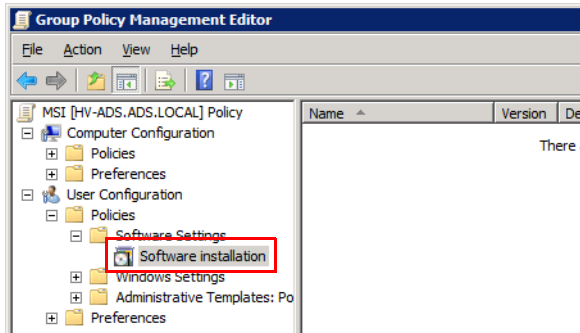
- 5 Right-click the software package you wish to uninstall, and select [All Tasks] - [Remove].



- 6 Select [Immediately uninstall the software from users and computers] and click [OK].



- The package will be removed from the list, and the software will be uninstalled from the client computer the next time you log on.
- No user operations are required during the uninstallation, but it may take some time until the logon finishes.



5.2 Manually Updating Group Policies

This section will explain how to manually update group policies on a client computer using the Command Prompt.

Group policies on a client computer are normally updated regularly (default: every 90 minutes). A group policy alteration is randomly applied to the client computer between 0 and 30 minutes after the update.

Manual updates are done on the client computer.



Note

The server will be overloaded if all client computers are updated at the same time. As a general rule, apply the group policy alteration at an update interval set in the Active Directory.

Procedure

- 1 Launch the Command Prompt on the client computer.
- 2 Enter "gpupdate /force" and press Enter.

```
Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.

C:\Users\en>gpupdate /force_
```

A message indicating that the update has finished will be displayed.

```
Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\en>gpupdate /force
Updating Policy...

User Policy update has completed successfully.
Computer Policy update has completed successfully.

C:\Users\en>_
```


5.3 Outputting Event Logs

An event log can be output to the client computer when software is installed or uninstalled.

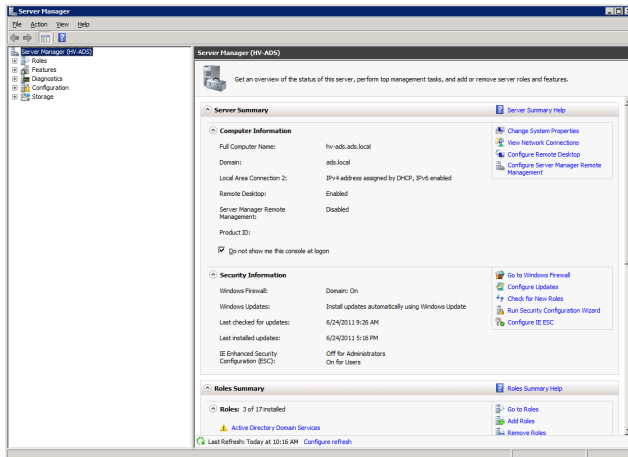
This log can be used to determine the cause of any problem that occurred during the installation/uninstallation.

5.3.1 Enabling Log Output

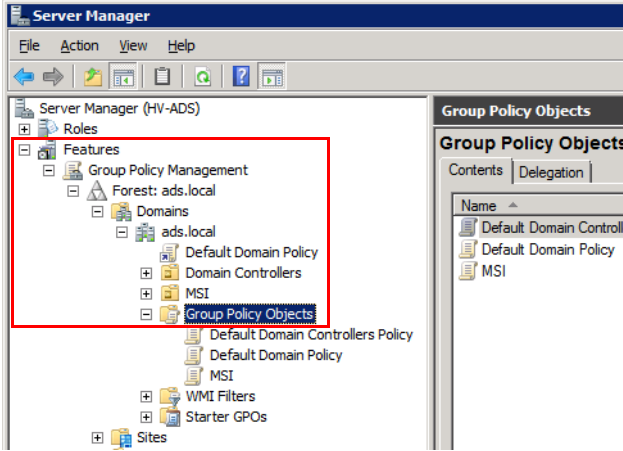
This section will explain how to configure the server to output event logs.

