



Operating System

Software Installation and Maintenance Walkthrough

Beta 3 Technical Walkthrough

Abstract

Software Installation and Maintenance for the Microsoft® Windows® 2000 operating system allows administrators to manage software (including applications, service packs, and operating system upgrades) for their organizations.

Software Installation and Maintenance uses the Microsoft Active Directory™ directory service, Group Policy, the Windows Installer, and the Add/Remove Programs in the Control Panel to allow administrators to improve the availability of software, and therefore user productivity, while reducing the total cost of ownership (TCO).

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*Microsoft Corporation • One Microsoft Way • Redmond, WA 98052-6399 • USA
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INTRODUCTION

Microsoft® Windows 2000 has many new management features designed to allow administrators to reduce the total cost of ownership (TCO) for personal computers (PCs). The following table highlights the Change and Configuration Management features, benefits, and the technologies that enable the features.

		Feature	Benefits	Technologies
Change and Configuration Management	IntelliMirror	User Data Management	My data and documents follow me! Users can have access to the data they need to do their jobs, whether online or offline, when they move from one computer to another on the network. Administrators manage this feature centrally by policy to minimize support costs.	Active Directory™ Group Policy Offline folders Synchronization Manager Enhancements to the Windows® shell Folder Redirection Disk quotas
		Software Installation and Maintenance	My software follows me! Users have the software they need to perform their jobs. Software and optional features install "just in time." Once installed, software is self-repairing. Administrators manage application and OS upgrades as well as application deployment centrally by policy. This minimizes support costs.	Active Directory Group Policy Windows Installer Add/Remove Programs in the Control Panel Enhancements to the Windows shell
		User Settings Management	My preferences follow me! Users see their preferred desktop arrangements from any computer. A user's personal preferences and settings for desktops or software are available wherever the user logs on. Administrators manage this feature centrally by policy to minimize support costs.	Active Directory Group Policy Offline folders Roaming user profiles Enhancements to the Windows Shell
		Remote OS Installation	Administrators can enable remote installation of Windows 2000-based operating systems and desktop images on new or replacement computers with out on-site technical support.	Active Directory Group Policy Dynamic Host Configuration Protocol (DHCP) Remote Installation Services
			IntelliMirror + Remote OS Installation → Machine Replacement	

Change and Configuration Management and IntelliMirror™

As shown in the above table, Software Installation and Maintenance is dependent upon both the Active Directory and Group Policy. Therefore administrators who are responsible for Software Installation and Maintenance should be familiar with both of these technologies.

Publish versus Assign

Administrators can use Software Installation and Maintenance to either publish or assign software:

- **Publish.** An administrator typically *publishes* an application that people may find useful, allowing each person to decide whether or not to install the

application.

- **Assign.** An administrator typically *assigns* an application if people need the application to perform their job. If an application is assigned to people, they have the application on their desktops automatically.

The following table contrasts publish and assign:

	Publish	Assign (User)	Assign (Computer)
After administrator deploys the software it is available for installation after:	The next log on.	The next log on.	The next time the computer starts (reboot).
Typically the user will install the software from:	The Add/Remove Programs in Control Panel.	Start menu short-cut Desktop short-cut Add/Remove Programs in Control Panel	The software is already installed.
If the software is not installed, and the user opens a file associated with the software will the software install?	Yes	Yes	The software is already installed.
Can the user remove the software using the Add/Remove Programs in the Control Panel?	Yes, and they can choose to install it again from Add/Remove Programs in Control Panel.	Yes, and the software will be available for installation again after the next log on from the typical install points (above).	No. Only the Local Administrator can remove the software. A user can run a repair on the software.
Supported Installation Files:	Windows Installer Packages ZAP Files	Windows Installer Packages	Windows Installer Packages

Software Installation and Maintenance – Publish versus Assign

PREREQUISITES AND INITIAL CONFIGURATION

Prerequisites

These Software Installation and Maintenance walkthroughs are based on the Microsoft Windows 2000 Common Infrastructure for Change and Configuration Management Walkthroughs.

Before beginning this walkthrough it is recommended that you build the common infrastructure. If you are not using the common infrastructure, you need to make the appropriate changes to these walkthroughs to reflect your infrastructure.

Software Installation and Maintenance is dependent on Group Policy; therefore it is highly recommended that you do the Group Policy walkthrough before the Software Installation and Maintenance walkthrough.

Additionally, you may wish to use the Windows Installer Package Editor walkthrough and repackage some software before you continue with this walkthrough.

Windows Installer Applications

Software Installation and Maintenance leverages the new Windows Installer service that is a part of the Windows family¹ of operating systems. For the best experience and the greatest reduction in TCO you need applications that support the Windows Installer.

No sample applications are supplied for these walkthroughs. You need to either acquire applications which supply a natively authored Windows Installer package (such as Microsoft Office 2000), or you need to use either an authoring or repackaging tool to create Windows Installer packages for your software.

If you want to use Software Installation and Maintenance with a new application, or an existing application for which you have the all of the files and you know the architecture of the application, you can author a Windows Installer package using an authoring tool. You may wish to consider the authoring tools from vendors including:

- InstallShield Software Corporation – <http://www.installshield.com>
- WISE Solutions Inc. – <http://www.wisesolutions.com>

Again, if you want to use Software Installation and Maintenance with an existing application, you may wish to consider repackaging the application to support the Windows Installer. The Seagate Software WinInstall LE for repackaging of existing applications for support by the Windows Installer is available on the Windows 2000 Server CD.

For more information on this tool, please contact Seagate Software at <http://www.seagatesoftware.com/winstall>

¹ The Windows Installer will be available on Windows 2000, Windows NT 4.0, Windows 98 and Windows 95.

If you are unfamiliar with repackaging, Seagate Software has supplied a walkthrough, *The Windows Installer Package Editor*, which explains how to use their repackager.

Best Practice:

- If you have all of the files for an application, and you know the changes that the application makes to the registry for installation, and there are not too many files, you may want to consider natively authoring a Windows Installer package rather than repackaging the application.
- Success with repackaging is impacted by the state of machine where the repackaging is performed. Best results are accomplished by always starting the repackaging of an application with a clean machine.

Other software tool development companies will provide tools that support the Windows Installer. Please contact your favorite tools vendor for information on their Windows Installer support plans.

Other companies will provide their applications with native Windows Installer support. Please contact your favorite application vendors for information on their Windows Installer support plans.

Non-Windows Installer Applications

It is possible to publish applications that do not install with the Windows Installer.

Non-Windows Installer applications can only be published to users, and these applications are installed using their existing setup programs.

Because these non-Windows Installer applications use their existing setup programs, such applications cannot:

- Take advantage of elevated privileges for installation,
- Install on the first use of the software,
- Install a feature on the first use of the feature,
- Rollback an unsuccessful operation (install, modify, repair or removal), or take advantage of other features of the Windows Installer.

Before an existing setup program can be used with Software Installation and Maintenance, it needs to be described in a ZAW applications package (.zap) file.

.Zap files are text files (similar to .ini files) that describe:

- How to install the program (which command line to use)
- The properties of the application (name, version, language)
- What entry points the application should automatically install (for file extension, CLSID, and ProgID)

Note that .zap files are generally stored in the same location on the network as the setup program they reference.

Appendix A contains an example of a .zap file.

Creating a Software Distribution Point for the Windows Installer Applications

Software to be managed, including the Windows Installer packages, ZAP files, and the actual software files have to be available on a Software Distribution Point (SDP).

Administrators create a SDP by creating the network share, creating the appropriate folders, copying the Windows Installer packages and application executables to the appropriate folder, and then setting the appropriate permissions for the high-level network share folder. Users have to have the ability to read from the SDP (Everyone = Read; Administrators = Full Control, Change, Read).

