

MSI Package Builder - Getting Started



This tutorial is written for everyone, who wants to evaluate MSI Package Builder, see how it works and what it can do. By reading this tutorial you can better understand approach used for MSI creation and familiarize with application interface to be prepared for building your own installations.

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Introduction

The main feature of MSI Package Builder is producing MSI packages ready for silent and unattended installation. What does the silent installation mean? Such kind of installation can be deployed without any interaction with user, because it already has all options and settings preconfigured. So it is ready for simultaneous mass deployment on remote PCs through Group Policy (GPO) or [Remote Installer](#).

MSI Package Builder doesn't resemble to other installation tools. It's easy - you don't find here complex scripting or UI wizard programming that can scare even experienced people. Instead, it was specially designed to provide effortless automatic services for creating new or converting various existing installations to MSI packages ready for remote deployment.

In scope of this tutorial Enterprise Edition will be used. If you would like to follow step-by-step instructions provided here, please make sure that you downloaded and installed right edition. Otherwise you can notice some missed features and different interface options.

How to Create Installation?

As you know, application installation is process that usually involves copying files, changing registry entries, etc. Thus, in order to create installation, first of all, you need to decide what exactly your installation should do on computers where it will be installed. The new installation creation starts with defining a set of resources which should be changed in scope of installation and particular action for each resource. MSI Package Builder allows you to create, modify or delete the following resources set:

- Files and folders
- Registry keys and values
- Environment variables
- Services

A set of modified resources called installation model and is a basis for installation creation. With the MSI Package Builder you can build a model using three approaches:

Manual creation. In this case you need to create installation model manually from scratch using visual editor and define what files, registry keys and other resources will be changed by the installation.

Automatic creation using monitoring technology. In this case MSI Package Builder will detect changes performed on the file system and registry by other applications and use monitoring results to build installation model. This approach can be used for repackaging and modifying of existing installations.

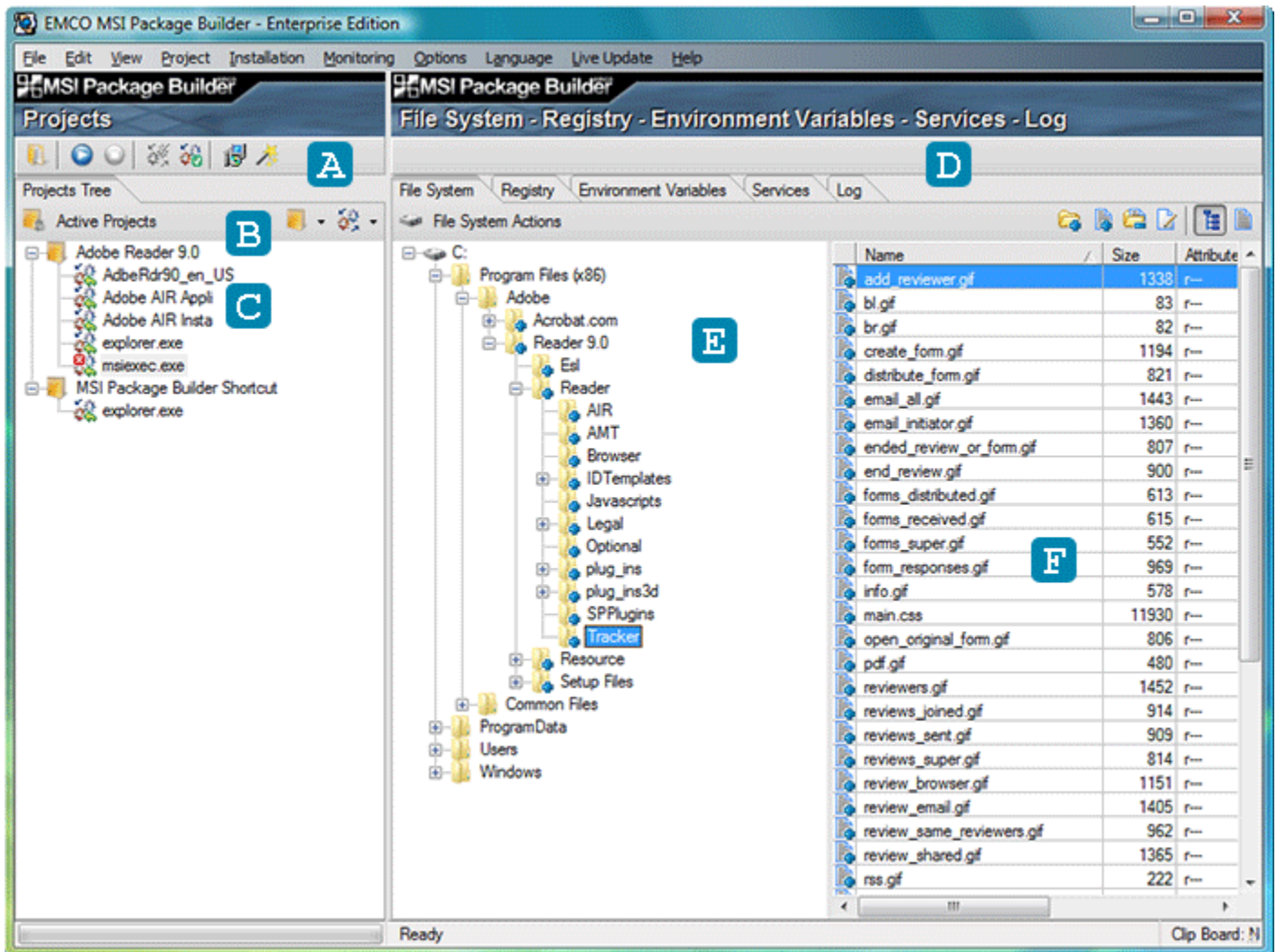
Automatic creation using MSI decompilation. In this case MSI Package Builder will decompile MSI file and build installation model from the decompilation results. This approach can be used when you need to modify existing MSI installation.

