Enterprise Administration Guide

For the Acrobat family of products

Acrobat® Family of Products
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Contents

1 | Introduction

This document is specifically designed for administrators and other enterprise IT professionals. It is not intended for end users. Most of the details here pertain to registry and plist level preferences and enterprise technologies, and many also require administrator privileges and tools to use.

The administration guide is part of a new resource ecosystem designed to help administrators manage Acrobat products in large organizations. For a list of resources, see the following:

- Enterprise Portal: Contains the *Enterprise Administration Guide* and links to related libraries, documents, and tools.

- Release Note Library: A library of all available release notes for all versions of Acrobat products

- Application Security Library: Contains an *Application Security Guide* and documents pertaining to security topics such as document trust and JavaScript controls.

- Content Security Library: Guides for digital signatures and rights management. Includes a complete guide with some chapters provided as quick keys and separate documents.

- Administrator's Information Manager (AIM): An AIR application containing the Preference Reference (A database of registry-plist level preferences) for Windows and Macintosh, Feature inSight, and other resources.

- Customization Wizard: A free utility that enables pre-deployment installer customization and feature configuration, thereby facilitating IT control enterprise-wide deployments.

- LABs: A newly founded home for utilities, tools, scripts, and other resources of use to IT.

Enterprise library

Documents

Enterprise Admin Guide	AIP, GPO, SCCM, Citrix
Update-patch quick keys	Preference Reference

Domain libraries

Release notes	Content security (Digsig)	Application security	Update-patch files (all versions)

Tools

Customization Wizard	Adobe Provisioning Tool	Apple Remote Desktop	Admin's Information Manager	Tools for IT on LABs
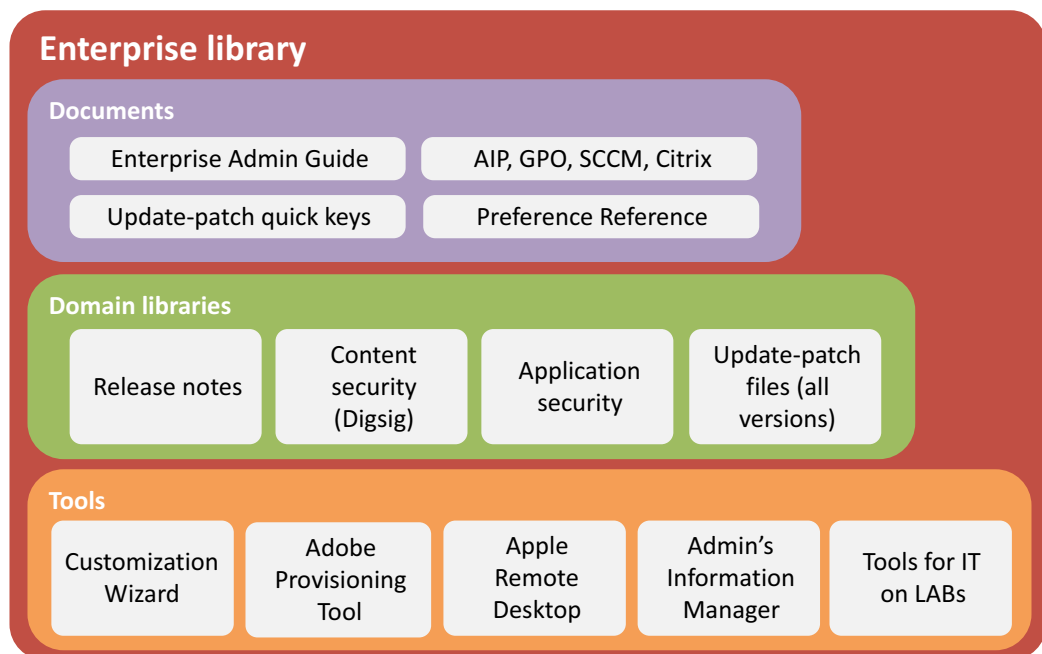
1.1 Getting started

1.1.1 Best practices

- Start with a fresh set of files.
- Accept the Reader Distribution Agreement.
- Don't patch without a license.
- Don't modify the originally downloaded file. Create a backup file to archive.
- On Windows:
    - Create an MST file or make changes on the command line.
    - Set the file's read-only attribute on a vendor MSI for which you're creating a transform.
    - Save your MST in case you need to upgrade with a full installer (MSI or EXE) which would uninstall the existing Reader installation and remove your customizations.
- If there is a problem, patch on the original files as a test.
- When installing a product of one type over another type (e.g. Acrobat Pro Extended on machines where Acrobat Standard is already installed), always uninstall the other product first. Do not rely on MSI parameters such as REINSTALLMODE=amus to do the work for you.
- Develop a pre-deployment configuration plan. Know what settings, files, and functionality you need to support or block.

Backing up the original files

Adobe recommends that you back up all files and use MST files or the command line to modify the installer rather than editing the original download directly. Doing so lets you always have access to a supported and tested configuration (the default).

Create a folder to store the original installation files and the MSP update files to apply. If you are doing a chained installation, the folder should contain the major release installer and the requisite update files. For example:

- 10.x products are cumulative (quarterly installers are cumulative to the last MSI and patches are cumulative to the last quarterly. Thus, for an upgrade to 10.1, the folder would contain:
    - The base install from the CD installer, the unpacked download from the Reader Download center, or download from the enterprise FTP site.
    - The 10.1 update. (note you do not need 10.0.1, 10.0.2, or 10.0.3).

        Tip: For 10.x installers, see http://kb2.adobe.com/cps/888/cpsid_88814.html.
- If installing 9.0 and the 9.1 and 9.1.2 updates and patches, the folder would contain:
    - The base install from the CD installer, the unpacked download from the Reader Download center, or download from the enterprise FTP site.
    - AcroProStdUpd910_T1T2_incr.msp (for example, 910 MSP update files for tier 1 & 2 languages).
    - AcrobatUpd912_all_incr.msp (912 MSP update file).

        Tip: For 9.x installers, see http://kb2.adobe.com/cps/888/cpsid_49880.html.

1.1.2 File types

New and existing installations may work with one or more of the following file types.

- Windows

  - **MSI**: A full installer cumulative to the base release. For Reader, a single dot release (e.g. 10.1, 9.3, 8.2). Acrobat updates which are always patches MSP files.

  - **MSP**: An incremental patch installer usually targeted for a previous update.

  - **MST**: MST files are used for a Microsoft Windows Installer transform. The file can perform transforms, adds, deletes, or change properties in a Microsoft Windows Installer (.MSI) package to enable customization of the installation for different groups of users. If you're using the Customization Wizard, you'll likely create an MST file that is applied to the original MSI file.

  - **EXE**: An executable update. Bootstrapped installers are Setup.exe files.

- Macintosh

  - **PKG**: Includes both full and update installers. The download is a DMG file.

1.1.3 Determining what's already installed

Before patching, verify what's installed as described in Decoding product details via Windows GUID.

1.2 Supported Workflows

Enterprise admins almost always modify the installer and the installed product. While there are numerous ways to get the job done, at a high level, the process involves the steps described below.