To create the network share

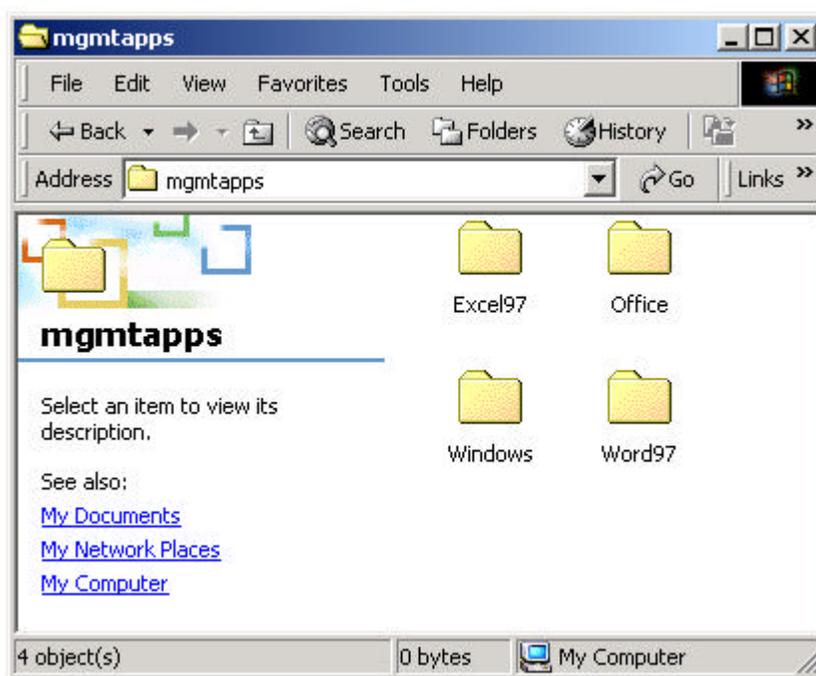
1. If you have not already done so, logon to the MSMSRV01 server as an Administrator.
2. Double-click the My Computer icon to open it.
3. Double-click the hard-drive icon of the Local Disk where you want to place the Windows Installer applications.
4. In the File menu, select **New** and click **Folder**.
5. Under the New Folder in the selected drive pane, type:
mgmt apps
6. Right-click the **mgmtapps** folder, and select **Properties** from the context menu.
7. In the Managed Applications Properties page, click the **Sharing** tab.
8. Click the **Share this folder** radio button.
9. In the **Comment:** text box, type:
Main Street Market Managed Applications
10. Click the **Permissions** button.
11. On the Permissions for Managed Applications dialog, under **Allow**, clear the **Full Control** and **Allow Change** check boxes for (Name) Everyone. (Remove the checks so that Everyone only has Read access to the folder.)
12. Click **Add...**
13. In the Select Users, Computers or Groups dialog, under **Name** click **Administrators**. (Note the **Look in:** text box should be pre-populated with streetmarket.com.)
14. Click **Add**.
15. Click **OK**.
16. Under **Allow**, check the **Full Control** and **Allow Change** check boxes for Administrators. (Ensure there is a check in these check boxes so that Administrators have Full Control, Change, and Read access to the folder.)

17. Click **OK**.

18. Click **OK**.

At this point, you should follow these basic steps to create any additional folders for the software you are managing (each sub-folder does not need to be explicitly shared or have permissions set). Afterwards, you should copy the Windows Installer packages, .zap files, and the application files to the appropriate folders.

When you have created the SDP for your applications, your directory should look something like this:



The Managed Applications Folder

Best Practice: Administrators should consider using either the Distributed File System (Dfs) feature of Windows 2000 Server or Microsoft Systems Management Server to manage their SDPs.

SOFTWARE INSTALLATION SNAP-IN CONFIGURATION

The Active Directory Users and Computers snap-in in the Administrative Tools program group already has a Group Policy and Software Installation snap-in. You may either follow these steps to configure your own tool (a saved snap-in) or use the Active Directory Users and Computers snap-in.

Creating a Software Installation Snap-in Tool

To create the Software Installation snap-in

1. If you have not already done so, logon to the MSMSRV01 server as an Administrator.
2. Click the **Start** button, and click **Run...**
3. In the Run dialog box **Open:** text box type:
mmc
4. Click **OK**.
5. Click the MMC **Console** menu item.
6. Click **Add/Remove Snap-in...**
7. In the Add/Remove Snap-in dialog box, click **Add...**
8. In the Add Stand-alone Snap-in dialog **Available Standalone Snap-ins:** list box, click **Active Directory Users and Computers**.
9. Click **Add**.
10. Click **Close**.
11. Click **OK**.

You may need to maximize the windows and adjust the divider between the scope and result panes to improve the readability of the name space.

12. Click the plus sign (+) next to **Active Directory Users and Computers** to expand the tree.
13. Click the + next to **streetmarket.com** to expand the tree.
14. Click the + next to **Accounts** organizational unit (OU) to expand the tree.
15. Click the + next to the **Headquarters** OU to expand the tree.
16. Click **Headquarters** to update the view in the results pane.

Saving the Software Installation Snap-in Tool

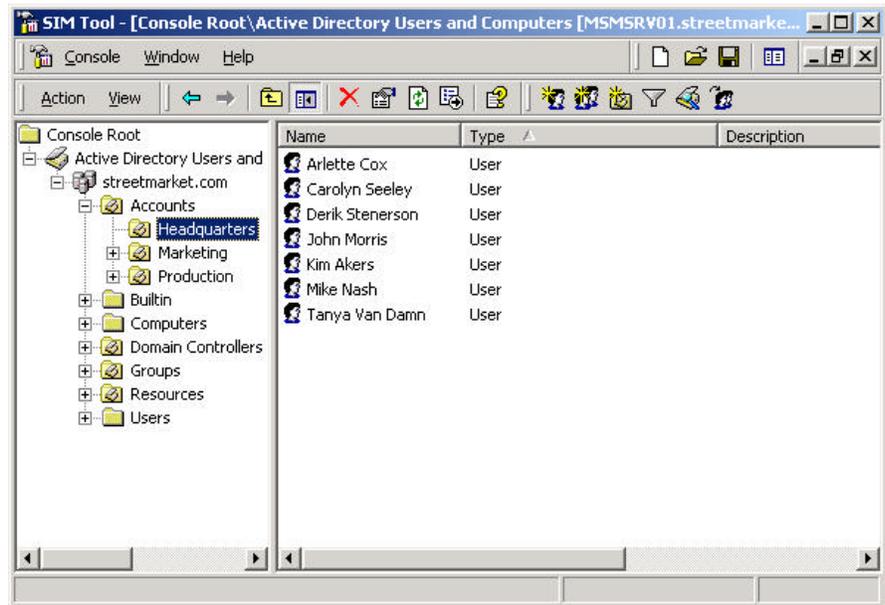
From time to time, you may want to save changes to the MMC.

To save your changes

1. Click the MMC **Console** menu item.
2. Click **Save**.

3. In the Save dialog box, **File name:** text box, type:
SIM Tool
4. Click **Save**.

Your snap-in should look something like the following.