When installation model is ready you can execute MSI creation. This is an automatic process, performed by MSI Package Builder. As the result you will get MSI package, which is ready for silent remote installation through GPO or Remote Installer.

As you can see, installation model building is the most strenuous task when you create MSI package. But MSI Package Builder can significantly eliminate your efforts by providing monitoring technology for automatic model creation. This unique technology is the main application's advantage that allows making effortless repackaging and modification of existing installation. Using monitoring technology is the main way for building installation model that is explained and demonstrated on following chapters.

Application Interface Overview

Before we will start the practical part of this tutorial and create the first MSI package, let's familiarize with the application's interface. The main application screen is divided on two parts - left represents installation projects, right displays installation data. Take a closer look on these two areas. **Pic 1**



Pic 1. Main application screen

Main application actions, such as *Start* and *Stop Monitoring*, *Create MSI* and *Project Wizard* are grouped on the toolbar above the *Projects Tree*. **A** Same actions can be executed also from the main and context menus. Under the toolbar you can find a *Projects Tree* with a projects **B** and installations. **C** MSI Package Builder is a project-based application, so all installation data is associated with particular project stored on the file system. Project contains one or many installations and you can see all of them under project's node in the tree.

An installation model, described in the previous chapter, is represented by installation in the *Projects Tree*. If you select particular installation in the tree, you can see its model at the right side of the application screen by switching resource tabs. **D** A managed resources structure and detailed information is displayed below. In particular, for the *File System* resources you can see folders structure **E** and information for selected folder. **F**

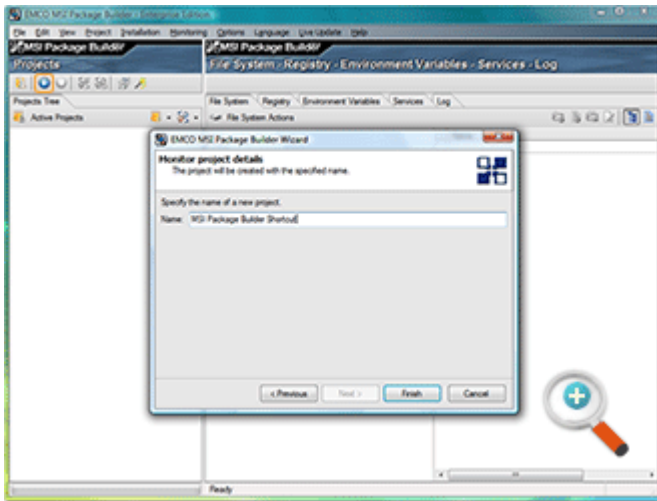
Creating Your First MSI Package

Now you know MSI Package Builder good enough to create your first MSI package. To see all features on practice, let's create installation that will create shortcut for some file on the desktop. This example seems to be a trivial, but you need to remember that MSI Package Builder produces MSI files ready for remote deployment. Therefore even first trivial MSI can help you to update desktops on thousands PCs if you will deploy it through GPO or Remote Installer.