1.2.1 Windows

1. Download the requisite installer(s).

2. **Optional**: Modify the installer and the installed product. If you create an MST, save it for future use. You'll need to apply it again for Reader MSI installs which uninstall the previous version (and therefore destroy your custom settings).

3. Determine your installation workflow:

   - **Administrative (full-file) updates**: Full file updates are patch administrative installation points (AIP) or clients directly from expanded installer files residing on a network share.

   - **Client (binary) updates**. These patch existing files using the bootstrapper setup.exe. Client updates are designed only for individual machines and cannot be used to update an AIP.

4. Set MSI and Adobe properties as needed to perform the actual install as follows:

   - If you're using the MSI installer, configure abcpy.ini.

   - If you're using the Setup.exe bootstrapper installer, configure setup.ini.

   - On your command line, you can use msiexec and Adobe properties and switches.

5. Deploy.

Figure 1 Deployment overview

WINDOWS INSTALLATIONS: DOWNLOAD > CUSTOMIZE > DEPLOY

Download

READER	ACROBAT
Complete redistribution license agreement	Obtain a volume license
↓	↓
Enterprise ftp download	Web download or DVD

Customize

CMD line   Wizard UI   CMD + Wizard

3 customization workflows

Install application

↓

Open application: configure all preferences

Load MSI

↓

Modify install via Customization Wizard

↓

Export MST file

These optional steps allow you to become familiar with the UI preferences and leverage existing installations. UI modification changes the registry. When done:
- ✓ Open the MSI in the Wizard.
- ✓ Set the installer options.
- ✓ Copy the modified registry to the target computer.
- ✓ Modify via the Wizard UI.
- ✓ Inspect the installer tables.

Deploy

MSI-Adobe properties

Apply properties via:
- ✓ Command line
- ✓ Setup.ini read by Setup.exe
- ✓ abcpy.ini read by .MSI's

Full file installs: AIP-GPO (.msi-.msp)	Binary installs: bootstrapper (setup.exe)	SCCM-SCUP

1.2.2 Macintosh

In conjunction with the Acrobat X and Reader X release, Adobe now introduces an installer for the Macintosh platform and support for the Apple Remote Desktop (ARD). Unlike previous product versions which required manual installs, product installation and some configuration can be managed automatically for enterprise deployments. At a high level, deployment involves:

1. Download the requisite installer(s). Links to information about installers and sequencing reside at http://www.adobe.com/go/acrobatitinfo. The following file types are usually available:

   - **PKG**: Includes both full and update installers.
   - **DMG**: A compressed package containing the PKG.

2. Download the Adobe Provisioning Tool from ftp://ftp.adobe.com/pub/adobe/acrobat/mac/10.x/10.0.0/misc/, and use it for batch preserialization, EULA suppression, and so on.

3. Use ARD to deploy the application.

1.3 Choosing an installer

Enterprise admins typically get the product download for all platforms from these locations:

- Adobe's FTP site at ftp://ftp.adobe.com/pub/adobe/reader/.
- http://www.adobe.com/support/downloads/product.jsp?product=10&platform=Windows

1.3.1 Versioning policy

Adobe uses version numbers to clearly communicate to IT professionals the deployment model for a given release.

Acrobat and Reader version numbers contain 3 integers and two dots:

- The first integer identifies the major release; for example, 9.0.0 or 10.0.0 (sometimes 10.0 for short).
- The second integer is incremented when a quarterly update is delivered as a full installer; for example, 9.1.0, 9.2.0, and 10.1.0. These always include previously released out of cycle patches.
- The third integer is incremented for all other updates and out of cycle patches; for example, 9.4.3, 9.4.4, 10.0.1, 10.0.2, etc.

Updating Acrobat is straightforward because all update types are incremental and every one must be installed in order. For Reader, however, use the version number and file type to determine your update strategy. For details see "Update rules and constraints" on page 17.

> **Tip:** Refer to the release notes library to determine the installer types available for each release: http:// kb2.adobe.com/cps/837/cpsid_83708.html.

1.3.2 Installer languages

Installers may or may not be language-specific. Many patches and updates are language agnostic and can be applied to whatever language-specific install is already present. In these cases, language selection is not pertinent and update is simply applied in the language that has been selected during original installation. For installers that target a specific language or language group. Use the filename to identify the supported language.

1.3.3 Language tiers

Beginning with the first 10.0 update, installers may be named by the language group (or tier) which they can install. To identify the available language, refer to the release notes or Table 2 below. For example, the 10.0.1 update is named as follows:

- **Windows**: AcrobatUpd1001_Tier_1.msp. Tier 1 indicates the installer is for English, French, German, and Japanese.

- **Macintosh**: AdbeRdrUpd10 01.dmg. The absence of the a tier identifier indicates the installer is generic and should be used for updating any language version.

Table 1 Language tiers

Tier	Windows	Macintosh
Tier 1	English, French, German , Japanese, (Reader only: MUI Reader)	English, French, German , Japanese
Tier 2	Italian, Spanish, Dutch, Brazilian Portuguese, Swedish, Danish, Finnish, Norwegian	Italian, Spanish, Dutch, Brazilian Portuguese, Swedish, Danish, Finnish, Norwegian
Tier 3	Chinese Traditional, Chinese Simplified, Korean	Chinese Traditional, Chinese Simplified, Korean
Tier 4	Russian, Ukrainian, Romanian, Turkish, Czech, Hungarian, Polish, Slovak, Croatian, Slovenian, (Reader only: Catalan, Basque)	Russian, Ukrainian, Romanian, Turkish, Czech, Hungarian, Polish

1.3.4 Locale and language codes

Installer filenames include a locale identifier consisting of consists of a language code and a country code. For example, the Reader installer filename is of the form: AdbeRdr90_<language code>.exe. Thus, AdbeRdr90_en_US.exe is an English installer.

Installer components and workflows adhere to the ID system used by Microsoft. For details, see:

- **Locale ID**: http://msdn.microsoft.com/en-us/goglobal/bb964664.aspx

- **Language ID**: http://msdn.microsoft.com/en-us/library/ms533052(VS.85).aspx

These IDs are also used on the command line, in installer tables, and elsewhere.

Table 2 Locale and language codes

Language	Code	Language ID code
Basque	eu	1069
Brazilian Portuguese	pt-br	1046
Bulgarian	bg	1026
Catalan	ca	1027
Chinese (China)	zh_CN	2052
Chinese (Taiwan)	zh_TW	1028
Croatian	hr	1050
Czech	cs	1029

Table 2 Locale and language codes

Language	Code	Language ID code
Danish	da_DK	1030
Dutch	nl_NL	1043
English	en_US	1033
Estonian	et	1061
Finnish	fi_FI	1035
French	fr_FR	1036
German	de_DE	1031
Hungarian	hu	1038
Italian	it_IT	1040
Japanese	ja_JP	1041
Korean	ko_KR	1042
Latvian	lv	1062
Lithuanian	lt	1063
Norwegian	nb_NO	1044
Portuguese – Brazilian	pt_BR	1046
Romanian	ro	1048
Russian	ru	1049
Slovak	sk	1051
Slovenian	sl	1060
Spanish	es_ES	1034
Swedish	sv_SE	1053
Turkish	tr	1055
Ukrainian	uk	1058

1.3.5 Selecting a language

The application language is selected at the time of installing the initial major version using Setup.exe. The language selected at that time is stored on the system. For example, on Windows, it's in:

```
[HKEY_CURRENT_USER\Software\Adobe\<product name>\<version>\Language]"UI"="ENU"
```

The product UI language is actually determined by the sidecar dll stored in [HKCU\Software\Adobe\ Acrobat Reader\10.0\Language\current]. Therefore, if a user switches the dll under `current` or changes the UI key the two keys may not match. Ultimately, the dll under `current` determines the product language.

