



Preparing to Deploy Reflection®: A Guide for System Administrators

Version 14.0

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Preparing to Deploy Reflection 14.0:

A Guide for System Administrators

This guide will help you through the process of preparing to deploy Reflection to your users using the Microsoft® Windows® Installer (MSI) technology. The intended audience for this guide is system administrators who plan to customize Reflection or who need to make additional files available to their users.

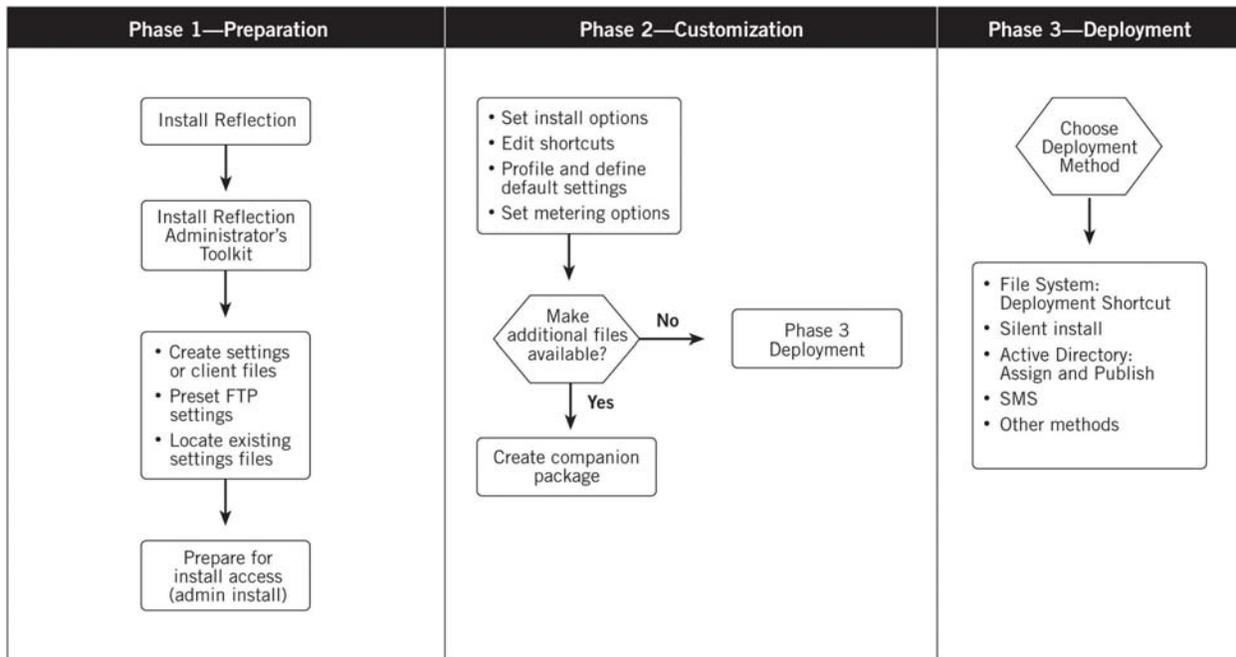
Several options are available to you to customize Reflection and its deployment to your users. This guide will explain many of those options and list the steps to follow for each option. If you do not plan to customize Reflection or make additional files available to your users, refer to Technical Note [1686](#) for information about a simple Reflection deployment.

Overview of the Installation and Deployment Process

If you plan to customize Reflection, preparing to deploy Reflection is a three-phase process:

1. Preparation—Install product and utilities to your workstation and prepare Reflection for user installation access. Create or locate settings or client files and preset FTP settings.
2. Customization—Customize Reflection.
3. Deployment—Determine and prepare for your deployment method.

The diagram below shows the phases and the options you can choose from during the installation and deployment process.



Phase I – Preparing to Install Reflection

Before you can deploy Reflection to your users, you must install Reflection and Reflection's administrator utilities to your workstation, create new or locate existing settings or client files, and if appropriate, prepare Reflection FTP settings for export. In Phase 1, you will perform the following functions:

- Install Reflection to the administrator's workstation
- Install the Reflection Administrator's Toolkit
- Create new settings or client files using the Connection Wizard
- Preset Reflection FTP settings for export
- Locate existing settings files
- Prepare for installation access

Install Reflection to the Administrator's Workstation

If you plan to customize Reflection, the first step is to install the product to your workstation.

Note: Reflection 14.0 ships with Microsoft Windows Installer (MSI) 3.x. If you have MSI 2.0 installed, you can optionally upgrade to 3.x during installation. For more details about Reflection Support for Microsoft Windows Installer Version 3.x, see Technical Note [1851](#).

1. On your administrator workstation, insert the product CD and double-click Install.exe.
2. Select the product you wish to install, for example, Reflection Suite for X.
3. Click Workstation Install.
4. The Attachmate Reflection Installation Wizard opens. Follow the prompts to complete the Reflection installation to your workstation. Select Custom as the Installation Type so that you can see which features are installed to your machine.