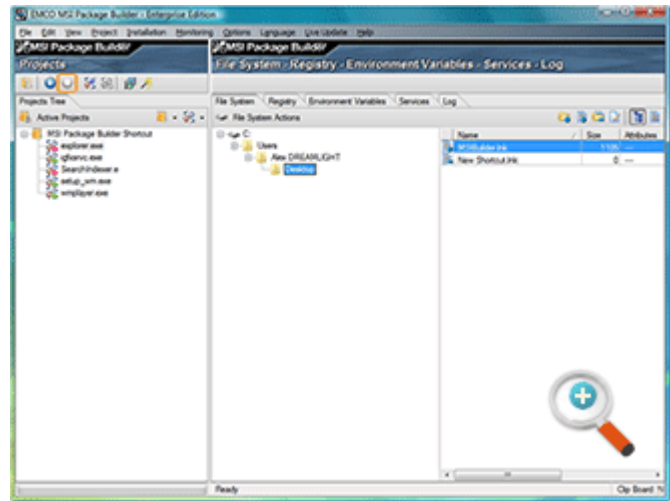
Are you ready to begin? Then download, install and execute the application. At the first launch you will see the *Trial* dialog that asks you start the trial period or enter the license. Click on the *Evaluate* button in order to start 30-days evaluation. You will pass to the wizard that asks you to enter the path to the projects root directory. Accept default path by clicking on the *Next >* button and close the wizard.

Monitoring technology will be extremely helpful even for producing of very simple installations, so instead of configuring installation manually to create shortcut we can use monitoring to make it automatically.

In order to begin monitoring, click on the *Start Monitoring* button on the toolbar. You will see the first page of the wizard, that explains how monitoring works. Click on the *Next >* button to pass to the next page. On this page you need to enter the name of the new project to store monitoring results. **Pic 2** Enter the name and press *Finish* button. From now on until stop monitoring, all changes happened on the computer will be registered by MSI Package Builder. If so, we can create shortcut manually on the desktop and rely on monitoring. As soon as you have finished shortcut creation you can return back to the MSI Package Builder and press *Stop Monitoring* button. After monitoring stop the *Projects Tree* will be refreshed to display monitoring results. **Pic 3**