Note that Adobe uses standard MSI technology for installation on Windows, so patches and updates are language agnostic and they are applied to whatever language-specific install is already present. Therefore, application language selection is not pertinent to updates: Patches are simply applied in the language that has been selected during original installation.

As noted in http://kb2.adobe.com/cps/507/cpsid_50720.html, it is possible to apply patches during an initial installation. For multi-lingual installers, use the selected language transform (for example, 1036.mst for the French language) in the command line. Transforms in the installer media directory do not require fully qualified paths in the command. Patches do require fully qualified paths.

1.3.6 Enterprise installers

Adobe provides enterprise IT with a download site that contains all available installers. Most admins download the product, updates, and patches from ftp://ftp.adobe.com/pub/adobe/reader/. This FTP site provides the following:

- While some versions of Reader have been released that include Acrobat.com integration (online services) and the Adobe Air runtime, FTP downloads always provide the vanilla application versions which do not include these components.

- An archive of all currently supported binaries for all products, versions, updates, and patches.

- Deprecated application versions which are no longer supported.

1.3.6.1 Naming conventions

Windows installer naming conventions

As shown in Table 3, installer names have several components that help identify what it contains.

Figure 2 Installer identification by name
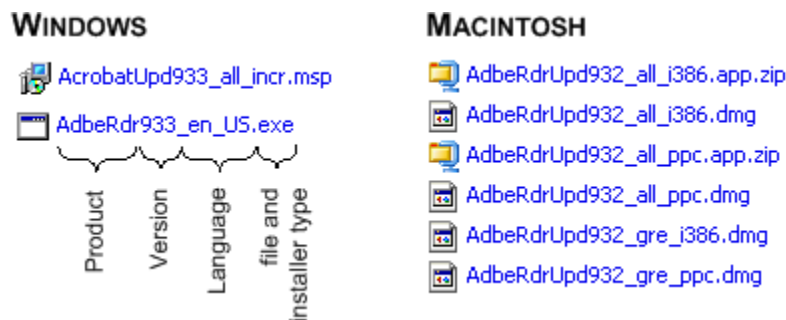
Table 3 Installer naming conventions

OS	Name	Description
All	Tier_#	10.x and later. The language group. For example, Tier_1 is English, French, German, and Japanese.
All	_cum	A full installer for a MUI version.
All	_all	All languages are supported: used for some MSP patches.
All	T1T2	An older language ID used by 9.1 and 8.1 and earlier.
All	_en_US	A language ID; in this example, English.
Mac	_i386	Identifies installers for Apple products that use Intel's 32 bit i386 CPU.
Mac	_ppc	Identifies installers for Apple products use PowerPC CPUs.
Mac	.pkg	The uncompressed installer file.

Table 3 Installer naming conventions

OS	Name	Description
Mac	.dmg	The compressed installer that contains the PKG file.
Win	.msp	A non-full installer: can be a quarterly update or out of cycle patch.
Win	.msi	A full installer that includes all previous releases.
Win	.exe	A full installer; not typically used in enterprise settings.
Win	_mui	An installer that supports a multilanguage selection user interface. MUI updates always roll back to the base release and patch over it.

1.3.7 End user and EXE installers (Windows)

1.3.7.1 Reader for individuals from the Reader Download Center

As of July 13, 2010, Reader downloads include a chained installer that includes all requisite patches and updates. Prior to July, 2010, product downloads from the download center (http://get.adobe.com/reader/) included the original major release version of the product such as 8.0 and 9.0. These older, full installers did not include the latest patches and thereby created two problems:

- Users would have to apply the latest updates and patches to get to the latest version.

- The product was less secure and subject to known vulnerabilities if it was not patched.

To resolve these issues, the download centers now only provides chained installers that include all the updates in one bundle. This delivers a seamless experience to users and a single install to get the latest product version.

1.3.7.2 Expanding the Reader installer package

These steps do not apply to any installer other than those EXE installers downloaded from the Reader Download Center or the FTP site.

> **Tip:** If you are using SMS and do not need to customize the installer, you can use the Nosso-compressed file directly with the SMS installer.

1. Open a command prompt.

2. Expand the MSI package with a set of command line switches. The general form of the command to convert a Nosso-compressed file to an MSI package is:

```
<user-specified installation path>\AdbeRdr<version>_<locale code>.exe [<Nosso,
7-zip, or Adobe switches>...]
```

For example, the following command specifies that no files are to be executed after the expansion or installation, and the resulting files are to be placed in a folder named "Reader9":

```
<user-specified installation path>\AdbeRdr90_en_US.exe -nos_o"MyFolder" -nos_ne
```

> **Tip:** Do not use an existing directory, and do not leave any spaces after "-nos_o" or -sfx_o command. Note that the compression technology changed from Nosso to 7-zip with 10.0.

Examples

The command in Example 1.1 specifies that no files are to be executed after extracting Reader 9.0 files. The installer will not run after expanding the files to a directory named "Reader9".

Example 1.1: Expanding EXEs: Nosso compressed

```
<user-specified installation path>\AdbeRdr90_en_US.exe -nos_o"MyFolder" -nos_ne
```

The command in Example 1.2 specifies that no files are to be executed after extracting Reader 10.0.1 files. The installer will not run after expanding the files to a directory named "Extract".

Example 1.2: Expanding EXEs: 7-zip compressed

```
AdbeRdr1001_en_US.exe -sfx_ne -sfx_o"<somepath>\Extract
```

Table 4 Switches for expanding the Nosso installer

Nosso switch (9.x)	7-zip switch (10.x)	Description
-nos_ne	-sfx_ne	Do not execute any file after installation (overrides the -e switch) This switch should be used if user only wants to extract the installer contents and not run the installer.
-nos_nd	-sfx_nd	Do not delete files after installation (overrides the -r switch) The -r switch uses the existing folder and overwrites the extraction files to the same folder without creating an additional extraction folder.
-nos_o	-sfx_o	Specifies the name of folder where the contents of the expanded package are to be placed. The folder name should be enclosed in quotation marks. It is best if you do not use an existing folder, and there should be no space following the "-nos_o". For example: <path to>\AdbeRdr90_en_US.exe -nos_o"TestFolder" -nos_ne
		The default output folder is %TEMPDIR%/Adobe <Productname>
	-sfx_va	Validates the decompression of the deliverables.
		You can run MSI and Adobe switches from the same command line as described in Chapter 2, "The Command Line and msiexec"

1.4 Update rules and constraints

The version number indicates the number of releases that have been issued since your last install and what type of file and chaining workflow to use when updating Reader. For example, some quarterly installers where the second number increments are full installers which can be applied over the base release. Refer to the rules below to define you update strategy.