Install the Reflection Administrator's Toolkit

The Reflection Administrator's Toolkit includes the Customization Manager and product profilers. Follow the steps below to install these tools:

1. Navigate to Install.exe and double-click.
2. Click Install Reflection.
3. Select Reflection Administrator's Toolkit.
4. Click Workstation Install. The Attachmate Reflection Installation Wizard opens. Click Next.
5. Accept the license agreement and click Next.
6. (Optional) Enter your customer information and click Next.
7. Accept the Destination Folder default, C:\Program Files\Attachmate\RToolkit\.

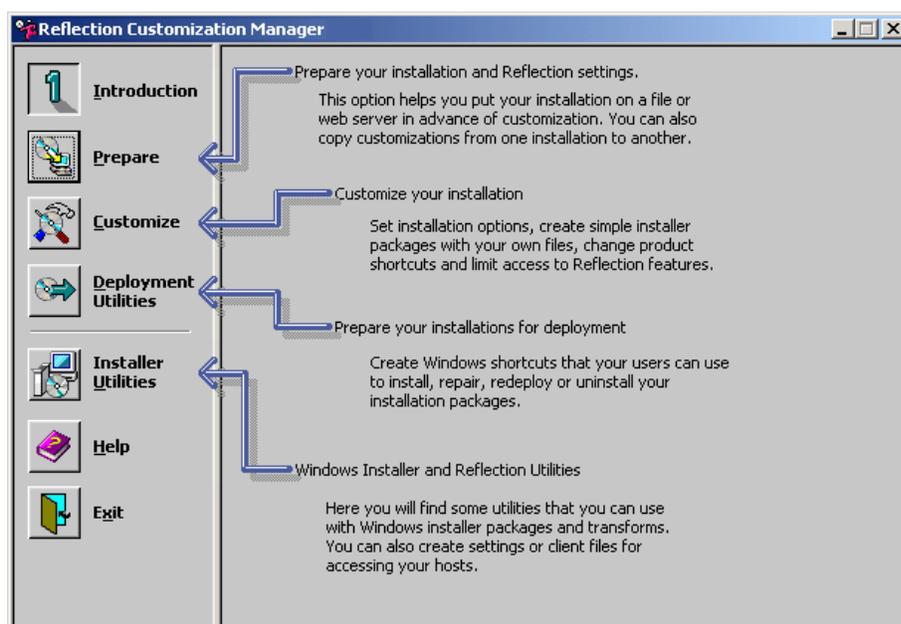
Note: The destination folder should be different from your Reflection's installation folder.

8. Select the features you wish to install: the Customization Manager, the appropriate product profilers, and language support, if required.
9. Follow the prompts to complete the installation.

About Reflection Customization Manager

Use Reflection Customization Manager to customize your installation for deployment. In Phase 1, you can use this utility to access the Connection Wizard to create new settings or client files and to put your installation on a file or web server before you customize Reflection. You will also use Reflection Customization Manager in Phase 2.

To open Reflection Customization Manager, click Start > Programs > Attachmate Reflection > Administrative Tools > Customization Manager.



Create New Settings or Client Files Using the Connection Wizard

Now that you have the associated Reflection product and Connection Wizard installed locally, you can use the Connection Wizard to create new settings or client files to deploy to your users. Follow these steps:

1. Start the Customization Manager by clicking Start > Programs > Attachmate Reflection > Administrative Tools > Customization Manager.
2. Click Installer Utilities, and then click Create a Settings or Client File.
3. Follow the prompts in the Reflection Connection Wizard to create a settings or client file.
4. If you are able to connect and log in, the Reflection Connection Wizard prompts you to save these settings in a file.

You will access these files later when you create a companion package (a separate installation package with settings or client files) for your Reflection deployment.

Preset FTP Settings for Export

If you want to export FTP settings to your users, you must install Reflection FTP to your PC and perform customizations on your machine. Customization Manager will export these settings from your administrative machine's registry. The steps to export FTP settings are covered in Phase 2.