The Software Installation snap-in

Creating a Group Policy Object

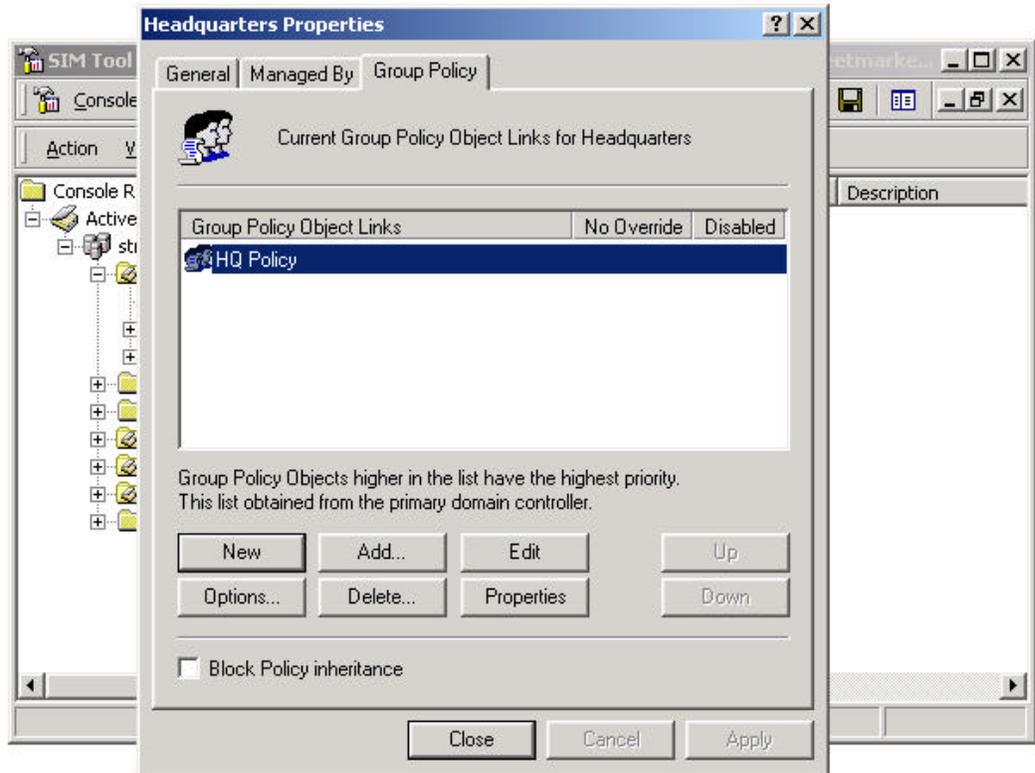
If you have already done the Group Policy walkthrough, then you may have already created the necessary Group Policy Objects.

To create a Group Policy Object (GPO)

1. In the Software Installation snap-in you just saved, right-click **Headquarters**, and select **Properties** from the context menu.
2. In the Headquarters Properties page, click the **Group Policy** tab.
3. Click the **New** button.

4. Type:
HQ Policy

The Group Policy Properties should now look like the following.



Creating the HQ GPO

At this point, you could add another GPO—giving each one that you create a meaningful name—or you could choose to edit a GPO, which starts the Group Policy and Software Installation snap-ins.

If you want additional information on the other tasks that you can perform on the Group Policy Properties page, please see the Group Policy walkthrough.

If you have more than one GPO associated with an Active Directory folder, verify the order; a GPO that is higher in the list is processed first.

5. Click **Close**.

Best Practice:

- You should consider deploying software as high in the GPO and AD hierarchy as possible.
- Consider using Security Descriptors (Access Control Lists [ACLs]) on the GPO to increase the granularity of software management for your organization.

Closing the Software Installation Snap-in

To close the Software Installation snap-in

1. Click the **Console** menu.
2. Click **Save**.
3. Click the **Console** menu.
4. Click **Exit**.

Editing a Group Policy Object

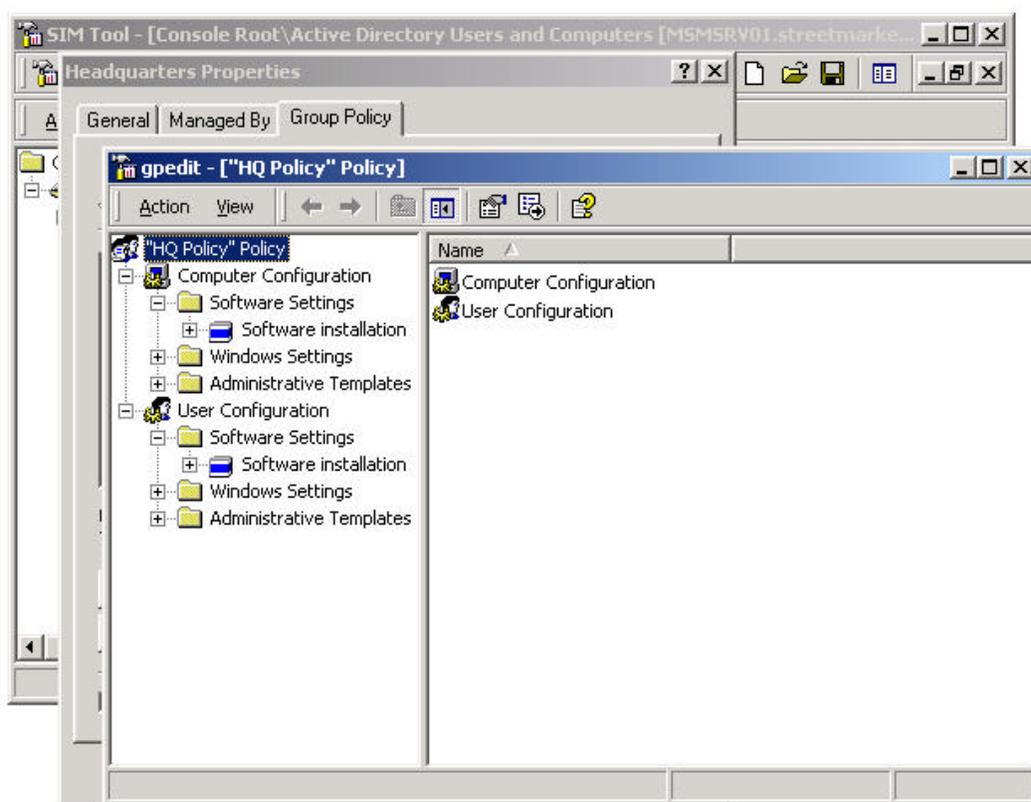
To edit a Group Policy Object (GPO)

1. If you have not already done so, logon to the MSMSRV01 server as an Administrator.
2. Click the **Start** button, and click **Run...**
3. In the Run dialog box **Open** text box, type
`mmc`
4. Click **OK**.
5. Click the MMC **Console** menu item.
6. Click **Open**.
7. Click the **SIM Tool** (note that the **Lookin:** text box of the Open dialog should be pre-populated with My Documents).
8. Click **Open**.

If the name space is already expanded to the Headquarters OU, then skip to step 13.
9. Click the plus sign (+) next to **Active Directory Users and Computers**.
10. Click the plus sign (+) next to **streetmarket.com**.
11. Click the + next to **Accounts**.
12. Click the + next to **Headquarters**.
13. Right-click **Headquarters**, and select **Properties** from the context menu.
14. On the Headquarters Properties dialog, click the **Group Policy** tab.

15. **HQ Policy** in the Group Policy Object Links list box should be highlighted. If it is not, click **HQ Properties** to select it.
16. Click **Edit**.
17. Click the plus sign (+) next to **Computer Configuration**.
18. Click the plus sign (+) next to **Software Settings**.
19. Click the plus sign (+) next to **User Configuration**.
20. Click the plus sign (+) next to **Software Settings**.

You have opened the Software Installation snap-in for the HQ Policy GPO. Your snap-in should look something like the following.



Editing a GPO

Note that there is a Software Settings node in the scope pane under **HQ Policy** for **Computer Configuration**. This is where you would assign an application to a computer that is managed by this GPO.

In addition, there is a Software Settings node in the scope pane under **User Configuration**. This is where you would assign or publish an application to people who are managed by this GPO.

Configuring the Software Installation Defaults for a Group Policy Object

You can configure some defaults for Software Installation on a per-Group Policy Object (GPO) basis.

To configure the defaults

1. Right-click **Software installation** under User Configuration.
2. Click **Properties**.

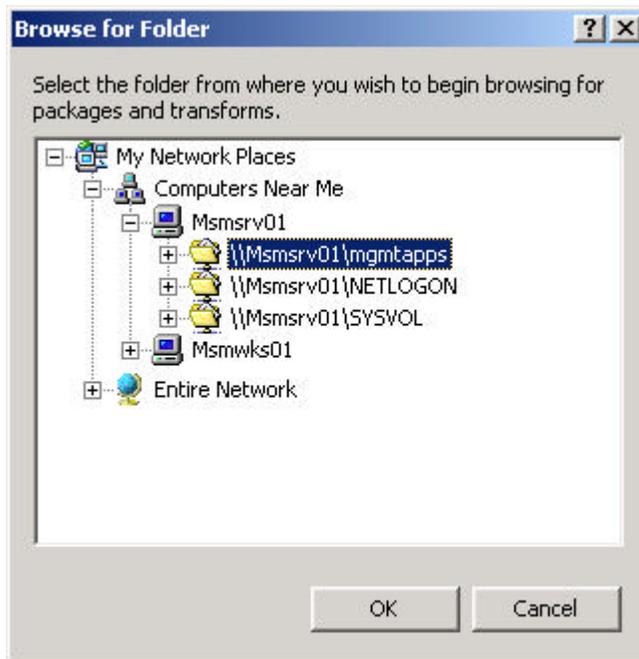
This Software installation property page lets you set defaults for software installation in the current GPO.