Details about each update can be found at the following:

- **Release note library**: http://kb2.adobe.com/cps/837/cpsid_83708.html identifies whether a release is a security or quarterly update and provides details about the release's contents, changes, file sizes, and so on.

- **8.x-9.x Windows update page**: http://kb2.adobe.com/cps/498/cpsid_49880.html lists installers by update type, file name, and language support.

- **10.x updates for Windows and Macintosh**: http://kb2.adobe.com/cps/888/cpsid_88814.html lists installers by update type, file name, and language support.

> **Caution:** Attempting to update in an unsupported order results in a failure that serves to prevent the use of updates that Adobe does not recommend. See also "Choosing an installer" on page 12.

1.4.1 10.x Acrobat updates

To get to the latest version, install the product in this order: **Base release > latest quarterly > latest security update**.

> **Note:** Installing the latest version always gets you the most functional and secure version. However, you should develop an update plan appropriate for your deployment methodology and business requirements.

Tips, tricks, and gotchas

- Installers are always MSPs.

- Quarterly updates are cumulative to the base release and security patches are cumulative to the last quarterly. Thus, quarterlies always include all previously released out of cycle security patches.

- You cannot rollback updates.

- In AIP workflows, you cannot apply quarterly updates over a previous quarterly or security patch: e.g. 10.1 over 10.0.1|2|3. AIP workflows are subject to constraints that don't apply to bootstrapper workflows. Always archive your AIPs so you can restore to a previous version in case such a psuedo-rollback is required (uninstalling and starting over). While you can use the vomus switches to apply updates to end user machines directly, but in this case future installs via an AIP will require uninstalling and starting over with a new AIP.

- In Bootstrapper workflows, install everything in order.

- Save your MST for future use.

1.4.2 10.x Reader updates

To get to the lasted version, install the product in this order: **Latest MSI > latest quarterly > latest security update**.

> **Note:** Installing the latest version always gets you the most functional and secure version. However, you should develop an update plan appropriate for your deployment methodology and business requirements.

Tips, tricks, and gotchas

- Installers can be MSIs or MSPs. MSI's uninstall the product, so save your MST to reuse your customizations for future installs.

- Quarterly updates are cumulative to the latest MSI (e.g. 10.1 replaces the base release of 10.0) and security patches are cumulative to the last quarterly. Thus, start with the latest MSI and add the latest MSPs.

- Quarterlies always include all previously released out of cycle security patches.

- You cannot rollback updates, so archive your AIPs in case you need to uninstall with /x <guid> and reinstall an earlier version. This may be required in those cases where workflows break due to changes in the product or bugs.

- In AIP workflows, you cannot apply quarterly updates over a previous quarterly or security patch: e.g. 10.1 over 10.0.1|2|3. AIP workflows are subject to constraints that don't apply to bootstrapper workflows. Always archive your AIPs so you can restore to a previous version in case such a psuedo-rollback is required (uninstalling and starting over). While you can use the vomus switches to apply updates to end user machines directly, but in this case future installs via an AIP will require uninstalling and starting over with a new AIP.

- In Bootstrapper workflows, install everything in order.

- Save your MST for future use.

1.4.3 8.x-9x Acrobat updates

To get to the lasted version, install the product in this order: **Base release > all the quarterlies > latest security update**.

Tips, tricks, and gotchas

- Installers are always MSPs.

- Start with the latest MSI (e.g. 9.3 replaces the base release of 9.0)

- Install all the MSP quarterlies in order. These include interim security updates. In other words, quarterly updates include the most recent out of cycle patches. You do not need to apply any out of cycle patches if you are applying a more recent quarterly update.

- Install the latest MSP out of cycle patches. Do not apply a quarterly updates to an AIP in which an out of cycle patch was the most recently applied update. To deploy a new, full quarterly update from an AIP, create a new AIP.

- You cannot rollback updates, so archive your AIPs in case you need to uninstall with /x <guid> and reinstall an earlier version. This may be required in those cases where workflows break due to changes in the product or bugs.

- In AIP workflows, you cannot apply quarterly updates over a previous security patch. AIP workflows are subject to constraints that don't apply to bootstrapper workflows. Always archive your AIPs so you can restore to a previous version in case such a psuedo-rollback is required (uninstalling and starting over). While you can use the `vomus` switches to apply updates to end user machines directly, but in this case future installs via an AIP will require uninstalling and starting over with a new AIP.

- In Bootstrapper workflows, install everything in order.

- Save your MST for future use.

1.4.4 8.x-9x Reader updates

To get to the lasted version, install the product in this order: **Latest MSI > all the latest quarterlies > latest security update**.

Tips, tricks, and gotchas

- Installers can be MSIs or MSPs. MSI's uninstall the product, so save your MST to reuse your customizations for future installs.

- Start with the latest MSI (e.g. 9.3 replaces the base release of 9.0)

- Install all the MSP quarterlies in order. These include interim security updates. In other words, quarterly updates include the most recent out of cycle patches. You do not need to apply any out of cycle patches if you are applying a more recent quarterly update.

- Install the latest MSP out of cycle patches. Do not apply a quarterly updates to an AIP in which an out of cycle patch was the most recently applied update. To deploy a new, full quarterly update from an AIP, create a new AIP.

- You cannot rollback updates, so archive your AIPs in case you need to uninstall with /x <guid> and reinstall an earlier version. This may be required in those cases where workflows break due to changes in the product or bugs.

- In AIP workflows, you cannot apply quarterly updates over a previous security patch. AIP workflows are subject to constraints that don't apply to bootstrapper workflows. Always archive your AIPs so you can restore to a previous version in case such a psuedo-rollback is required (uninstalling and starting over). While you can use the `vomus` switches to apply updates to end user machines directly, but in this case future installs via an AIP will require uninstalling and starting over with a new AIP.

- In Bootstrapper workflows, install everything in order.

- Save your MST for future use.

1.5 Licensing

Distributing Reader requires signing a distribution agreement. Acrobat deployments require a license.

1.5.1 Reader deployments

To distribute Adobe Reader on a CD, with a computer product, or within your enterprise, you must

1. Go to http://www.adobe.com/products/reader/rdr_distribution1.html.

2. Choose **Apply to distribute Reader**.

3. Read the information on the page and fill out the required information.

4. Fill out the form and choose **Accept and Submit**.

   After responding, you will be notified within two days whether your application has been accepted or denied.

5. Your confirmation e-mail will contain a link for the Reader download. The license agreement is good for one download. The license agreement is good for one year, and you will receive a reminder by e-mail in advance of the expiration date.

1.5.2 Acrobat deployments

One off Acrobat installations simply require entering the license key as you install the application. For batch and remote deployments, the licensing methodology varies by deployment method as described below.

1.5.2.1 Macintosh

Beginning with Acrobat 10.0, Macintosh deployments can be streamlined via support for Apple Remote Desktop and the Adobe Provisioning Tool (APT). As described in Chapter 12, "Deployment Methods (Mac)", APT enables bulk preserialization of Acrobat during deployment time.

1.5.2.2 Windows

Licensing: and the Customization Wizard

If you are using the Wizard to configure the application prior to deployment, enter the license information in the user interface as described in the user documentation. Doing so writes the serial number information to the abcpy.ini file. This file needs to be placed in the same directory as the MSI used at installation time.