Pic 2. Start Monitoring button and New Project Wizard

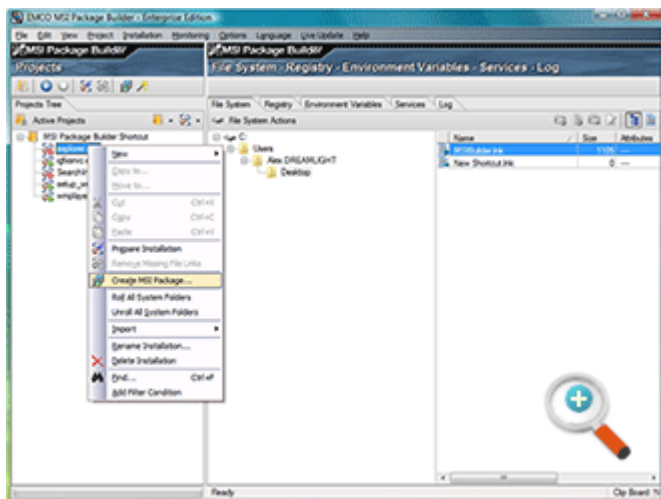


Pic 3. Stop Monitoring button and monitoring results

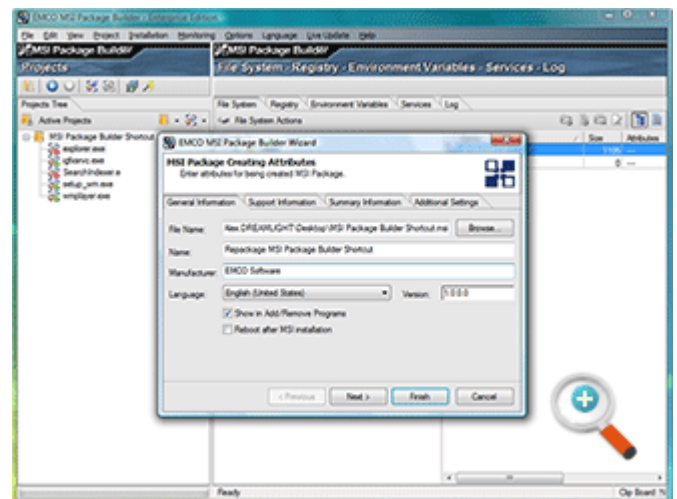
Let's review monitoring results. As you can see, project contains few installations, which names are identical to the system process names. If you select the installation, you can see a list of changes, which correspondent system process performed on the file system and registry during monitoring. This is a good input to split wanted changes from unwanted and is the unique feature of the monitoring technology. Other repackaging technologies, based on snapshots, are unable to provide this information.

As you know, Windows runs a lot of processes in parallel, including system processes, and all these processes make changes on file system and registry. If all changes are represented as one bunch, it's hard to find what changes related to the installation and what to other processes. So, there is a risk to include unwanted or even secure information to the installation. But monitoring helps you to resolve this issue.

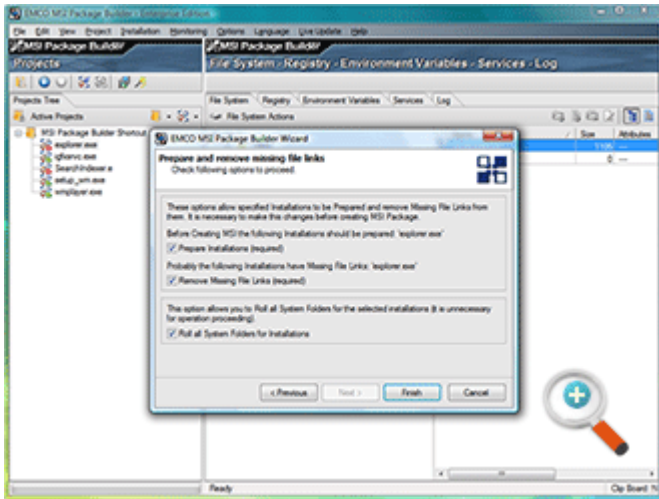
Now you need to select what installation should be used to produce MSI. To decide you need to sequentially select each of them in the *Projects Tree* and review *File System* changes. In particular, we are looking for *.lnk file, that was added during shortcut's creation. For Windows Vista this file has been created by `explorer.exe`, for Windows XP - by `rundll32.exe`. Anyway, you can easily detect required installation.