Perhaps the most useful default on this page is to set the default package location to the network location of the SDP you created earlier so that you do not have to browse for each package that you add.

3. On the Software installation Properties Page, click **Browse...**

You need to browse for the SDP you created in the previous section of this walkthrough relative to the network share location (rather than the local drive on the server) to ensure that you are managing software from the network share location that people are able to access. People cannot access the package from the local drive of the server.

4. In the Browse for Folder dialog, click the plus sign (+) next to **My Network Places**.
5. Click the + next to **Computers Near Me**.
6. Click the + next to **MSMSRV01**.
7. Click **\\Msmsrv01\mgmtapps**.



Browsing for the Software Distribution Point

8. Click **OK**.

The radio buttons in the **New packages** frame allows the administrator to control what happens when they add a new package to this GPO. The default is that the Deploy Software dialog box appears each time, and the administrator can select one of these choices from that dialog.

If an administrator is going to add a number of packages to a GPO as published, with no transforms, then he or she could select Publish in this frame, and every package that is added is automatically published.

If an administrator is going to add a package with a transform (customization) then he or she needs to select Configure package properties. Transforms cannot be added or changed once the software is either assigned or published.

Use the default (Display the Deploy Software dialog box) for these walkthroughs.

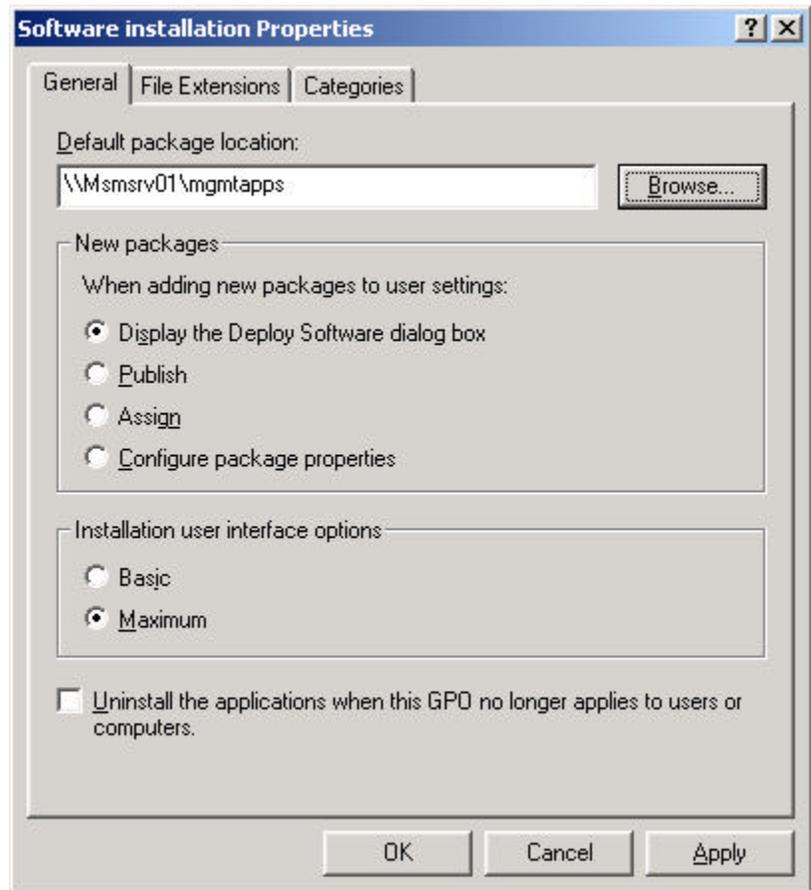
Best Practice: This setting is most useful when an administrator is going to add a number of applications at one time (essentially in bulk). For example, if an administrator is adding five applications to this GPO and they are all published with no transforms, then the administrator could set this to Publish.

Similarly, the radio buttons in the **Installation user interface options** frame allow the administrator to set how much of the User Interface (UI) the Windows Installer presents to a user during installation. The basic UI only presents progress bars and messages (no user choices except Cancel). Maximum shows the UI that the author (or creator) of the Windows Installer package

defined.

Use the default (Basic) for these walkthroughs.

The Software installation Properties page should now look something like the following.



The Software Installation Properties page

When an organization has a large amount of software to manage, the organization can create categories and associate software with a category. The categories can then be used to sort the software in the Add/Remove Programs in the Control Panel.

Note that while there is a **Categories** tab on each of the Software installation Properties pages, Categories are established on a per-organization basis. This means you can edit the categories from the Software installation Properties page for any GPO and they apply to all the GPOs.

There are no default or supplied categories.

Best Practice: Because Categories are basically per organization rather than per GPO, an organization should standardize the Categories and create them in a centralized, rather than delegated, manner.

9. On the Software installation Properties page, click the **Categories** tab.
10. Click **Add...**
11. On Enter text for the Category dialog box, type:
Productivity Applications
12. Click **OK**.
13. Click **Add...**
14. On the Enter text for the Category dialog, type:
System Applications
15. Click **OK**.
16. Click **OK**.

Later, if you want to change these defaults or add additional categories for the organization (remember Categories are per-Domain, not per GPO), you can return to the Software installation Properties page.

At this point you can either close the Software Installation snap-in or continue on with the scenarios described next.

SOFTWARE INSTALLATION AND MAINTENANCE SCENARIOS

Scenarios Covered in this Walkthrough

This walkthrough covers a few basic scenarios for Software Installation and Maintenance, including:

- Assign repackaged Microsoft Word 97 (to users)
- Publish Microsoft Excel 97 (using a .zap file)
- Remove Excel 97
- Upgrade Word 97 to Microsoft Office 2000 (using an Office 2000 transform)
- Assign Windows 2000 to a computer (a new build)

As the packages for these applications are not included, you may have to modify the walkthroughs as appropriate for applications that you have that either natively support the Windows Installer or that you have repackaged for the Windows Installer.

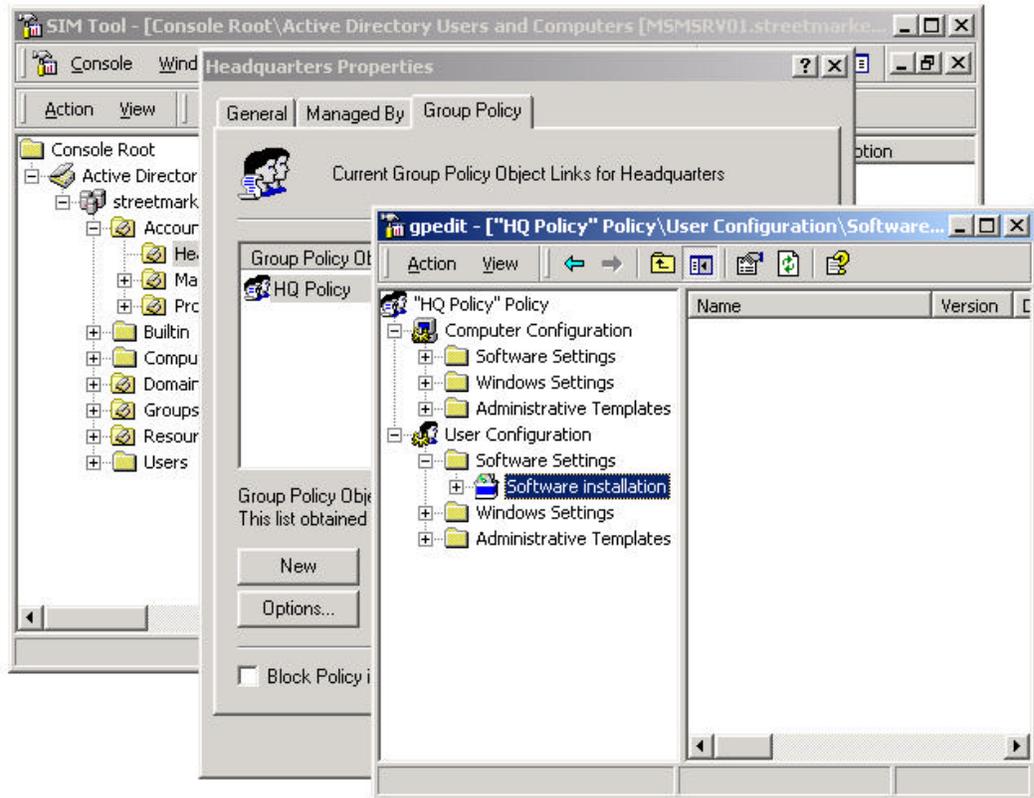
Please note that this walkthrough does not describe all of the possible Software Installation and Maintenance scenarios. You should use these walkthroughs to gain an understanding of Software Installation and Maintenance, and begin to think about how your organization might use software installation and the other IntelliMirror features to reduce TCO for your organization.