Licensing: MSI deployments

Installations that use MSI files require that the Abcpy.ini file contain the serial number information for the application. For example, during an administrative installation point deployment, the MSI file reads Abcpy.ini to get the needed information. If you have not used the Wizard, set this up manually as follows:

1. Open Abcpy.ini in a text editor.

2. Find ISX_SERIALNUMBER.

3. Add the serial number.

4. Save and close the file.

5. Verify Abcpy.ini is located in the same directory as the MSI prior to installation.

Example 1.3: Abcpy.ini file

```
;************************************************************
;OEM Installation Options
;************************************************************
[OEM Install]
ISX_SERIALNUMBER=
USERNAME=
COMPANYNAME=
INSTALLDIR=
```

Licensing: EXE deployments

Deployments that use EXE files require that the Setup.ini file contain the serial number information for the application. For example, during a bootstrapper Setup.exe deployment, the EXE file reads Setup.ini to get the needed information. You can set this up manually as follows:

1. Open Setup.ini in a text editor.

2. Find ISX_SERIALNUMBER.

3. Add the serial number.

4. Save and close the file.

5. Verify Setup.exe located in the same directory as the EXE prior to installation.

Licensing: Command line

The license key can be entered on the command line during deployment by using the `ISX_SERIALNUMBER` property.

- To run the installer by using setup.exe, enter:

  ```
  Setup.exe ISX_SERIALNUMBER="<your valid Acrobat serial number>" /sAll
  ```

- To run the installer by using the msiexec program, enter:

  ```
  msiexec.exe /qn /i"<full path to the .msi file>.msi" ISX_SERIALNUMBER="<your
  valid Acrobat serial number>"
  ```

1.6 Identifying deployed applications

In enterprise settings, administrators often need to know application installation details and versions prior to deploying or updating their applications. Certainly information such as product version and license type will be part of many update and patch workflows. Adobe provides this data as part of the application's preferences; for example, in the registry on Windows and in similar locations on other platforms.

The methodology for gathering this information via scripted registry queries, server-based client management software, and other 3rd party methods is outside the scope of this document.

The following methodologies are possible:

- Acrobat X products: There are two ways to determine the version:
  - Decoding product details via Windows GUID
  - MSI API

- Acrobat 9.x and earlier: Use both Decoding product details via Windows GUID and VersionMax and VersionMin (9.x earlier).

- Adobe Reader 9.x and earlier: See Decoding product details via Windows GUID.

1.6.1 Decoding product details via Windows GUID

Administrators can determine the variations of Acrobat and Adobe Reader deployed across their organization by using asset management tools to query for the product's GUID. The Windows Installer Service creates this key automatically when the product is properly installed initially, but it is also updated when product is patched.

For the Acrobat family of products, the GUID indicates the following:

- **Product family**: Acrobat.

- **Version**: For example, version 9.

- **Language**: For example, English versus English/French/German.

- **Additional languages**: Other languages included in the package.

- **Product type**: Adobe Reader, Standard, Professional, 3D, etc.

- **License type**: Whether the retail or license product is installed.

- **Major version**: For example, 8 or 9. For releases every one to two years.

- **Minor version**: For example .1 or .2. Typically for quarterly releases.

- **Minor-minor version**: For example .1. Typically for patches.

During installation, the product GUID is created as a Value/Data pair in the registry. Each GUID section represents information using a combination of hexadecimal and telephone keypad indicators. Each release and language group receives a unique product code. In the InstallShield project, this code is specified in the Product Configuration panel for the release type. Installers update the GUID though patches do not. Patches (.msp files) target the originating GUID for patch transformation, and thus do not change the GUID.

Note that the value's actual name is always ENU_GUID even when other languages are also present (for example, FRA, DEU, ESP). As shown in Table 5, the GUID for Reader indicates the major, minor, and minor-minor version. However, for 9.x versions of Acrobat and earlier, the GUID does not identify the minor-minor version.

> **Note:** The only time the GUID is updated is when the product is installed with a new MSI installer. The GUID is not updated for patches that don't use an MSI installer. Thus, `VersionMin` should also be checked when trying to verify the product version.

GUID construction

The basic formula for constructing and decoding the GUID is as follows:

- **Acrobat**: Example: AC76BA86-1033-F400-7760-100000000002

  ```
  <product family>-<language code>-<additional languages>-<product type>-<license
  type><major version><major minor version>
  ```

- **Reader**: Example: AC76BA86-7AD7-1033-7B44-A70500000002

  ```
  <product family>-<Reader>-<language code>-<product type>-<license type><major
  version><major minor version><minor minor version>
  ```

- **Acrobat Elements (no longer supported)**: Example: E5E6E687-1033-0000-0000-000000000002

  > **Tip:** Refer to Table 5 for a key as to how the values are computed.

GUID deconstruction

Using the formula above with the elements in Table 5then, Example 1.4 translates to: Acrobat 9.0 Professional, English/French/German, volume license.