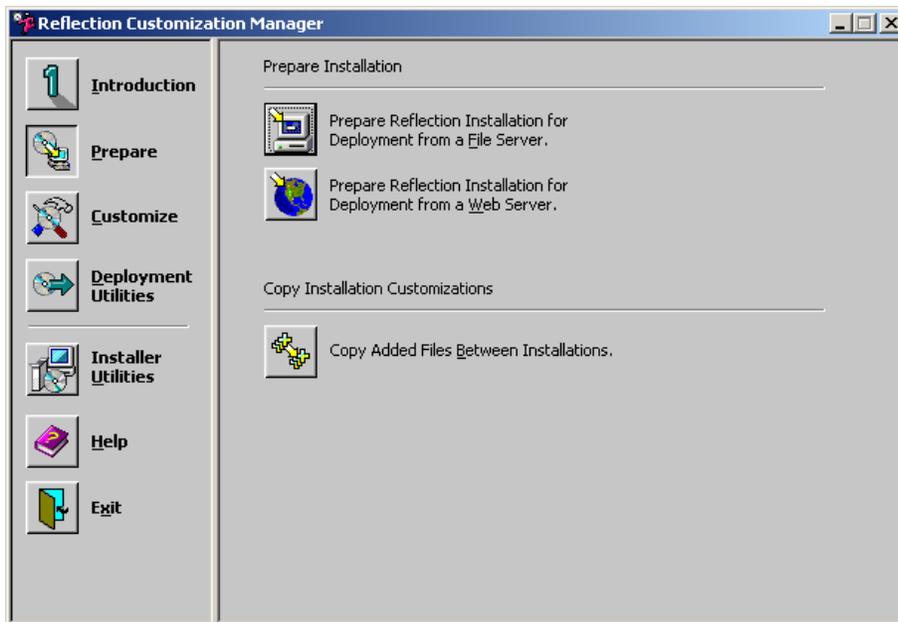
Locate Existing Settings Files

If you have existing settings or client files that you want to make available to your users, note their location. You will use this information later when you create a companion package (a separate installation package with settings or client files) for your deployment.

Prepare for Installation Access

Now you need to decide how your users will access the installation—from a file server or from a web server. The steps you take depend on which method you choose.

Note: Each user may need administrative privileges (depending on the deployment software used) to install MSI and Reflection. When the service is installed, a reboot will be required and the installation will need to be restarted.

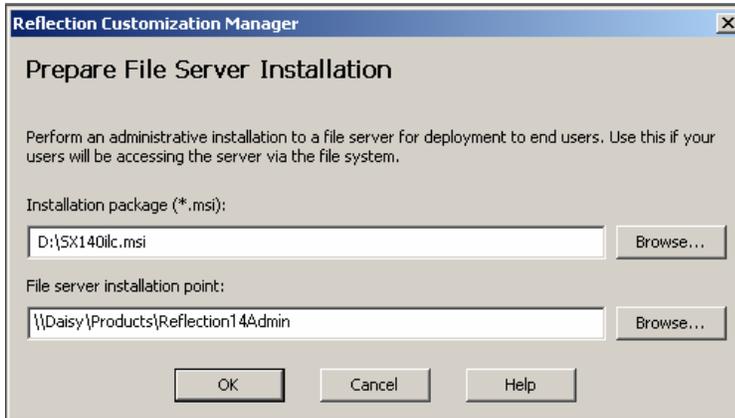


You can deploy Reflection from a file server or from some web servers.

Deploy Reflection from a File Server

An administrative installation of Reflection on a file server is used when an end user will install the product using the file system. The administrative installation is put on the server before the system administrator customizes it. Follow the procedure below to perform an administrative installation using Customization Manager.

1. Start Reflection Customization Manager.
2. On the left, click Prepare, and then click Prepare Reflection Installation for Deployment from a File Server.



3. Under Installation package (*.msi), specify the path to the Reflection installation package file (*.msi). Type the path directly or click Browse to open a dialog box you can use to find this file. (This will be on the product CD in your CD-ROM drive.)
4. Under File server installation point, specify the file server folder where the administrative installation will be created. This location must be accessible to the end users installing Reflection.
5. Click OK. Customization Manager begins the process of preparing the installation package for your customizations at the file server.

Note: The time required to create the administrative installation varies depending on which Reflection product you are installing.

Deploy Reflection from a Web Server

You can deploy Reflection to your users from some web servers. For detailed information about this topic, see the Customization Manager help.

Important Security Note:

If installing Reflection from a web server, firewalls, proxy servers and settings, and external access to your site are issues that can both prevent installation of Reflection to the end user and/or permit an unauthorized user to gain access to the product and your site. For more information, see Microsoft Knowledge Base Article 328748.

Copy Added Files Between Installations

Use this dialog box to copy added files and shortcuts from one Reflection transform file to another transform or to a companion package.

See the Customization Manager help for detailed instructions.

Phase 2 – Customizing Reflection

At this point, you have Reflection and the administrative tools installed to your administrative machine, and Reflection has been installed to the file server or web server, depending on how you chose to make Reflection available to your users.

Your task in Phase 2 is to customize the installation for your users using the Reflection Customization Manager. You can select which features you want installed on user machines, limit user access to Reflection functionality, and distribute these customizations to the appropriate user groups.