If you did the Group Policy walkthroughs before this walkthrough, it may be necessary to undo some of the Group Policy to complete this walkthrough. For example, the Loopback policy disables the ability to access the Add/Remove Programs in the Control Panel.

Assigning Repackaged Word

Basic steps for publishing or assigning software are fundamentally the same, therefore only the scenario for assigning a repackaged version of Microsoft Word 97 for users is provided for this walkthrough.

Open the Software Installation snap-in tool saved previously, and go to the Headquarters GPO (see the steps in the previous section). The snap-in should look something like the following:



Preparing to Assign to the Headquarters GPO

Note: To assign to users, start in the User Configuration name space. To assign to computers, start in the Computer Configuration name space.

To assign repackaged Word (or other software)

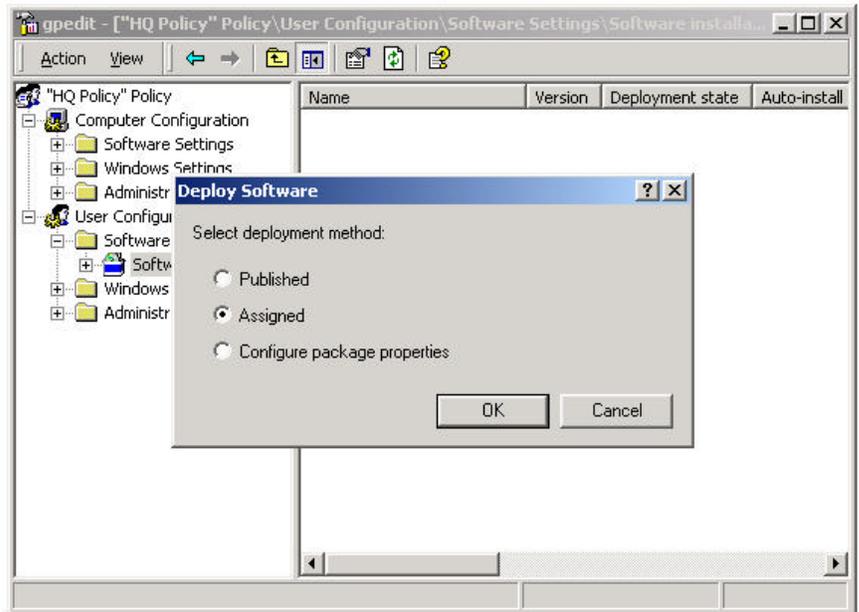
1. Under User Configuration, right-click **Software installation** and select **New** from the context menu.
2. Click **Package...**
3. Click the **Word97** folder.

You need to substitute the folder for the software you are going to deploy, from the SDP you created earlier.

4. Click **Open**.
5. Click **Word**.
6. Click **Open**.
7. On the Deploy Software dialog, click **Assigned**.

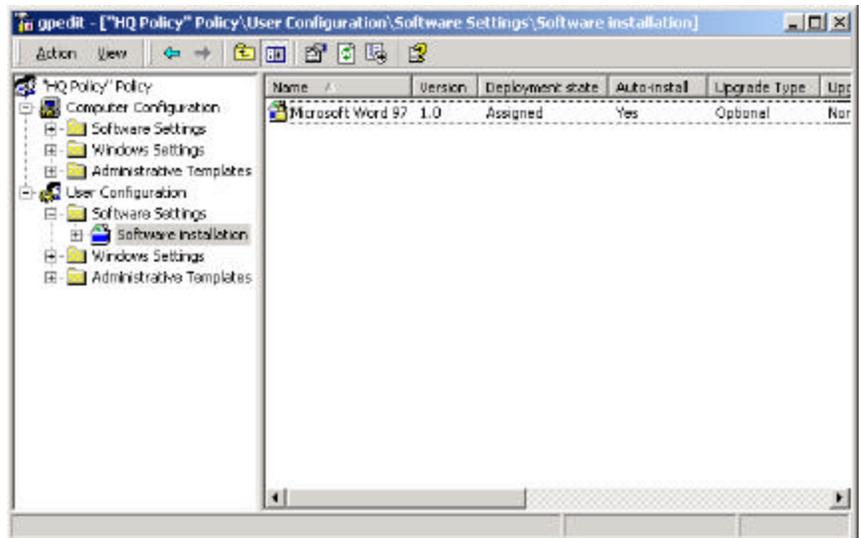
Best Practice: If you are going to deploy a Windows Installer package with a transform, you have to select Configure package properties at this dialog so that you can associate the transform with the package, make any and all other changes to the properties before pressing **OK** to either assign or publish the software.

The Deploy Software dialog should look something like this:



The Deploy Software dialog box

8. Click **OK**.



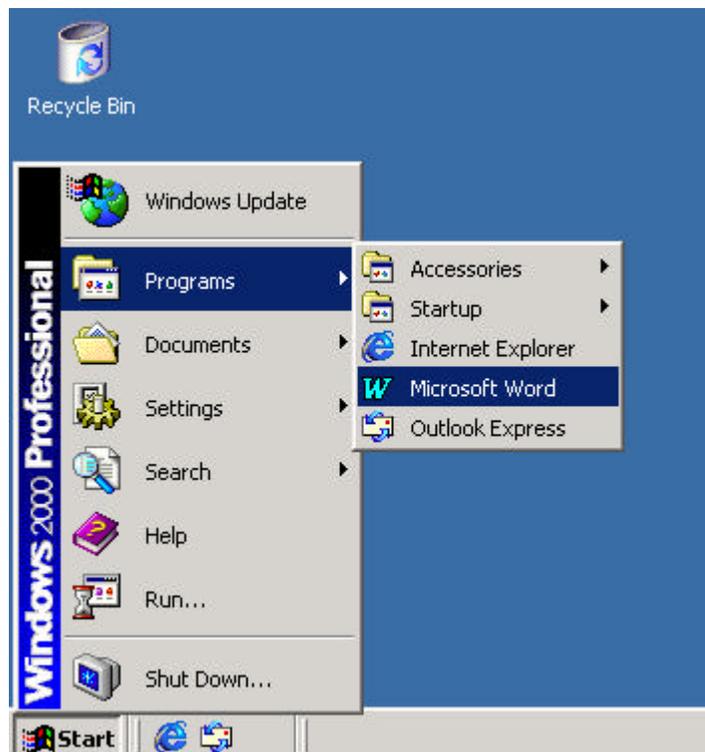
Word Assigned to the Headquarters GPO

The application is added to the snap-in as assigned. Once the application is assigned, you can right-click the application entry in the results page to see the assigned applications property pages.

The application is assigned to all the users managed by the Headquarters GPO.