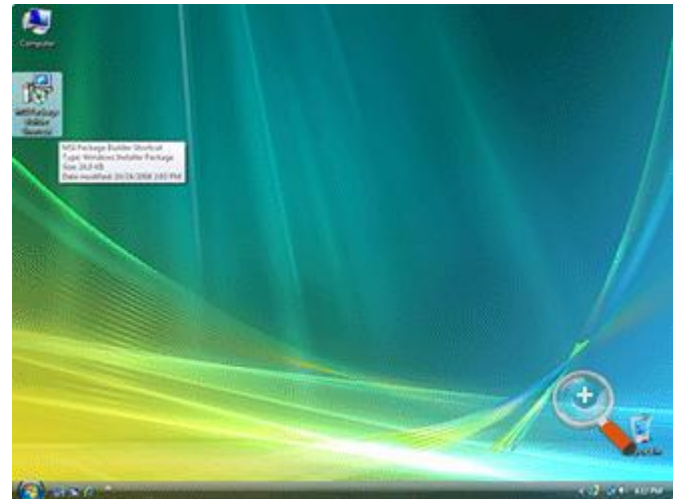
Pic 4. Create MSI Package action



Pic 5. Create MSI Wizard



Pic 6. MSI Preparation Options



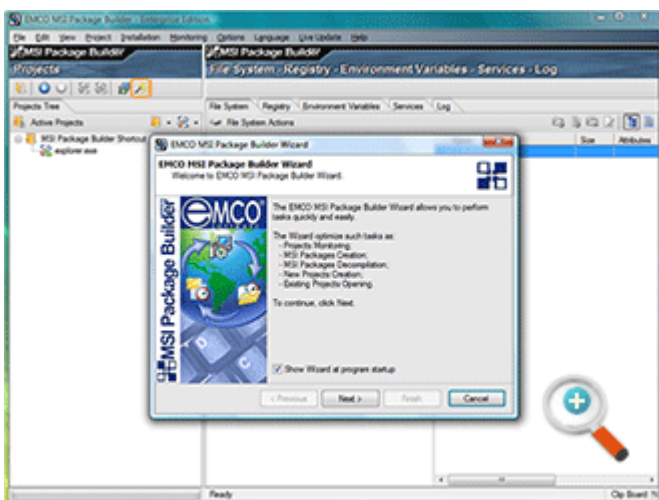
Pic 7. Generated MSI package

As soon as you detected installation to be used for MSI creation, you can select it in the *Projects Tree* and select *Create MSI Package...* from the popup menu. **Pic 4** You will pass to the wizard where you need to enter *File Name* to the output MSI package and *Manufacturer* info. **Pic 5** Click on the *Next >* button to go to the next page. On this page you can configure various project preparation options if required. **Pic 6** Leave all options turned on and press *Finish* button to start MSI file creation. When MSI generation will be finished, you can go and see produced MSI file. **Pic 7** It's ready for deployment, so you can execute it on various PCs or deploy through GPO or Remote Installer to ensure that it works like expected.

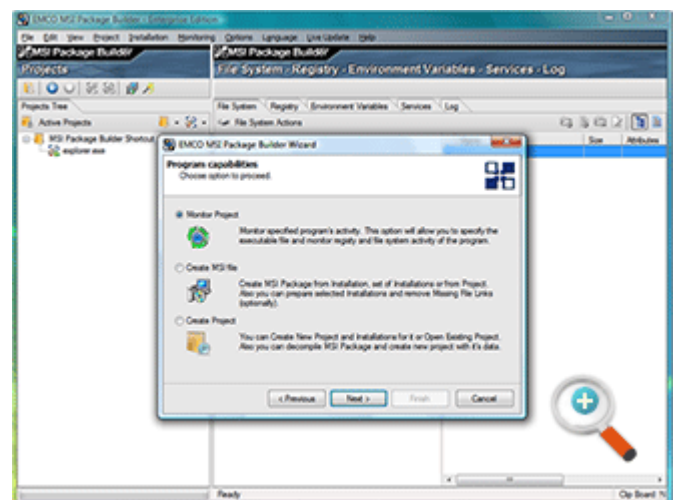
Real-Life Example: Adobe Reader 9.0 Repackaging

In the previous example we took a closer look at simple MSI creation process. What about the real example? Let's suppose that you need to install Adobe Reader 9.0 on hundreds remote PCs. It's naturally to use GPO or Remote Installer for this task. But as far as Adobe Reader installation comes as EXE file, you can't directly install it through these tools, because they don't accept EXE installations. So we need to convert EXE installation to MSI file, which can be deployed remotely. Let's see simple steps to do it using MSI Package Builder.

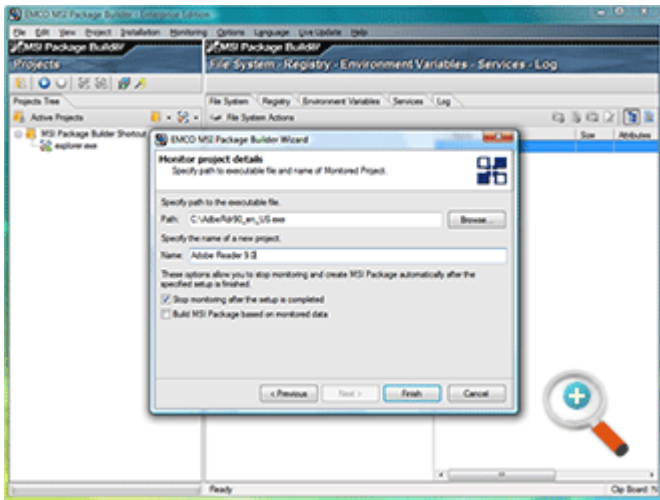
To convert EXE installation to MSI package we will make monitoring of original installation and use monitoring results to create MSI. Click on the *Project Wizard* button on the toolbar in order to start. It will open the first wizard's page. **Pic 8** Read the information and click on the *Next >* button to go to the next page. On this page you need to choose what you plan to do. Select *Monitor Project* option and click on the *Next >* button. **Pic 9** You will see a page that explains how monitoring works. Click on the *Next >* button to pass to the next page. This page requires you to enter the path to executable file that should be monitored and a new project name. **Pic 10** Enter the path to Adobe Reader installation, name of new project and switch off *Stop monitoring after the setup is completed*, because we will stop monitoring manually. As soon as you complete this, press *Finish* button to start monitoring. Adobe Reader installation will be launched automatically and you need to follow installation process. **Pic 11**