Phase 2 addresses the following topics:

- Open the installation
- Set installation options
- Edit product shortcuts
- Add files to the installation
- Define profiles and default settings for Reflection
- Set client metering options
- Make additional files available for your users with companion packages
- View customization details

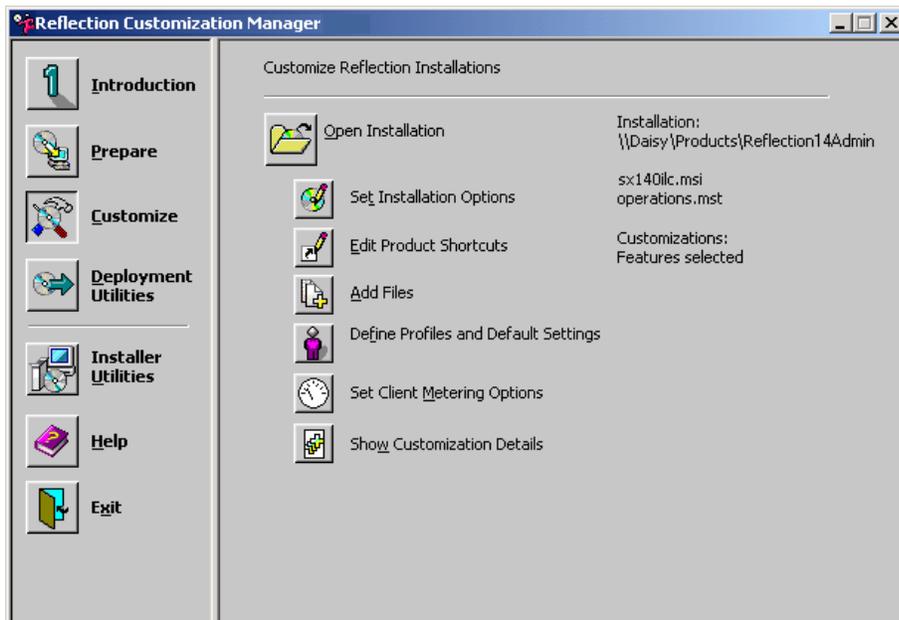
Open the Installation (Reflection Installer Package)

To start Reflection Customization Manager, click Start > Programs > Attachmate Reflection > Administrative Tools > Customization Manager. On the left panel, click Customize, and then click Open Installation.

To customize the Reflection installation, select the Customize a Reflection installation option on the Open Installation dialog box and browse to the Reflection Installer package on your server. Click OK.

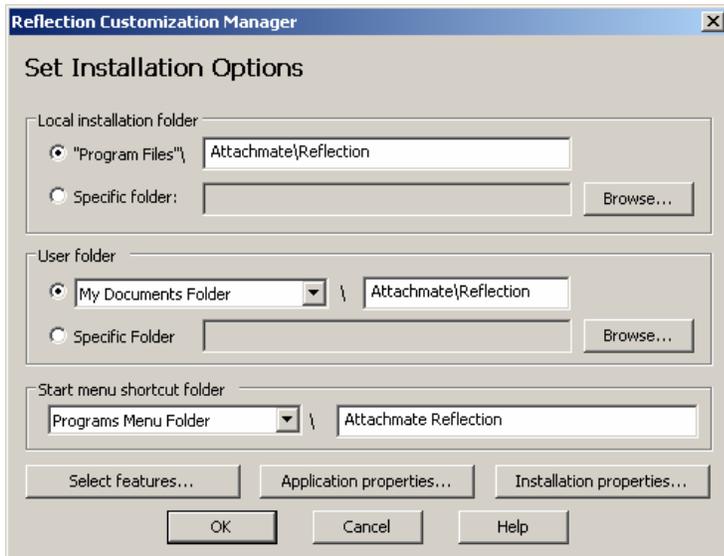


Once you open the installer package, you can begin to customize the Reflection installation.



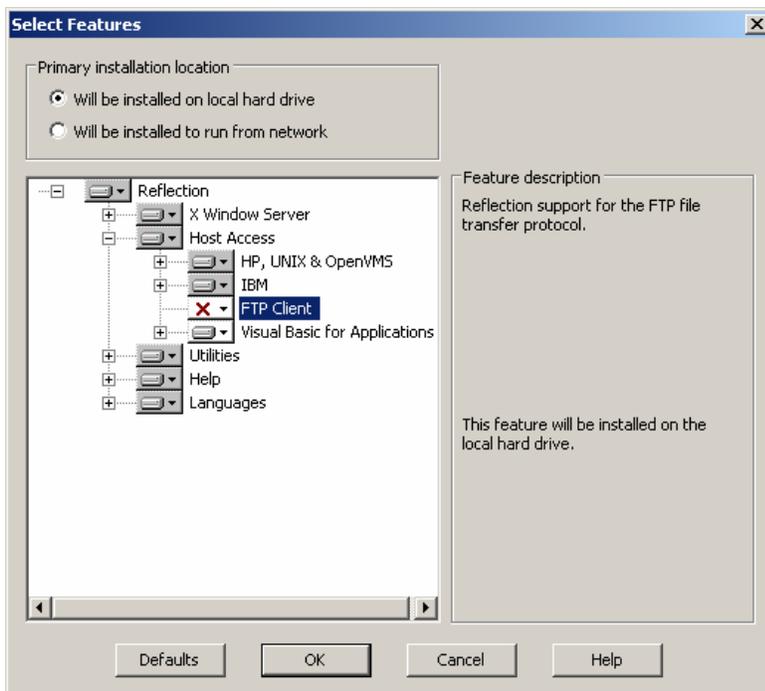
Set Installation Options

Use this dialog box to specify the installation locations for the Reflection product, the end user's folder for their Reflection-generated files, and the Start menu location for Reflection.



