Group Policy Software Installation

Deploying Applications

There are two main methods of making programs available to end users using Active Directory: assigning and publishing. Both assigning and publishing applications greatly ease the process of deploying and managing applications in a network environment.
In the following sections, you'll look at how the processes of assigning and publishing applications can make life easier for IT staff and users alike. The various settings for assigned and published applications are managed through the use of GPOs.

Preparing for Software Deployment

Before you can install applications on client computers, you must make sure that the necessary files are available to end users. In many network environments, system administrators create shares on file servers that include the installation files for many applications. Based on security permissions, either end users or system administrators can then connect to these shares from a client computer and install the needed software. The efficient organization of these shares can save the help desk from having to carry around a library of CD-ROMs, and it allows you to install applications easily on many computers at once.

Assigning Applications

Software applications can be assigned to users and computers. *Assigning* a software package makes the program available for automatic installation. The applications advertise their availability to the affected users or computers by placing icons within the Programs folder of the Start menu.
When applications are assigned to a user, programs will be advertised to the user regardless of which computer they are using. That is, icons for the advertised program will appear within the Start menu regardless of whether the program is installed on that computer. If the user clicks an icon for a program that has not yet been installed on the local computer, the application will automatically be accessed from a server and it will be installed.
When an application is assigned to a computer, the program is made available to any users of the computer. For example, all users who log on to a computer that has been assigned Microsoft Office 2013 will have access to the components of the application. If

the user did not previously install Microsoft Office 2013, they will be prompted for any required setup information when the program first runs.

Generally, applications that are required by the vast majority of users should be assigned to computers. This reduces the amount of network bandwidth required to install applications on demand and improves the end-user experience by preventing the delay involved when installing an application the first time it is accessed. Any applications that may be used by only a few users (or those with specific job tasks) should be assigned to users.

Publishing Applications

When applications are *published*, they are advertised, but no icons are automatically created. Instead, the applications are made available for installation using the Add Or Remove Programs icon in Control Panel.

Note:Windows Vista, Windows 7, and Windows 8 do not have the Add Or Remove Programs feature. They use the Programs and Features icon in Control Panel to install the software.

Implementing Software Deployment

In the following sections, you will walk through the steps required to create an application distribution share point, to publish and assign applications, to update previously installed applications, to verify the installation of applications, and to update Windows operating systems.

Publishing and Assigning Applications Using Group Policy

1. Open the Active Directory Users and Computers tool from the Administrative Tools program group (using the Windows key).

2. Expand the domain and create a new top-level OU called **Software**.

3. Within the Software OU, create a user named **Jane User** with a login name of **juser** (choose the defaults for all other options).

4. Exit Active Directory Users and Computers and open the Group Policy Management Console.

5. Right-click the Software OU and choose Create A GPO In This Domain And Link It Here.

6. For the name of the new GPO, type **Software Deployment**.

7. To edit the Software Deployment GPO, right-click it and choose Edit. Expand the Computer

Configuration ➢ Policies ➢ Software Settings object.

8. Right-click the Software Installation item and select New ➢ Package

9. Navigate to your Software share.

10. Within the Software share, double-click the share folder and select the appropriate MSI file ,Click Open.

11. In the Deploy Software dialog box, choose Advanced. (Note that the Published option is unavailable because applications cannot be published to computers.) Click OK to return to the Deploy Software dialog box.

12. To examine the deployment options of this package, click the Deployment tab. Accept the default settings by clicking OK.

13. Within the Group Policy Object Editor, expand the User Configuration ➢ Software Settings object.

14. Right-click the Software Installation item and select New ➢ Package.

15. Navigate to the Software share you created.

16. Within the Software share, double-click the appropriate MSI file. Click Open.

17. For the Software Deployment option, select Published in the Deploy Software dialog box and click OK.

18. Close the GPMC.

Windows Installer File Types

When performing software deployment with the Windows Installer in Windows Server 2012 R2, you may encounter several different file types:

Microsoft Windows Installer Packages To take full advantage of Windows Installer functionality, applications must include Microsoft Windows Installer (MSI) packages. Third-party application vendors and software developers normally create these packages, and they include the information required to install and configure the application and any supporting files.