Procedure

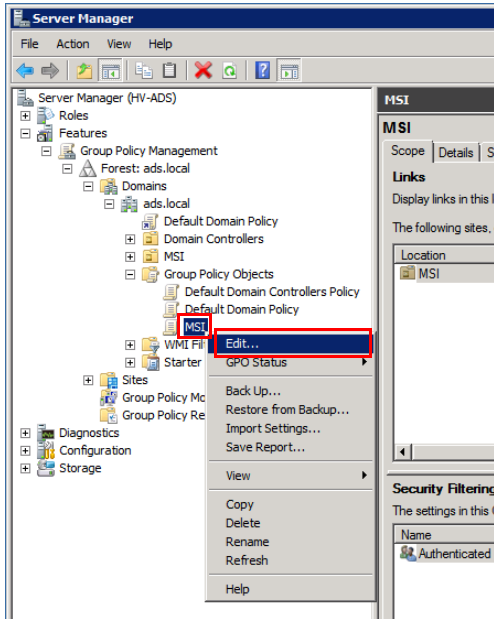
- 1 Launch the Server Manager.



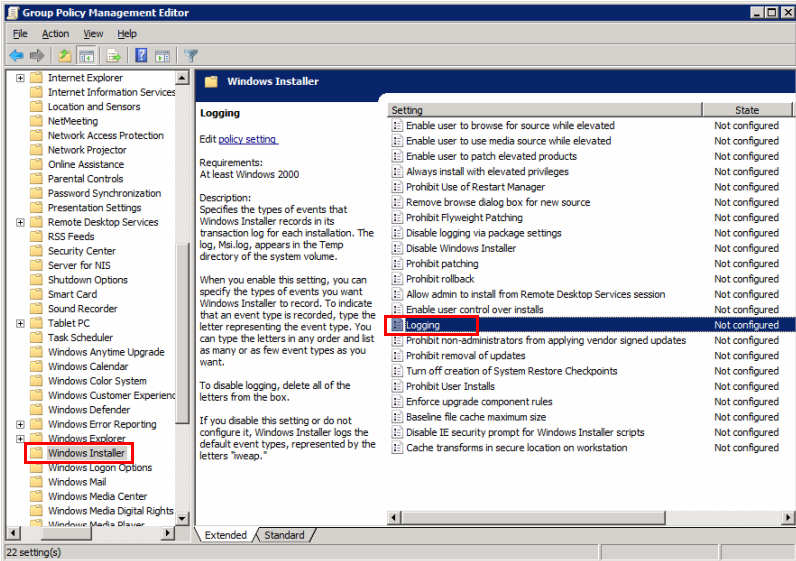
- 2 In the tree, expand [Features] - [Group Policy Management] - [Forest] - [Domains] - [MSI (or the default group policy object)] - [Group Policy Objects], in that order.



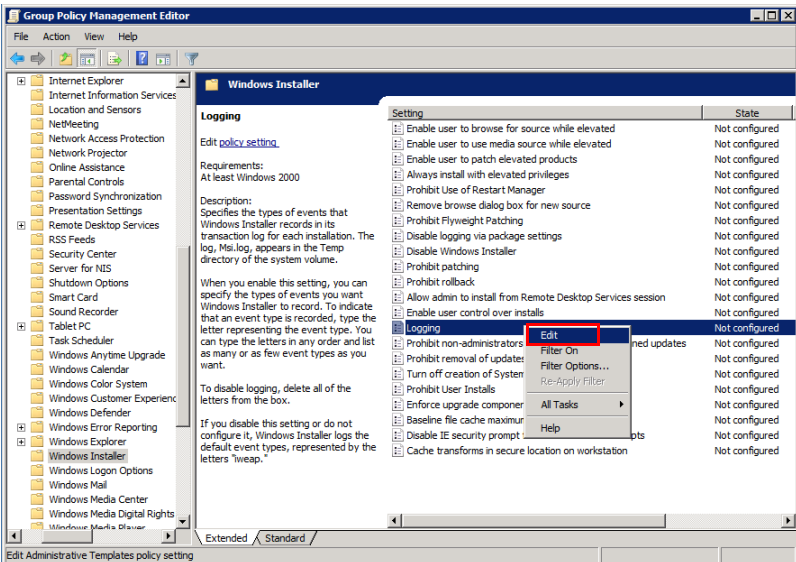
- 3 Under [Group Policy Objects], right-click [MSI (or the default group policy object)], and select [Edit].