The buttons near the bottom of the dialog box let you choose features and properties.

Select Features—Select the features and mode of installation for your end users. You can hide unneeded features from your users. For example, in the graphic below, FTP Client is unavailable for users:



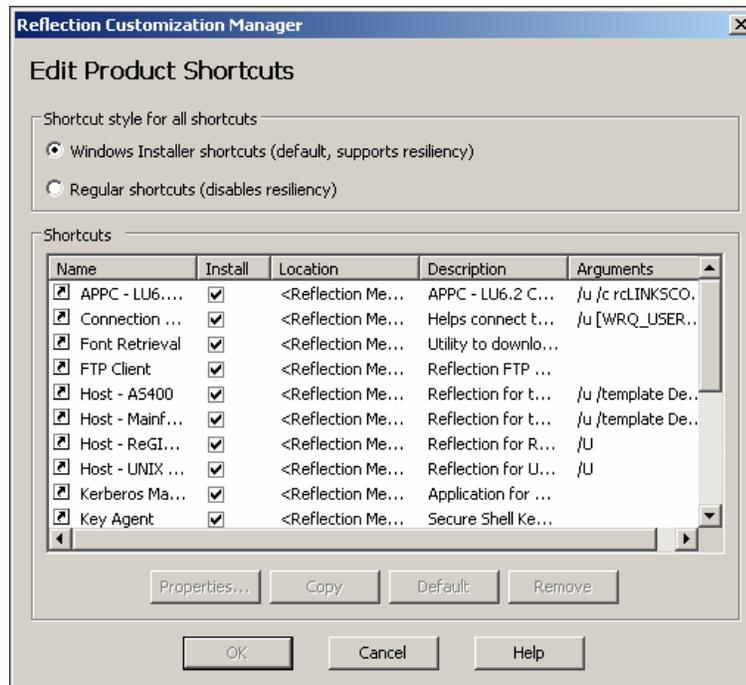
Application Properties—Set properties specific to a Reflection application, such as preferred Telnet provider, X password-caching preferences, and settings for your preferred host type. This option is not available if the installation you are customizing does not have properties applicable to the features.

Installation Properties—Add Installer properties to your customized installation. Doing this lets you, for example, modify the information and functionality of the Add/Remove Software control panel entry for Reflection or control the action of restarting the PC.

Edit Product Shortcuts

Use this dialog box to view the attributes of each product shortcut associated with a Reflection feature. If a shortcut setting should be changed, the options in this dialog box let you change these attributes to control the shortcut behavior at the end user's machine.

To do this, use the Properties button to open the Shortcut Properties dialog box where you can set the shortcut name, location, description, and parameters included in a shortcut's associated command line. You can also make a copy of a shortcut if you want it in more than one location or if you want to run it with two different command lines.



Note: Resiliency, or the ability to "self-repair" if a feature is accidentally deleted, is supported when you choose Windows Installer shortcuts in the Shortcut style for all shortcuts.

Add Files to the Installation

It is possible to add additional files (such as settings files, client files, text files, or document files) to the installation using the Add Files feature. If you want the file to remain after upgrading or uninstalling the product, select the "Make this file permanent" check box in the Add File to Installation dialog box.

Another way to add files to the installation is by creating a companion package. Using a companion package also allows you to retain additional files when you upgrade or uninstall Reflection. For more information, see a later section titled, "Make Additional Files Available for Your Users with Companion Packages."

Define Profiles and Default Settings for Reflection

Use this dialog box to include a profiled version of Reflection or to make your preferred default application settings the default in the deployed installation (Reflection FTP, for example).

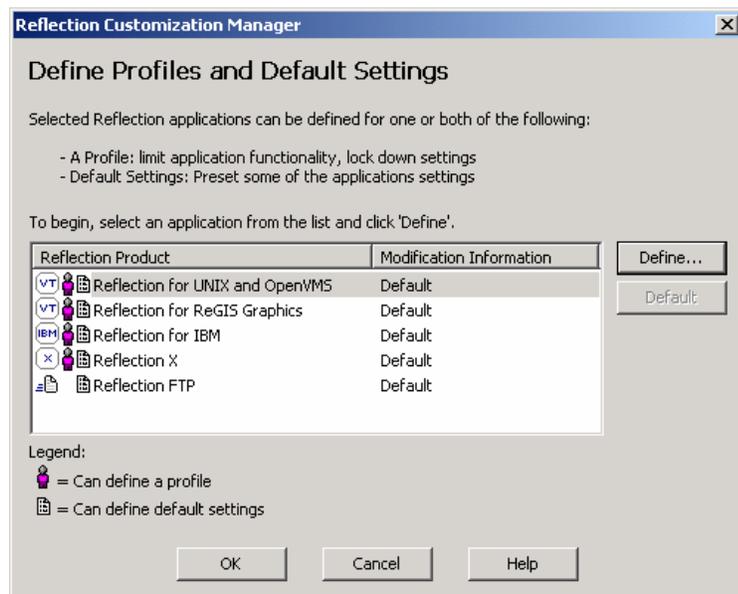
The following options are available:

- **Reflection Product**—The list of Reflection products you can install. This list is filtered to show only those products that can be profiled or that contain settings that can be exported. A symbol denotes the difference.