Microsoft Transformation Files *Microsoft Transformation (MST) files* are useful when you are customizing the details of how applications are installed. When a system administrator chooses to assign or publish an application, they may want to specify

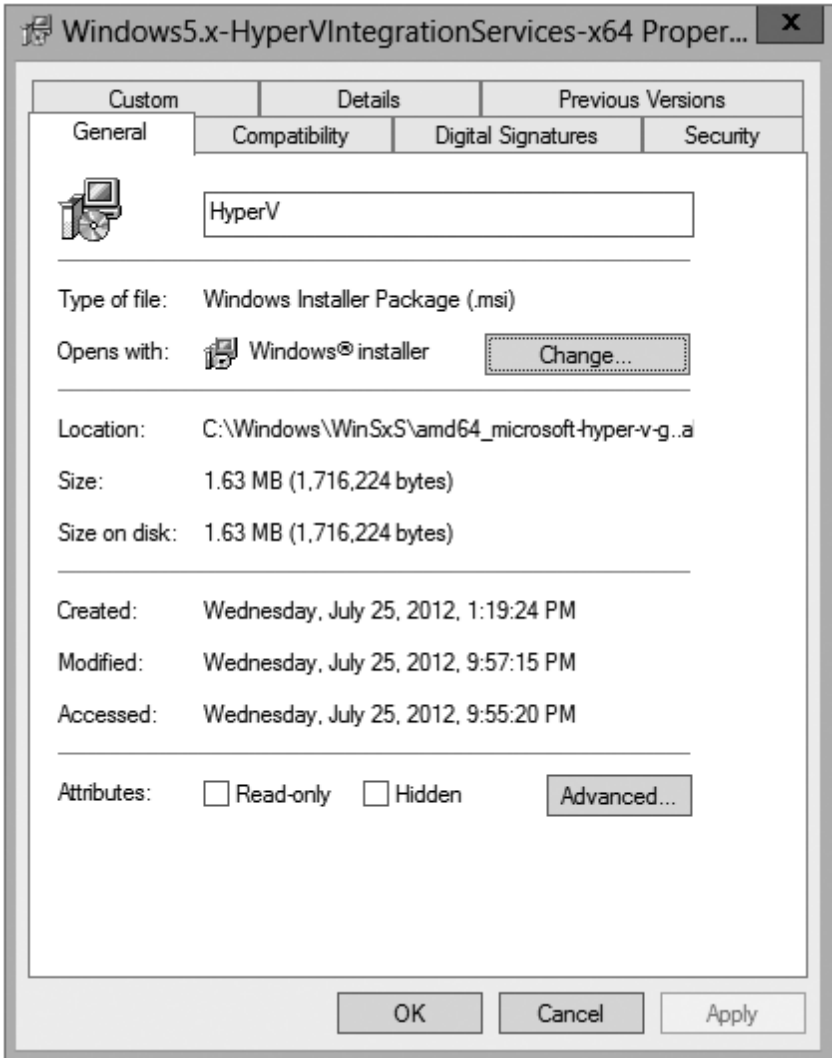
additional options for the package. For example, if a system administrator wants to allow users to install only the Microsoft Word and Microsoft PowerPoint components of Office 2013, they could specify these options within a transformation file. Then, when users install the application, they will be provided only with the options related to these components.

Microsoft Patches To maintain software, patches are often required. Patches may make registry and/or file system changes. *Patch files (MSP)* are used for minor system changes and are subject to certain limitations. Specifically, a patch file cannot remove any installed program components and cannot delete or modify any shortcuts created by the user.

Initialization Files To provide support for publishing non–Windows Installer applications, *initialization files* can be used. These files provide links to a standard executable file that is used to install an application. An example might be \\server1\software\program1\setup.exe. These files can then be published and advertised, and users can access the *Programs and Features* icon to install them over the network.

Application Assignment Scripts *Application assignment scripts (AAS)* store information regarding assigning programs and any settings that the system administrator makes. These files are created when Group Policy is used to create software package assignments for users and computers.

Each of these types of files provides functionality that allows the system administrator to customize software deployment. Windows Installer packages have special properties that you can view by right-clicking the file in Windows Explorer and choosing Properties (see Figure 7.9).



Applying Software Updates

The steps described in the previous section work only when you are installing a new application. However, software companies often release updates that you need to install on top of existing applications. These updates usually consist of bug fixes or other changes that are required to keep the software up-to-date. You can apply software updates in Active Directory by using the Upgrades tab of the software package Properties dialog box found in the Group Policy Object Editor.

Applying Software Updates

1. Open the Group Policy Management Console from the Administrative Tools program

group.

2. Click the Software OU, right-click the Software Deployment GPO, and choose Edit.

3. Expand the Computer Configuration ➢ Policies ➢ Software Settings ➢ Software Installation object.

4. Right-click the software package and select Properties from the context menu to bring up the Properties dialog box.

5. Select the Upgrades tab and click the Add button.

6. Click the Current Group Policy Object (GPO) radio button in the Choose A Package From section of the dialog box or click the Browse button to select the GPO to which you want to apply the upgrade. Consult your application's documentation to see whether you should choose the Uninstall The Existing Package, the Install The Upgrade Package radio button, or the Package Can Upgrade Over The Existing Package radio button.

7. Click Cancel to close the Add Upgrade Package dialog box.

8. Click Cancel and exit the GPMC.