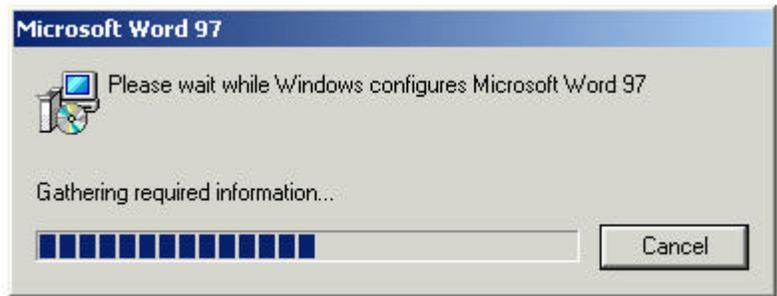
To see the effect of assigning Word 97 to the Headquarters GPO, log on to Windows 2000 Professional as the user who is managed by the Headquarters OU (if you are using the common infrastructure, you could log on as KAKers@streetmarket.com).

When you log on to Windows 2000 Professional, you should see a Microsoft Word icon on the Start menu.



Word Appears on the Start menu

If you select Word, the Windows Installer installs Word for you. You should see several progress messages from the Windows Installer similar to the following:



Windows Installer Progress Messages

When the installation is complete, Word starts and you can edit a document or just close Word.

The next time the user selects Word from the Start menu, if all the key files (as defined in the Windows Installer package) for Word are present, Word starts. If a key file is missing or damaged, the Windows Installer repairs Word and then starts it.

9. Log off Windows 2000 Professional.

Publishing Legacy Excel

To publish Excel, you need to first create a .zap file for Excel. Use the .zap file example in the Appendix as a model.

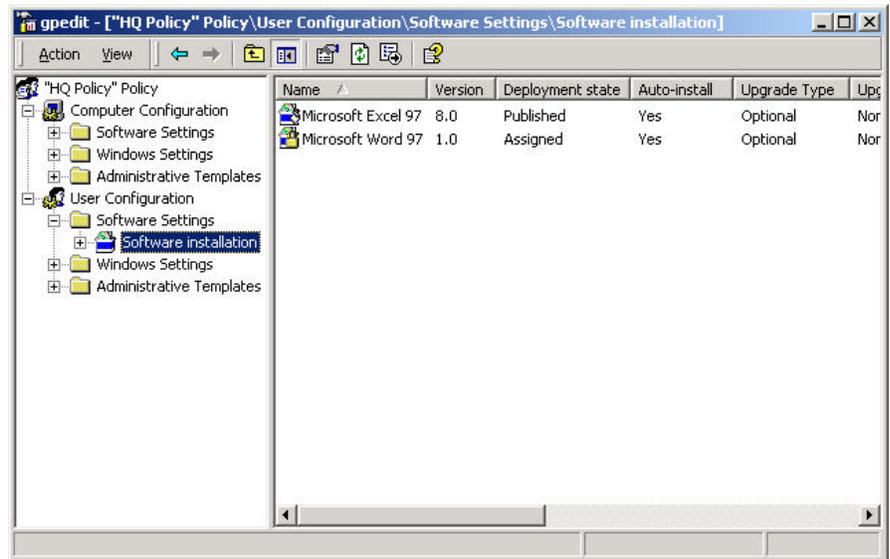
Open the Software Installation snap-in saved previously, and edit the Headquarters GPO (see the steps in the previous section). When you are ready to publish Excel 97, the snap-in should look like it did when you assigned Word 97 in the previous section .

To publish Excel

1. In User Configuration, right-click **Software installation** and select **New** from the context menu.
2. Click **Package...**
3. Click the **Excel97** folder.
4. Click **Open**.
5. Click the down arrow of the Files of type: combo box, and click **ZAW Down-level applications package (*.zap)**.
6. Click **Excel**.
7. Click **Open**.
8. The **Publish** radio button is already selected in the Deploy Software dialog box, so click **OK**.

Excel 97 is published to the users managed by the Headquarters GPO. The snap-in

should look something like this:



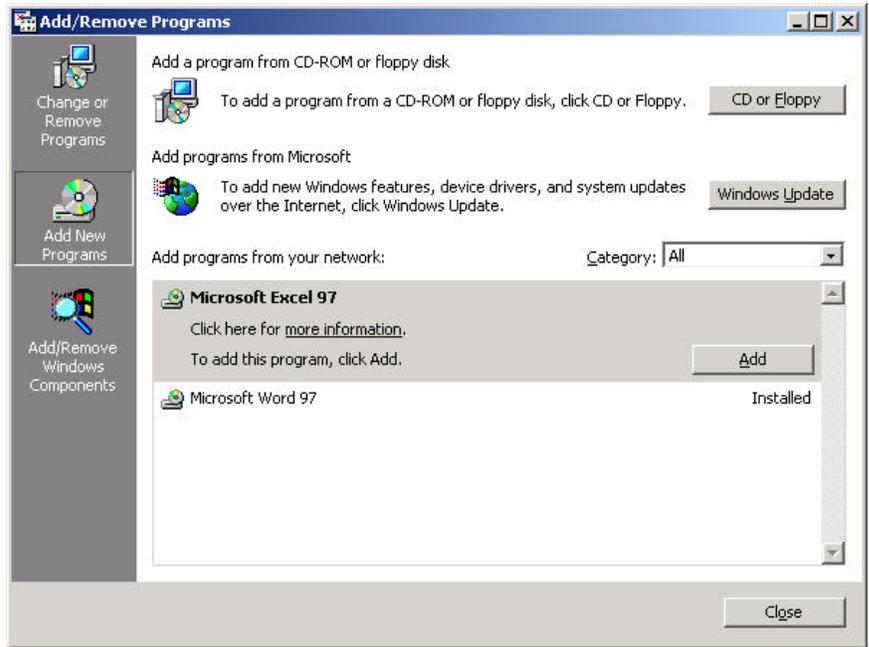
Published Excel 97

To see the effect of publishing Excel 97 to the Headquarters GPO, log on to Windows 2000 Professional as the user who is managed by the Headquarters OU (if you are using the common infrastructure, you could log on as `kakers@streetmarket.com`).

To check the effects of publishing Excel 97

1. Click the **Start** menu.
2. Click **Settings**.
3. Click **Control Panel**.
4. Double-click **Add/Remove Programs**.
5. Click **Add New Programs**.

Best Practice: Note that Word 97, which was assigned, shows in the Add/Remove Programs. This is so that people can add or remove the assigned program if they need to. Even if a person removes the assigned application, it is available for installation again the next time the person logs on.



Add/Remove Programs in the Control Panel

6. In the Excel 97 entry, click **Add**.

You should see the following dialog because you are installing a non-Windows Installer based application.



Install program as Other User

7. Click the radio button for **Run the program as the following user: User Name Administrator**. (If you have an Administrator password set for this computer, you must enter this as well.)

8. Click **OK**.

Excel now installs using the original setup program. You should follow the instructions in the original setup UI to complete the installation. Once you have installed Excel, you can close the application.

9. Close Add/Remove Programs.

10. Close Control Panel.

11. Log off Windows 2000 Professional.

Removing Excel 97

To remove Excel 97

1. Open the Software Installation snap-in saved previously and edit the Headquarters GPO (HQ Policy).

2. In the results pane, right-click **Microsoft Excel 97**, and select **All Tasks** from the context menu.

3. Click **Remove...**

4. In the Remove Package dialog, click **Yes**.

Note: Because Excel 97 was installed using a .zap file; you do not have the option to force the removal as you would with a Windows Installer File.

5. Microsoft Excel 97 no longer appears in the results pane.

Log on to the Windows 2000 Professional as the Local Administrator (remember, Excel was installed as Administrator in the previous scenario).

6. Click the **Start** menu.

7. Click **Settings**.

8. Click the **Control Panel**.

9. Double-click **Add/Remove Programs**.

10. In the Microsoft Excel 97 entry in the Change or Remove Programs frame, click **Change/Remove**.

11. The Excel 97 Setup program starts. In the Microsoft Excel 97 Setup dialog box, click **Remove All**.

12. On the Setup Message, "Are you sure you want to remove Microsoft Excel 97?" click **Yes**.

13. Click **OK**.

-
14. Close **Add/Remove Programs**.
 15. Close the **Control Panel**.
 16. Log off Windows 2000 Professional.