Example 1.4: GUID

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Adobe\<product name>\<version>\Installer]
"ENU_GUID"="{AC76BA86-1033-F400-7760-1000003D0004}"
```

Table 5 GUID guidelines for Acrobat Standard, Professional and 3D

ID	Description
product family	The first section of the product code attempts to spell the product family using a combination of hexadecimal and telephone keypad indicators. For example:
	AC - The first two letters of Acrobat using hexadecimal indicators
	76 - The letters RO using telephone keypad indicators
	BA - Two more letters of Acrobat using hexadecimal indicators
	8 - The letter T using a telephone keypad indicator
	6 - The number 6, indicating product version
	The last digit is no longer used to determine version. A better indicator of version is noted below.
Reader ID	**Reader only**: 7AD7
language code	This second section of the product code contains the four-letter default language code (as defined by Microsoft and used by legacy InstallShield and MSI installers).
	For language code IDs, see Locale and language codes. For Microsoft details, see http://msdn.microsoft.com/en-us/goglobal/bb964664.aspx.
additional languages	A hexadecimal representation of extra languages (ex. "DF60" == DFN == Danish Finnish Norwegian). Use the first letter of the language's country code if it is between A-F. (D = Danish); Otherwise, use a telephone keypad indicator to represent the language. (ex. 6 = Norwegian). For example:
	F - French, using a hexadecimal indicator
	4 - German, using a telephone keypad indicator
	00 - No other languages
product type	The product using hexadecimal and telephone keypad indicators as follows:
	7760 - Acrobat Pro (PRO using telephone Keypad indicators, followed by a zero)
	BA7E - Acrobat Standard
	7B44 - ReaderBig
	7761 - 3D
license type	**Acrobat only**: In the last number series:
	The first digit in the last indicates volume or retail use. For example, in 100000000002, the leading1 indicates volume licensing. 0 indicates retail licensing.
	This series is always preceded by an "A" for Reader.
Acrobat major version	In the last number series, the last digit indicates the major version as follows:
	1: version 6
	2: version 7
	3: version 8
	4: version 9
	5: version 10
Reader major version	The last number series is always preceded by an A and the actual Major.MajorMinor version number. The last digit indicates the minor version. Thus, the formula is:
	{A}+{Major #}+{MajorMinor # if any}+{zeros}+{MinorMinor version if any}
	For example:
	• Reader 9.2 = A920000000001 (1 = 0)
	• Acrobat 10.1 = {AC76BA86-1033-F400-7760-000000000005}

GUID registry location

The GUID is written to a variety of locations. However, Adobe recommends you use the following:

- **32 bit Windows**: HKEY_LOCAL_MACHINE\SOFTWARE\Adobe\{application}\{version}\Installer\
- **64 bit Windows**: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Adobe\{application}\ {version}\Installer\

GUID installer package location

Administrators interested in dissecting installer packages prior to deployment can find the GUID in the installer msi package (Figure 3).

To find the GUID in an installer, go to **Property > ProductCode**, and look in the **Value** column (Figure 3).

> **Note:** The only time the GUID is updated is when the product is installed with a new MSI installer. The GUID is not updated for patches that don't use an MSI installer. Thus, `VersionMin` should also be checked when trying to verify the product version.

Figure 3 Installer MSI: GUID
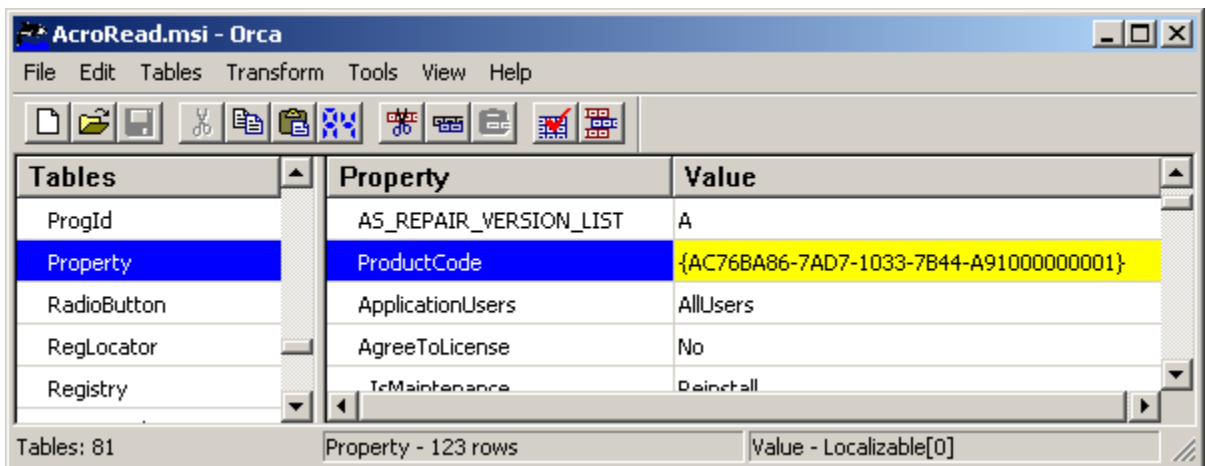
GUID examples

Table 6 Example GUIDs

Product	GUID
Acrobat 10.1	{AC76BA86-1033-F400-7760-000000000005}
Adobe Reader 9.2	AC76BA86-7AD7-1033-7B44-A70500000002
Acrobat Professional 8.0	{AC76BA86-1033-0000-7760-000000000003}
Acrobat Standard 8.0	{AC76BA86-1033-0000-BA7E-000000000003}
Reader 8.0	{AC76BA86-7AD7-1033-7B44-A80000000002}
Acrobat Professional 7.0 retail edition	{AC76BA86-1033-0000-7760-000000000002}
Acrobat Professional 7.0 volume license edition	{AC76BA86-1033-0000-7760-100000000002}

Table 6 Example GUIDs

Product	GUID
Acrobat Standard 7.0 retail	{AC76BA86-1033-0000-BA7E-000000000002}
Acrobat Standard 7.0 volume license edition	{AC76BA86-1033-0000-BA7E-100000000002}
Acrobat 3D retail	{AC76BA86-1033-F400-7760--000003D0002}
Acrobat 3D volume license edition	{AC76BA86-1033-F400-7760-1000003D0002}
Reader 7.0	{AC76BA86-7AD7-1033-7B44-A70000000000}
Reader 7.0.5	{AC76BA86-7AD7-1033-7B44-A70500000002}
Acrobat 7.0.1 and Reader 7.0.1 Update	{AC76BA86-0000-7EC8-7489-000000000702}
Acrobat 7.0.2 and Reader 7.0.2 Update	{AC76BA86-0000-7EC8-7489-000000000703}
Acrobat 7.0.3 and Reader 7.0.3 Update	{AC76BA86-0000-7EC8-7489-000000000704}
Acrobat 7.0.5 and Reader 7.0.5 Update	Use the product ID 7.0 listed above
Adobe Acrobat 7.0.7 and Reader 7.0.7 update	{AC76BA86-1033-F400-7760-100000000002}
Adobe Acrobat 7.0.8 and Reader 7.0.8 update	{AC76BA86-1033-0000-7760-100000000002}

1.6.2 VersionMax and VersionMin (9.x earlier)

This method is deprecated and is not used for X products.

The installer creates keys during installation which identifies the product version. Administrators can use those keys to automatically query which version of the application is installed and therefore ensure patch status.

- **VersionMax**: Identifies the major version and any major dot release. For example, 9.3 would be 90003. Thus, VersionMax is a 4 digit representation of major version (first number before the dot) with an appended integer value indicating the major dot release, if any.

- **VersionMin**: Identifies the minor dot release which is appended to VersionMax, if any. For example, 9.3.0 would be 0 and 9.3.1 would be 1). Thus, VersionMin is the integer value of the number after the second dot.

> **Note:** VersionMin must be used in conjunction with the GUID to identify the minor-minor version of Acrobat.

VersionMax-Min location

These preferences reside in the following locations:

- **32 bit Windows**: HKEY_LOCAL_MACHINE\SOFTWARE\Adobe\{application}\{version}\Installer\

- **64 bit Windows**: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Adobe\{application}\{version}\Installer\

1.6.3 MSI API

For 10.x product versions, you can use the MSI API to determine the product version. To use the MSI API, use the `MsiEnumRelatedProducts()` and `MsiGetProductInfo()` as shown in Example 1.5. For more information about these APIs, see http://msdn.microsoft.com/en-us/library/aa370130(VS.85).aspx.

Example 1.5: Product version via MSI API

```
//UpgradeCode is a family of ProductCodes
//ProductCode property is what you need to get installed Product Info
void GetProductInfo()
{
    CString    sUpgrdCode = _T("{A6EADE66-0000-0000-484E-7E8A45000000}");//All
Reader installers (any version) have the same UpgradeCode

    //UpgradeCodes for Acrobat - these values do not change
    //APEX {AC76BA86-0000-0000-7761-7E8A45000000};
    //Pro  {AC76BA86-0000-0000-7760-7E8A45000000};
    //Std  {AC76BA86-0000-0000-BA7E-7E8A45000000};