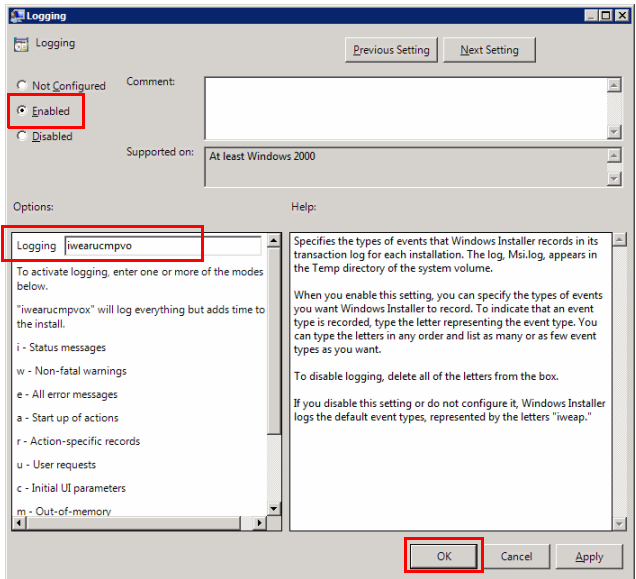
- 4 In the tree, expand [Computer Configuration] - [Policies] - [Administrative Templates] - [Windows Components] - [Windows Installer], in that order, and select [Logging].



- 5 Right-click [Logging] and select [Edit].



6 After selecting [Enabled] in [Options:] [Logging], enter "iwearucmpvo" and click [OK].

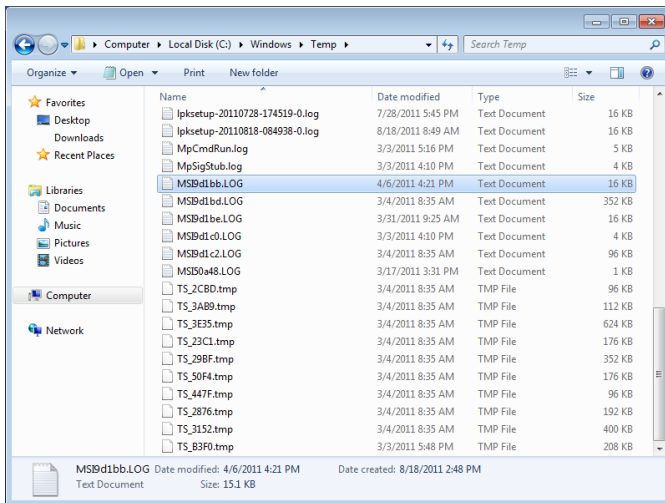


5.3.2 Checking an Event Log

This section will explain how to check an output log. Event logs are generated on the client computer.

Procedure

- 1 Event log files are generated in "C:\Windows\Temp" on the client computer.
 - The filenames of the log files are random numbers, so you must identify them using the time and date of the update, as well as the contents.



5.4 Displaying Group Policy Messages

When a group policy for the installation of software and so on is applicable to a client computer, a message containing the details can be displayed on the client computer.

By displaying the group policy message, the user can understand why it is taking time to log in.

The applicable group policy messages are displayed when the client computer is started up and shut down, and when the user logs in and logs off.



Note

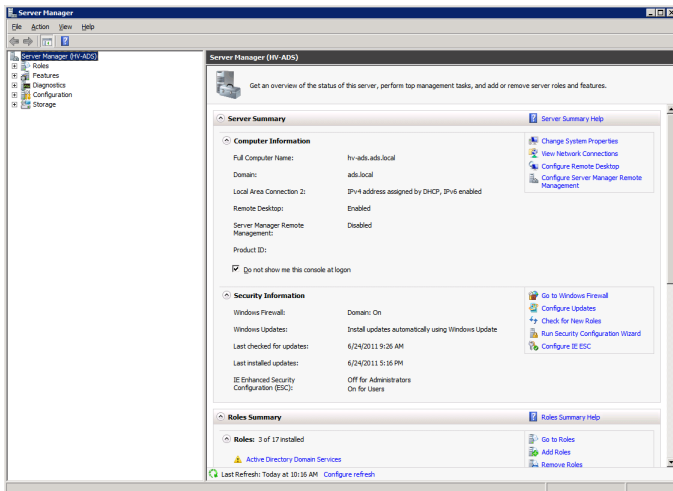
These messages will not be displayed if [Remove Boot/Shutdown /Logon/Logoff status messages] is enabled for the group policy.