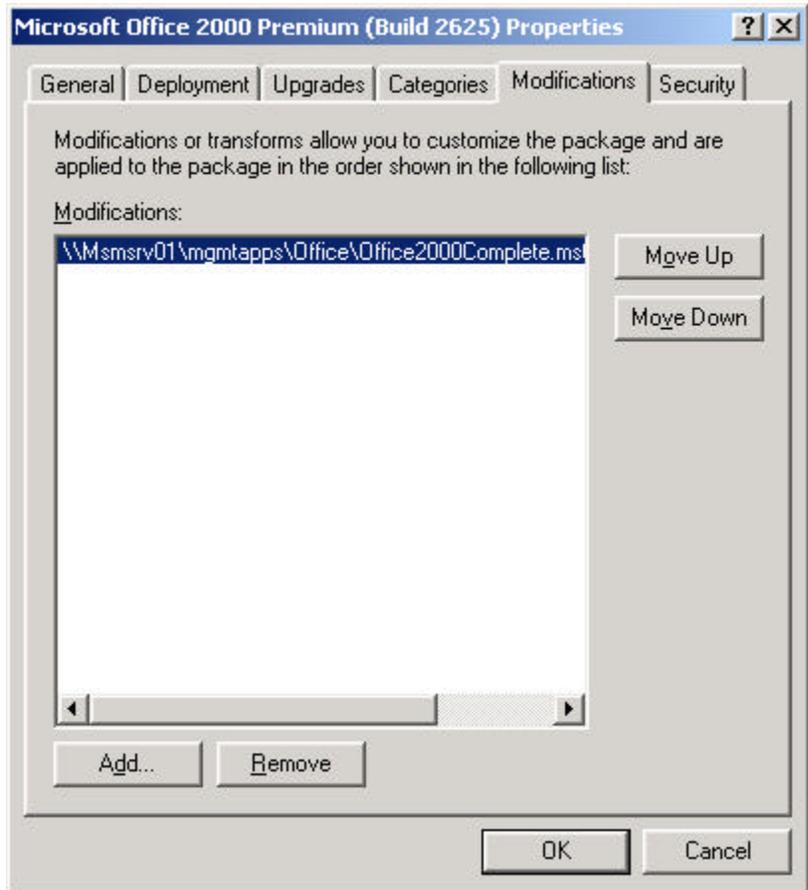
Upgrade Word 97 to Office 2000 (With a Transform)

Office 2000 comes with a Windows Installer package (natively authored). Use the Office 2000 Customization Wizard to create a transform. You must substitute the name of your transform in this scenario. Open the Software Installation snap-in and edit the Headquarters GPO (HQ Policy).

1. In User Configuration, right-click **Software installation**.
2. Click **New**.
3. Click **Package...**
4. Click **Office**.
5. Click **Open**.
6. Click **Office 2000**.
7. Click **Open**.
8. Click the **Configure package properties** radio button.
9. Click **OK**.
10. Click the **Modifications** tab.
11. Click **Add...**
12. Click **Office**.
13. Click **Open**.
14. Click **Office 2000 Complete.mst**
15. Click **Open**.

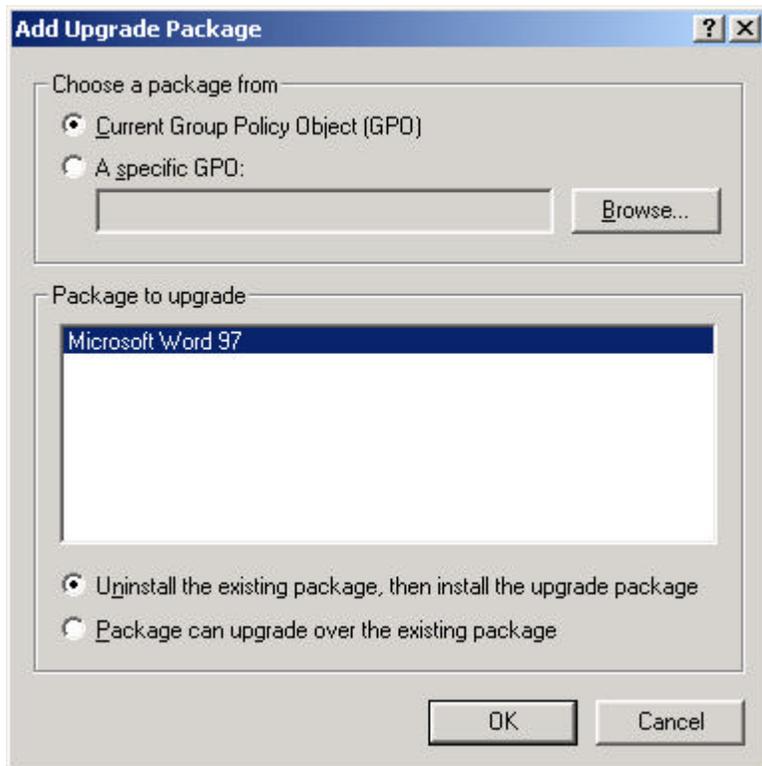
Note: DO NOT CLICK OK YET!

The Modifications tab should look something like this:



Modifications tab with a transform

16. Click the **Upgrades** tab.
17. Click **Add...**
18. **Microsoft Word 97** should be highlighted in Package to Upgrade list box (if not, click it to select it). Click **OK**.
19. Click the radio button for **Uninstall the existing package, then install the upgrade package**.

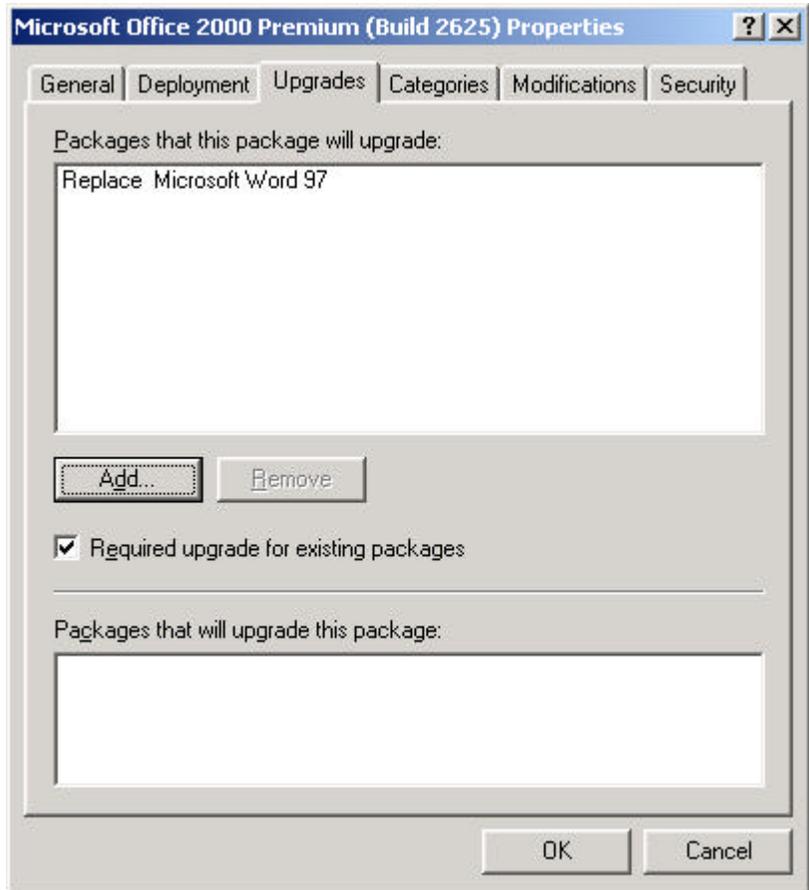


The Add Upgrade dialog box

20. Click **OK**.
21. Click the **Required Upgrade for existing packages** checkbox.

Note: DO NOT CLICK OK YET!

The Upgrades tab should now look something like this:



The Upgrades tab

Note: DO NOT CLICK OK YET!

22. Click the **Deployment** tab.
23. Click the **Assigned** radio button.
24. Click the **Basic UI** radio button.

Review all the tabs to make sure you have edited all the properties and you are ready to assign the upgrade.