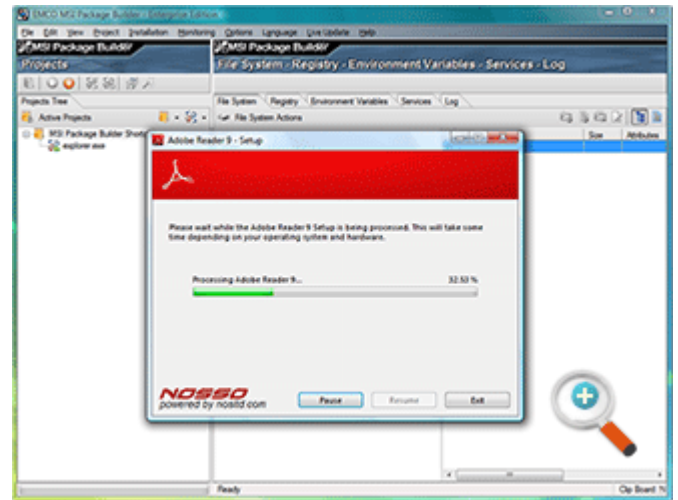
Pic 8. Project wizard



Pic 9. Program capabilities



Pic 10. Monitoring options

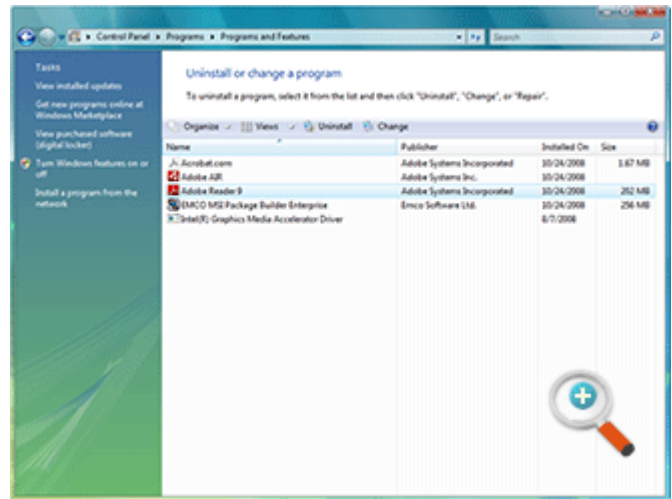


Pic 11. Original installation monitoring

When Adobe Reader installation will be finished, you need to terminate monitoring by pressing *Stop Monitoring* button on the toolbar. You can review monitoring results and ensure that installation actions were performed by five processes, represented in the tree as installations. As far as MSI should contain all changes, performed by all installations in project, you can create MSI for entire project. Select project node in the *Project Tree* and select *Create MSI Package...* item in the popup menu. On the appeared dialog enter path to the resulted MSI, manufacturer name and press *Finish* to create MSI. When MSI will be generated you can launch it to verify that it works correctly. Produced MSI file doesn't require any user interaction and can be installed silently. **Pic 12** After installation you can see correspondent entries in the *Add/Remove Programs* list and ensure that Adobe Reader was correctly installed. **Pic 13**



Pic 12. Silent MSI installation



Pic 13. Installed Adobe Reader

We have finished silent MSI creation and verified installation. Now you can deploy it to remote PCs using GPO or [Remote Installer](#). The same approach can be successfully used for other installations repackaging.