Note: If a profiler is not installed for a product, you will see a triangular symbol with an exclamation mark. Check to see that you installed the Reflection Profiler feature, and ensure that you are using version 14.x of the Reflection products. Reflection FTP must be installed locally in order to export the settings.

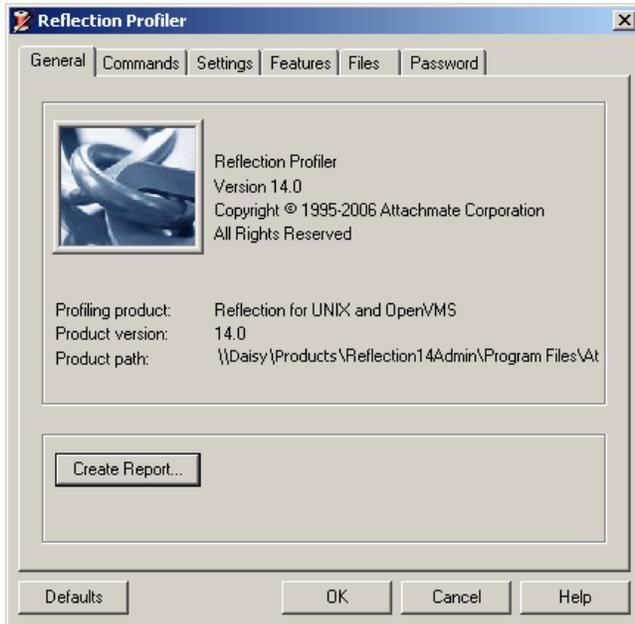
- **Modification Information**—The word Default appears if no changes have been made. If a change is made using a profiling or exporting utility, then the time and date of the action is shown here.
- **Define** button—Highlight an application and click this button to open an associated Profiler or Export dialog box you can use to customize the functionality of the application.
- **Default** button—Highlight an application and click this button to return the application to its default settings.

Note: To include profiled copies of Reflection for deployment to your users, you must profile Reflection by launching the Profiler from Reflection Customization Manager. If you launch the Profiler from the Start menu, you will profile only your local copy of Reflection.



Profile Reflection

When you highlight an application and click Define, the associated utility starts. For example, the following graphic shows the Reflection for UNIX and OpenVMS Profiler that starts after selecting “Reflection for UNIX and OpenVMS” and clicking the Define button.



Use the tabs in the Profiler to profile and define default settings for Reflection.

Export FTP Settings

Before you can export FTP settings, you must

- Install Reflection FTP locally.
- Set the settings for Reflection prior to exporting the settings to the transform file.

Follow this procedure to set the FTP settings:

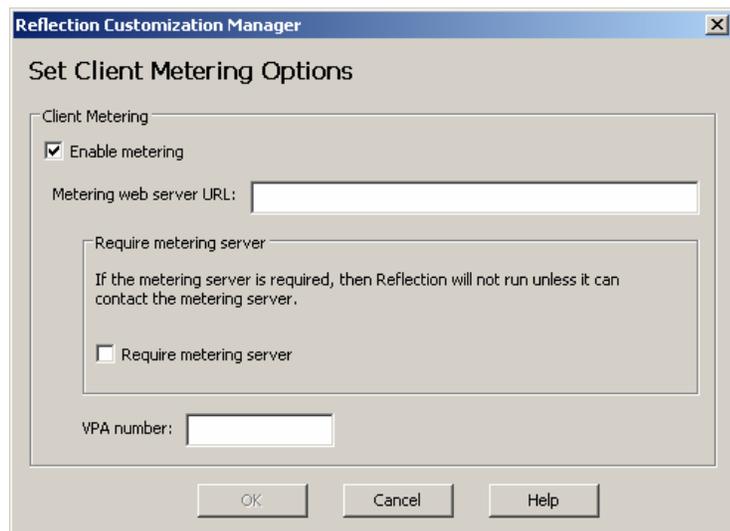
1. In the Define Profiles and Default Settings dialog box, select Reflection FTP from the Reflection Product column.

Note: If you see an exclamation point symbol, then Reflection FTP is not installed on your local machine. It should be located in a different folder from the Reflection Administrator Toolkit, but must be installed locally in order to set registry settings that will be exported to your customized installation.

2. Click Define. This launches the Export FTP Settings dialog box.
3. Click Help to view help on Sites, Application Settings, User Settings, and File Name information. These settings reflect your current FTP configuration and should be the ones you want your end users to use.
4. Click OK in the Export FTP Settings dialog box to return to the Define Profiles and Default Settings dialog box.
5. Click OK to close the dialog box and return to Customization Manager main panel. Any changes you made are now saved to the transform file.