25. Click **OK**.

Office 2000 with the transform is added to the snap-in. The snap-in should now show Office 2000 as assigned, and should show an upgrade relationship between Word 97 and Office 2000.

At this point, if you log on to Windows 2000 as a user who is managed by the HQ Policy, you should see Word 97 being removed (beginning the upgrade). The Word 97 icon still appears on the Start menu; however, when you select it, you install Office 2000 (completing the upgrade).

Assigning Windows 2000 to a Computer (Upgrading Windows 2000)

You can upgrade Windows 2000 to a new build or release.

Note: To do this you may have to wait till you get a post Beta Three release such as the first release candidate, as the build being upgraded must be less than the build upgrading.

In this scenario, you assign the upgrade of Windows 2000 to computers managed by a policy created for the Desktops OU (under Resources). You could just as easily publish it for users.

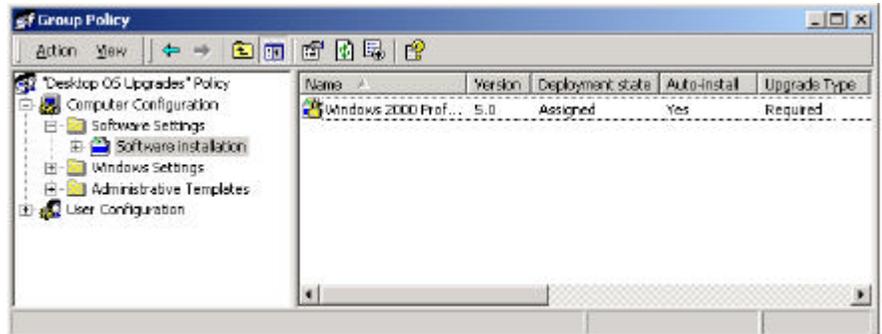
The MSMWKS01 computer should be in the Desktops OU. If not you need to move it to one of the OUs under the Resources OU. You can move the computer by highlighting it in the results pane of the Active Directory Computer and Users Snap-in and then selecting **Move...** from the context menu.

1. Open the Software Installation snap-in you created earlier.
2. Right-click **Desktops**.
3. Click **Properties**.
4. Click the **Group Policy** tab.
5. Click **New**.
6. Type:
 Deskt op OS Upgrades
7. Press the **Enter** key.
8. Click **Edit**.
9. Click the plus sign (+) next to **Computer Configuration**.
10. Click the plus sign (+) next to **Software Settings**.
11. Right-click **Software installation**.
12. Click **New**.
13. Click **Package...**
14. Browse to the network to the SDP that has the Windows 2000 files.

Best Practice: You may want to put the Windows 2000 CD in the CD drive of the server, and share the CD-ROM drive as the SDP for these files. This saves having to copy all the files to the SDP, although if the CD-ROM drive is not fast, the install may take longer.
15. Click the **i386** folder.
16. Click **Open**.
17. Click **WINNT32**.
18. Click **Open**.

19. The Assigned radio button on the Deploy Software dialog box is already selected. Click **OK**.

The snap-in should now look like this:



Windows 2000 Assigned to computers

If you did the Group Policy walkthrough before you did this walkthrough, you may have turned off applying Group Policy to computers. You need to change this before this Software Installation policy can be applied on the computers.

At this point you should restart the MSMWKS01 computer. When you do, the normal shutdown and startup messages are displayed.

Eventually, in the Windows 2000 Professional startup dialogs you should see the following messages:

Applying Software Installation settings...

Followed by:

Windows Installer installing managed software Windows 2000 Professional...

The computer restarts and continues the upgrade.

FOR MORE INFORMATION

For the latest information on Microsoft Windows 2000 network operating system, visit our World Wide Web site at <http://www.microsoft.com/windows/server/> and the Windows NT Server Forum on the Microsoft Network (GO WORD: MSNTS).

For the latest information on the Windows 2000 Beta 3, visit the World Wide Web site at <http://ntbeta.microsoft.com/>.

Before You Call for Support

Please keep in mind that Microsoft does not support these walkthroughs. The purpose of the walkthroughs is to facilitate your initial evaluation of the Microsoft Windows 2000 features. For this reason, Microsoft cannot respond to questions you might have regarding specific steps and instructions.

Reporting Problems

Problems with Microsoft Windows 2000 Beta 3 should be reported via the appropriate bug reporting channel and alias. Please make sure to adequately describe the problem so that the testers and developers can reproduce it and fix it. Refer to the Release Notes included on the Windows 2000 Beta 3 distribution media for some of the known issues.

APPENDIX A – AN EXCEL 97 .ZAP FILE

Below is an example .zap file for Microsoft Excel 97.

Use notepad to create the following text file and save it as excel.zap in the network folder that contains the Excel 97 setup program. The comments (any line that starts with ";") explain what each entry in the file is for.

The underscore (_) is a continuation symbol, these lines should appear together on one line.

```
; ZAP file for Microsoft Excel 97

[Application]
; Only FriendlyName and SetupCommand are required,
; everything else is optional

; FriendlyName is the name of the application that
; will appear in the software installation snapin
; and the add/remove programs control panel.
; REQUIRED
FriendlyName = "Microsoft Excel 97"

; SetupCommand is the command line that we use to
; Run the applications setup. if it is a relative
; path, it is assumed to be relative to the
; location of the ZAP file.
; Long file name paths need to be quoted. For example:
; SetupCommand = "long folder\setup.exe" /unattend
; or
; SetupCommand = "\\server\share\long _
; folder\setup.exe" /unattend
; REQUIRED

SetupCommand = setup.exe

; Version of the application that will appear
; in the software installation snapin and the
; add/remove programs control panel.
; OPTIONAL
DisplayVersion = 8.0

; Version of the application that will appear
; in the software installation snapin and the
; add/remove programs control panel.
; OPTIONAL
Publisher = Microsoft

; ULR for application information that will appear
```

```

; in the software installation snapin and the
; add/remove programs control panel.;
; OPTIONAL
URL = http://www.microsoft.com/office

; Language for the app, in this case US English.
; OPTIONAL
LCID = 1033

; Architecture, in this case, intel.
; OPTIONAL
Architecture = intel

; the [ext] [CLSIDs] and [progIDs] sections are
; all optional

[ext]
; File extensions that this application will
; "auto-install" for. They are not required if you
; do not want the application. This entire section
; is OPTIONAL.

; note you can put a dot in front or not, as you like
; text after the first = is optional and ignored
; but the first = is required (or the whole line
; will be ignored)
XLS=
XLA=
XLB=
XLC=
XLM=
XLV=
XLW=

[CLSIDs]
; CLSIDs that this application will "auto-install"
; for. This entire section is OPTIONAL.

; Format is CLSID with LocalServer32,
; InprocServer32, and/or InprocHandler32 (in a
; comma separated list) after the =.

{00024500-0000-0000-C000-000000000046}=LocalServer32
{00020821-0000-0000-C000-000000000046}=LocalServer32
{00020811-0000-0000-C000-000000000046}=LocalServer32
{00020810-0000-0000-C000-000000000046}=LocalServer32
{00020820-0000-0000-C000-000000000046}=LocalServer32

```

```
{00020820-0000-0000-C000-000000000046}=LocalServer32

[progIDs]
; progIDs that this application will "auto-install"
; for. This entire section is OPTIONAL.

; format is a CLSID, with the corresponding progid
; listed after the = sign
{00024500-0000-0000-C000- _
0000000000046}=Excel.Application
{00024500-0000-0000-C000- _
0000000000046}=Excel.Application.8
{00020821-0000-0000-C000-000000000046}=Excel.Chart
{00020811-0000-0000-C000-000000000046}=Excel.Chart.5
{00020821-0000-0000-C000-000000000046}=Excel.Chart.8
{00020810-0000-0000-C000-000000000046}=Excel.Sheet.5
{00020820-0000-0000-C000-000000000046}=Excel.Sheet.8
{00020820-0000-0000-C000-000000000046}=Excel.Sheet
{00020820-0000-0000-C000-000000000046}=Excel.Template
{00020820-0000-0000-C000-000000000046}=Excel.Workspace
```