5.4.1 Enabling Messages

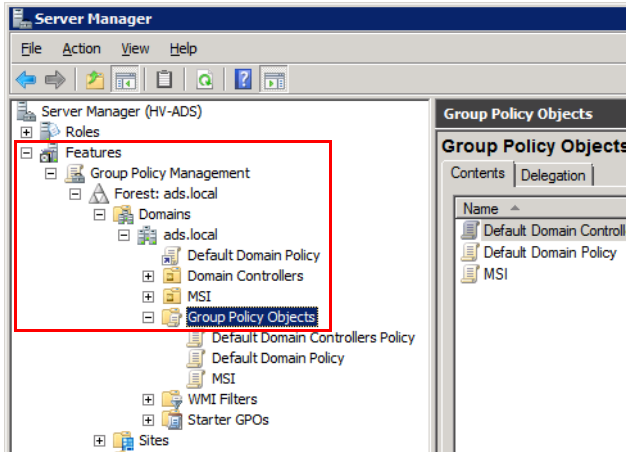
This section will explain how to configure the server to display messages.

Procedure

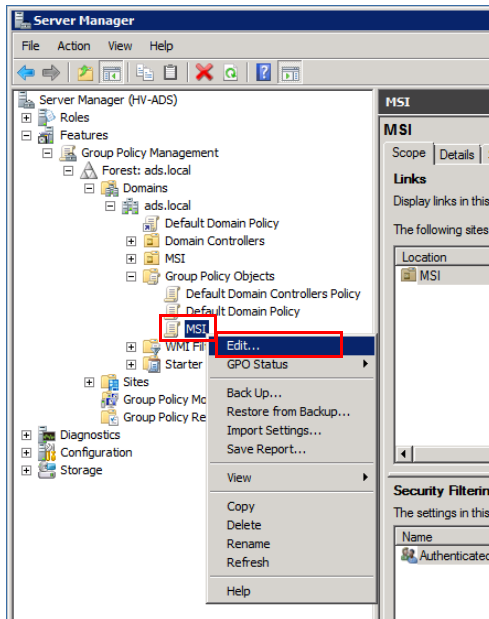
1 Launch the Server Manager.



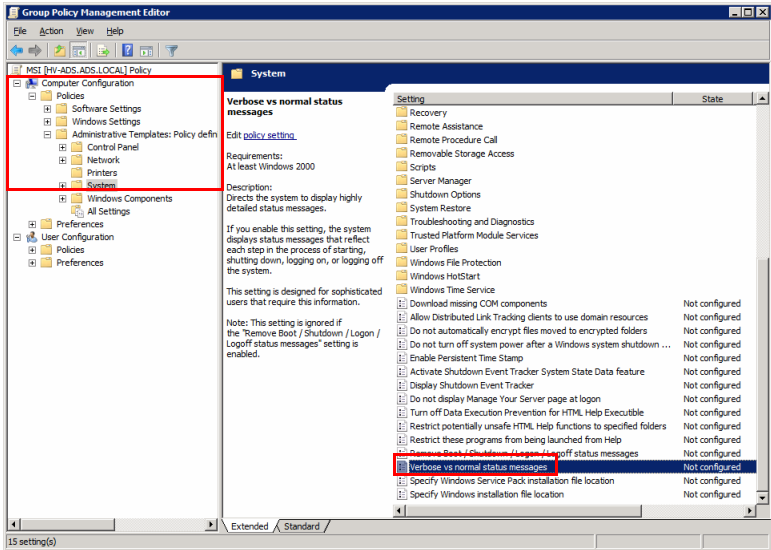
- 2 In the tree, expand [Features] - [Group Policy Management] - [Forest] - [Domains] - [MSI (or the default group policy object)] - [Group Policy Objects], in that order.



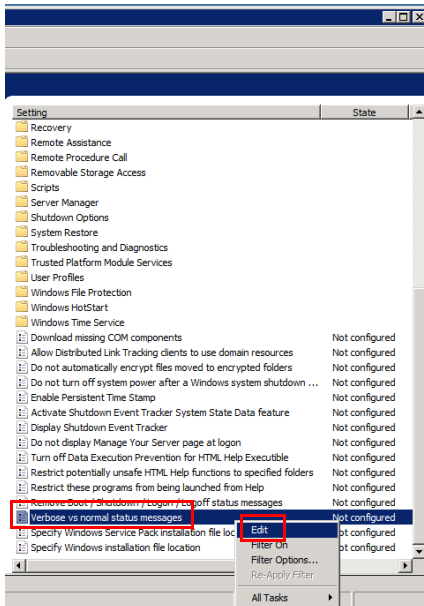
- 3 Under [Group Policy Objects], right-click [MSI (or the default group policy object)], and select [Edit].



- 4 In the tree, expand [Computer Configuration] - [Policies] - [Administrative Templates] - [System], in that order, and select [Verbose vs normal status messages].



- 5 Right-click [Verbose vs normal status messages] and select [Edit].



6 Select [Enabled] and click [OK].