Set Client Metering Options

Use this dialog box to enable metering at install time and set the host URL for the metering software. Optionally, you can also require Reflection connect to the metering server before starting a session and include the Volume Purchase Account number (available from the About box under System in the Reflection product). When the customized Reflection package is installed at the workstation, metering information is placed in the registry and each workstation will then be configured to report to the server running Reflection for the Web Metering Server. This enables an Administrator to monitor the use of Reflection and ensure licensing compliance if desired.



Client Metering Options

Configure the following options in the Client Metering dialog box:

- **Enable metering**—Select this option to enable metering (all other options become active). Metering information is sent to the server specified in the Metering web server box.
- **Metering web server**—Enter the URL of the Reflection for the Web Metering Server in this box.
- **Require metering server (Optional)**—When this option is selected, Reflection will not run if it cannot contact the specified server. If this box is cleared and Reflection is launched when the server is unavailable, Reflection will still run, but the session will not be metered and license limits (where licensing limits are configured) will not be enforced.
- **VPA number (Optional)**—Use this option to enter the Volume Purchase Account number associated with your Reflection product. The VPA number will be displayed under System in the Reflection About box.

Note: Metering options can be configured after installation by using Group Policy. When you do this, Group Policy settings take precedence over installed settings.

Make Additional Files Available for Your Users with Companion Packages

If you have existing files (such as settings files, client files, text files, or document files) or if you created new files for your users, we recommend that you use a companion package to make these files available to your users.

About Companion Packages

A companion package is a standalone MSI file that is independent of any Reflection installer package. It is highly recommended that you create a companion package if you wish to retain customizations across one or more upgrades of Reflection. By putting added files, such as settings files, into a companion package instead of adding them to the Reflection product installation, you can later remove the settings files without removing Reflection.

Create a Companion Package for Added Files

Use this procedure to create a new Reflection companion package. A companion installation package is highly recommended if you wish to retain customizations across one or more upgrades of Reflection.

1. Start the Reflection Customization Manager and click Customize to open the Customize Reflection Installations panel.
2. Click Open Installation and select Create a companion package in the Open Installation dialog box.
3. In Companion package, type a full path and file name for the companion installation and click OK. (For example, \\daisy\products\Reflection14\companion.msi.) Be sure that the file location is accessible to your users. Customization Manager asks if you would like to create the companion installation you have specified; click Yes to proceed. This process creates a new MSI file.
4. The Companion Installation dialog box opens. Type a representative name for the companion package in the Add/Remove title box. This is the title that will appear in Windows Add/Remove Programs.
5. Select an option under Installation type:
 - o Installs to all users of a machine: The companion installation will be available for every user who logs on to the machine.
 - o Installs only for the user who installs it: The companion installation will be available only for the user who installs it.

Click OK to proceed.

6. You are returned to the Customize Reflection Installations panel. Note that certain buttons are now available for customizing.

Add Files to a Companion Package

You can add additional files to a companion package by following the steps below:

1. If it is not already open, open the companion package to which you want to add files.
2. Click Add Files to open the Add Files to Installation dialog box.
3. Use this dialog box to view a list of files that are in your companion package (such as Reflection settings or client files, or your own document or text files). To add another file, click Add. Files can be added to this list using the Windows drag-and-drop technique.

Install a Companion Package

When you have finished customizing your companion package, you can deploy it by itself or alongside your customized Reflection installation. The package remains on the end user's machine until it is removed using Add/Remove Programs.

View Customization Details

Use this procedure to open and review your deployment decisions at any time prior to rolling out Reflection. When you do this, your choices are shown in a web page loaded into your preferred browser.

1. Start the Reflection Customization Manager from your local workstation and click Customize.
2. Open the installation you want to view.
3. Click Show Customization Details. The browser opens and the "Summary of Customizations" page is loaded for viewing.

Review the choices you made and if you want to save, use the File > Save As command. The file is automatically named for you using a reference to the transform file name.

Phase 3 – Deploying Reflection

In the final phase of preparing to deploy Reflection, you must identify **how** you will deploy Reflection to your users. Reflection supports a variety of methods for deploying software to users:

- Create a deployment shortcut
- Deploy silently, without user intervention
- Assign and publish with Active Directory
- Use SMS
- Other deployment methods

Choose your preferred method, and follow the procedures in this section.

Create a Deployment Shortcut

This feature is available only if you are making Reflection available to your users from a file server. Use this dialog box to create a Windows shortcut that an end user can double-click to install Reflection, for example, from a shared network resource to their workstation. When you create the shortcut, the file is created and placed in the folder you specify. You can also use this process to create a deployment shortcut for a companion installation.

1. On the left panel, click Deployment Utilities, and then click Create Deployment Shortcuts.
2. Specify the path to the folder where the shortcut will be saved and click OK.
3. In the Deployment Shortcuts dialog box, click Add.
4. Configure the options in the dialog box:

Create a Windows shortcut that can install, repair, redeploy or uninstall a customized copy of Reflection. It will be created in the same folder as your customized installation.

Shortcut name: Reflection14

Action: Install Turn on installation logging

User interaction: Full installer wizard

Installer language: Follow Regional Settings

Reboot control: Reboot at end if necessary (recommended)

Comment (tooltip):

Installation packages:

Installation Path	Transforms
\\Daisy\Products\Reflection14Admin\sx140ilc.msi	operations.mst

Add... Properties Remove Move Up Move Down

OK Cancel Help

You can configure the following options:

- **Shortcut name**—Type the name for the shortcut here.
 - **Action**—Choose one of four actions:
 - Install: Install Reflection.
 - Repair: Use the original administrative installation of Reflection to repair the user's damaged copy.
 - Redeploy: Redeploy Reflection from the administrative installation of Reflection. Typically, this is used after patching the administrative installation, sending these patch-based updates to your user.
 - Uninstall: Remove Reflection from the end user's machine.
 - **User interaction**—Set the end user's interaction level with the installation. Four levels of user interaction are available:
 - Silent (no UI): Runs the installation with no visible sign of installation and thus no user intervention.
 - Display dialog at end: Causes Reflection to display an informational message that indicates installation is complete.
 - Progress bar: Shows a bar detailing the ongoing progress of the installation to the end user.
 - Full installer wizard: Makes Reflection show every Installer panel with all options and feature selections available to the end user.
- Note:** In Silent mode, no error message will appear if the installation fails. (Consult the log in this scenario.)
- **Installer language**—If you choose "Follow Regional Settings," Reflection will implement whatever language is currently used on the end user's machine. Or, choose English, French, German, or Japanese.
 - **Reboot control**—Control the reboot operation following installation. (Reflection NFS requires a reboot operation following installation.)
 - Reboot at end if necessary: It is recommended that you let Reflection and the Installer service determine the need and execution of the reboot.
 - Always reboot after last install: Reboot the PC after the very last installation of a chained installation set.
 - Never reboot: Do not reboot the PC. A manual reboot may be required.
 - **Comment (tooltip)**—Type the tooltip description that you want to appear when you hover the mouse pointer over the shortcut.

Chaining Installations

You can configure Customization Manager to install two or more Reflection products from a single Windows shortcut—this is known as "chaining" product installations. To do this, click OK after selecting the first package file and transform, and then click Add in the Deployment Shortcut dialog box to open this dialog box again and repeat the process. Each package appears under Installation Path and the order of installation can be changed using the Move Up/Down buttons.

For more information, see "Chaining" in the Customization Manager Help Topics Index.

Deploy Silently, Without User Intervention

A silent installation is an installation that proceeds without the end user being able to intervene or, in some cases, even see that the installation is ongoing. You can create a silent installation by configuring a Windows shortcut using options in Customization Manager's Deployment Utilities panel. (See the steps in the preceding section, *Create a Deployment Shortcut*.) You can configure a shortcut to install Reflection using one of several silent installation options: with a progress bar, with a message on completion, or even no user interaction at the user's machine.

Assign and Publish with Active Directory

You can assign and publish installations using Active Directory. The following procedure outlines one possible way to publish an installation to members of an organizational unit. This is an example of one of many possible Active Directory strategies.

To publish software, you must be a member of Domain Admins and Group Policy Creators and Owners.

1. To open the Active Directory Users and Computers snap-in, click Start > Programs > Administrative Tools > Active Directory Users and Computers.
2. Right-click the organizational unit to which you want to publish the installation, and then click Properties.
3. Click the Group Policy tab.
4. Click New to create a new Group Policy object, or click Edit to update an existing Group Policy object. You can edit the name of the object at this time.
5. With the object you created or selected, click Edit to open the Group Policy window.
6. In the left pane, open User Configuration, and then open Software Settings.
7. Right-click Software Installation, click New, and then click Package.
8. In the Open dialog box, locate the Reflection Installer package (Reflect.msi), or enter the UNC path to this file next to File name, and then click Open.
9. In the Deploy Software dialog box, click "Advanced published or assigned," and then click OK.
10. Click Modifications, and then click Add.
11. In the Open dialog box, locate the transform file you created using Customization Manager, and then click Open.

Note: Make sure you have specified the transform(s) to use before clicking OK. If you don't, you will need to start the assign and publish process over.

Use SMS

See Technical Note [1444](#) for information about deploying Reflection using SMS.

Other Deployment Methods

See your deployment software documentation for information about how to integrate MSI deployment technology with your software.

Now you're ready to install and deploy Reflection!

Use the information in this preparation guide to help you install and deploy Reflection at your site. You may find additional resources helpful in planning your Reflection installation and deployment:

- Technical Notes at <http://support.wrq.com/techdocs>
- Reflection product documentation and product help

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