    CString sProdCode;
    DWORD dw = ERROR_SUCCESS;
    for(int index = 0; dw == ERROR_SUCCESS; index++)
    {
        dw = MsiEnumRelatedProducts(sUpgrdCode, 0, index,
sProdCode.GetBuffer(MAX_PATH));
        sProdCode.ReleaseBuffer();

        if(dw == ERROR_SUCCESS)
        {
            UINT ret;
            TCHAR sVersionString[MAX_PATH] = {0}, sVerMajor[MAX_PATH] = {0};
            DWORD dwSize = 10;

            ret = MsiGetProductInfo(sProdCode, INSTALLPROPERTY_VERSIONMAJOR,
sVerMajor, &dwSize);
            //ret = MsiGetProductInfo(sProdCode, INSTALLPROPERTY_VERSIONSTRING,
sVersionString, &dwSize);
        }
    }
}
```

1.7 Trial Acrobat installations

> **Note:**   There is no trial version for Macintosh.

Windows Deployments

2 | The Command Line and msiexec

In addition to the Adobe properties described below, this document provides Windows installation syntax and examples that you can use to install Acrobat products. Adobe Acrobat and Adobe Reader installers and updates are developed using standard Windows Installer technology. Installation and patch-apply workflows such as chaining are typical to this technology and are fully supported.

> **Note:** Microsoft Installer (MSI) commands were not invented by Adobe. Adobe provides this information as a courtesy, but Adobe technical support can not help you craft a command line syntax to fit specific situations and environments.

Required MSI version

For 9.x and earlier: 3.0.

10.0 and later: 3.1

2.1 MSI best practices

- When installing over an existing product, remove the old product first in a separate action.
- When scripting MSI actions, do not use `RemoveExistingProducts` after `InstallFinalize`. Doing so results in the installer updating files before removing the old application, and in the event of application removal failure, the installation may be incomplete.
- Do not use `REINSTALLMODE=amus` which forces all files to be reinstalled regardless of checksum or version. Such usage could result in a mixture of files from the old and new products. The recommended properties are `vomus`.
- Use TARGETDIR on the command line or the AIP user interface to specify an install location other than C:\ when creating an AIP.

2.2 msiexec usage

Adobe has tested and supports the installation of Acrobat products using the command line. You can use command line methods to install software in many ways, such as typing commands at a command prompt, in a batch script (.bat file) or using Microsoft Systems Management Server (deprecated for 10.x).

> **Note:** When using the bootstrapper, command line parameters can be sent to msiexec from the Setup.ini using /msi. See Table 2.

2.2.1 msiexec: syntax

The syntax for msiexec is as follows:

- Windows Installer command-line options are not case-sensitive.

- **Brackets ([])**: Optional items
- **Braces ({})**; Set of choices separated by a | from which the user must choose only one. For example: {black|white}:

2.2.2 msiexec: switches and options

For Microsoft documentation, see http://msdn.microsoft.com/en-us/library/Aa367988.

Table 1 msiexec command line parameters

Command	Description
{ /?| /h}	Displays the Windows Installer version and copyright information.
/a	Applies the administrative installation option.
/f	For product repair. Enables one or more of the command-line options below: - p: Reinstalls only if file is missing. - o: Reinstalls if file is missing or if an older version is installed. - e: Reinstalls if file is missing or an equal or older version is installed. - d: Reinstalls if file is missing or a different version is installed. - c: Reinstalls if file is missing or the stored checksum does not match the calculated value. - a: Forces all files to be reinstalled. - u: Rewrite all required user-specific registry entries. - m: Rewrites all required computer-specific registry entries. - s: Overwrites all existing shortcuts. - v: Runs from source and re-caches the local package
/g	Identifies the language. Syntax: /g LanguageID
/i	Installs or configures a product.
/j	Advertises a product. If you want to install the application with elevated privileges, use /jm. Syntax msiexec /j [{u | m}] Package msiexec {u | m} Package /t TransformList msiexec {u | m} Package /g LanguageID - m: Advertises to all users of the computer. - u: Advertises to the current user.

Table 1 msiexec command line parameters

Command	Description
/L	Specifies the path to the log file. To include the v option in a log file using the wildcard flag, type /L*v at the command prompt. The Windows Installer log file options can also be used with the uninstall and repair processes. For example, use /L*v to set verbose logging. Syntax: msiexec /L [i][w][e][a][r][u][c][m][p][v][+][!]LogFile.txt • i: Logs status messages. • w: Logs nonfatal warnings. • e: Logs all error messages. • a: Logs startup of actions. • r: Logs action-specific records. • u: Logs user requests. • c: Logs initial user interface parameters. • m: Logs out-of-memory. • p: Logs terminal properties. • v: Logs verbose output. To use v, specify /L*v. • +: Appends to existing file. • !: Flushes each line to the log. • *: Logs all information except for the v option. This is a wildcard.
/p	Applies an update.
/q	Sets the user interface level. /qb+- is not a supported user interface level. The modal box is not displayed if the user cancels the installation. Syntax: msiexec /q{n | b | r | f | n+ | b+ | b-} • /qn: Displays no user interface. • /qb: Displays a basic user interface. • /qr: Displays a reduced user interface with a modal dialog box displayed at installation end. • /qf: Displays the full user interface with a modal dialog box displayed at the end. • /qn+: Displays no user interface, except for a modal dialog box displayed at the end. • /qb+: Displays a basic user interface with a modal dialog box displayed at the end. • /qb-: Displays a basic user interface with no modal dialog boxes.
/qb	Indicates the user interaction level for this installation.
/t	Applies transform to advertised package. Syntax: /t TransformList
/x	Uninstalls a product.
/y	Calls the system API DllRegisterServer to self-register modules passed on the command line.
/z	Calls the system API DllUnRegisterServer to unregister modules passed on the command line.
Package Code	Specifies the globally unique identifier of the Windows Installer package. For Acrobat products, this is the GUID. For details, see Identifying deployed applications.
Package	Not supported. Specifies the name of the Windows Installer package file

2.2.3 Setting installer properties

The installer contains a number of customer facing properties with default values that can be overridden by passing command line arguments to the installer. The property rules are as follows:

• Some properties may be preset in the installer tables; other have to be manually set.

• Public property arguments must be all uppercase characters, but can include underscores.

- Order of precedence from least to most controlling is as follows: Property table > Transform > command line. That is, command line run properties override any installer setting.

- Installer tables may vary by product type (Reader vs. Acrobat vs. Acrobat Standard, etc.) Table 5 uses Reader. Inspect the tables of the product you are installing to determine if a default is provided.

> **Note:** While it is possible to use the Customization Wizard's Direct Editor or 3rd party tool such as ORCA to modify the installer tables, Adobe strongly recommends that you do not do so unless you are knowledgeable about editing and troubleshooting installer tables. Improper use can result in the corruption of critical system files.

Figure 1 Direct editor in the Customization Wizard
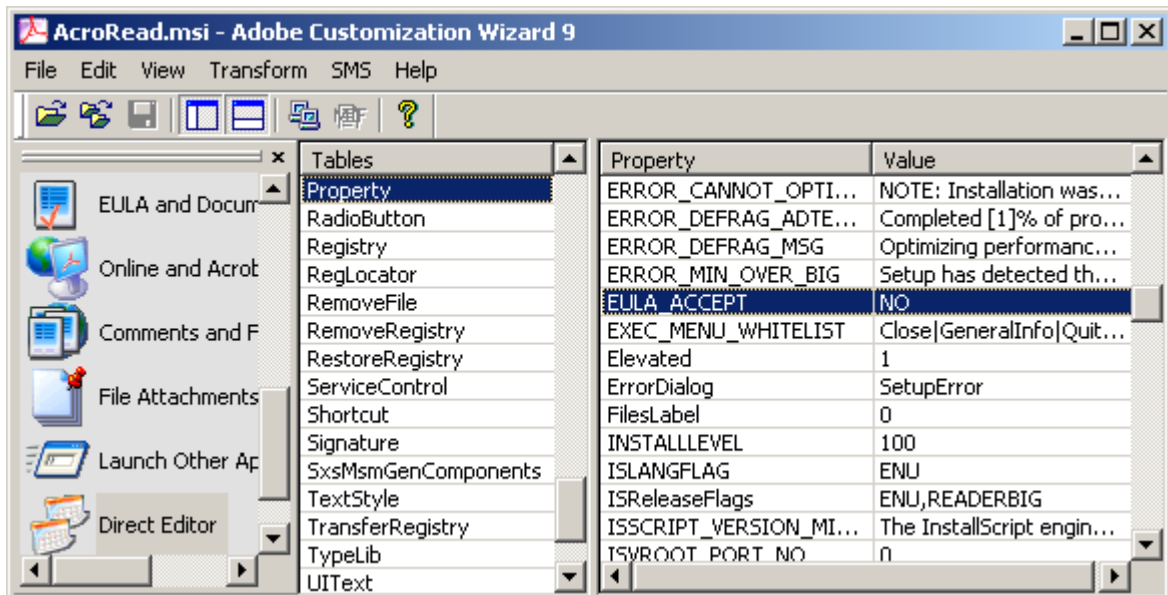
2.2.4 MSI properties

You can also use Windows Installer functions to set properties on the command line. For example, you can set a company name or suppress rebooting. Table 2 shows a few of the MSI properties defined by the Microsoft Windows Installer, but you should refer to Microsoft documentation at http://msdn.microsoft.com/en-us/library/aa370905(v=VS.85).aspx for a complete and current list.

MSI properties: unsupported

The following properties are unsupported:

- SHORTFILENAMES is no longer supported. Microsoft has removed this property from the Windows 7 Logo Requirements.

- ALLUSERS is not working properly in version 9.x.

> **Tip:** See also "Adobe installer properties" on page 36.

Table 2 MSI installer properties

Property	Description
ADDLOCAL	A list of comma delimited features to install locally. The features must be present in the Feature column of the Feature Table. To install all features locally, use ADDLOCAL=ALL on the command line rather than the Property Table to avoid creating an installed package that cannot be correctly removed.
ALLUSERS	Determines where configuration information is stored.
COMPANYNAME	The name of the company installing the product.
INSTALLDIR	Specifies a non-default installation directory.
INSTALLLEVEL	The property specifies an installation level threshold. A feature is installed only if the value in the Level field of the Feature table is less than or equal to the current INSTALLLEVEL value. 100 is the default install level.
REBOOT	Force or suppress rebooting.
REINSTALL	List of features to reinstall. Setting this property results in a required reboot for 9.x. For 10.x products, let the MSI engine decide what to reinstall; doing so should result in fewer reboots.
REINSTALLMODE	A string containing letters that specify the type of reinstallation to perform. Use of the `vomus` switches is the recommended configuration.
REMOVE	List of features to be removed.
TARGETDIR	Specifies the root destination directory for the installation. TARGETDIR must be the name of one root in the Directory table. There may be only a single root destination directory. During an administrative installation this property specifies the location to copy the installation package. Do not create an AIP at the root directory. Use the AIP UI or this property on the command line to install from a directory other than C:\, D:\, etc.
TRANSFORMS	Property that is used to specify what transform (.mst) files should be applied to the package. In some cases, this will be the MST you created via the Customization Wizard. Use with /i, not /p.
USERNAME	The username of the person performing the installation.

2.2.5 Troubleshooting msiexec

When using msiexec, if you receive an "Incorrect command line parameters" error message, verify that:

- Your syntax is correct.
- There is a space before the log file name if you use the syntax for writing a log file.
- You have not placed a /qn switch between the /i switch and the name of the MSI file.

> **Tip:**   For more information about msiexec options, refer to http://technet.microsoft.com/ en-us/library/cc759262(WS.10).aspx#BKMK_Install.

2.2.6 Command line examples

These examples demonstrate different ways to install Acrobat products using the command line. Keep in mind the following:

- The examples use specific products and versions. Modify the command line to suit your environment, changing paths and file names as appropriate.

- It is possible to apply patches during an initial installation.
- For multilingual installers, use the selected language transform in the command line (for example, 1036.mst for the French language).
- Transforms in the installer media directory do not require fully qualified paths in the command.
- Patches do require fully qualified paths.

> **Note:** As of July 2010, Reader update installers on the Reader Download Center for Tier 1 are chained by default. If you are downloading the product from the RDC rather than the FTP site, just download the latest file and you'll get all patches in one file.

2.2.6.1 Creating an administrative installation

To create an administrative installation for a customized installer, use /a and TRANSFORMS. For example, the following installs Acrobat Pro with an MST file created with the Customization Wizard:

```
msiexec /a AcroPro.msi TRANSFORMS="AcroPro.mst"
```

To create an administrative installation for a major release installer and a patch, use /a and /p. For example, the following installs Acrobat Pro 7 and the 7.0.5 patch:

```
msiexec /a AdbeRdr1000_lang_ID.msi /p AdbeRdrUpd1010_en_US.msp
```

> **Tip:** It's always a good idea to keep the files in the same directory and cd to that directory so that you can run the commands from there.

2.2.6.2 Installing from an MST

Updates and patch installers can be modified with MST files created via the Customization Wizard. Example 2.1 shows how to install an Acrobat product from an MST file. This example installs a customized version of Acrobat Professional, displays a basic user interface, and enables verbose logging.

Example 2.1: msiexec: Customized MST install
```
msiexec /i AcroPro.msi TRANSFORMS="AcroPro.mst" /qb /L*v c:\acrobat.log
```

2.2.6.3 Chaining updates

To install a quarterly update, provide the path to the base MSI and use PATCH to point the updates.

Example 2.3 shows how to install Reader 10.0 with the 10.1 update. Note that because 10.x products have cumulative installers, you do not need to install 10.0.1, 10.0.2, or 10.0.3.

Example 2.2: msiexec: Updating 10.x products
```
msiexec.exe /i "[UNC PATH]\AdbeRdr1000_lang_ID.msi" PATCH=
"[UNCPATH]\AdbeRdrUpd1010_en_US.msp" TRANSFORMS="1036.mst"
```

Example 2.3 shows how to install Adobe Acrobat 9 Pro EFG (French) with updates 9.1 and 9.1.2 as a single transaction in interactive mode. To run in silent mode, append /qn.

Example 2.3: msiexec: Quarterly update installs for 9.x
```
msiexec.exe /i "[UNC PATH]\AcroPro.msi" PATCH="[UNCPATH]\AcroProStdUpd910_T1T2_
incr.msp;[UNCPATH]\AcrobatUpd912_all_incr.msp" TRANSFORMS="1036.mst"
```

When applying multiple patches in a chain patch transaction, set the `REINSTALL` and `REINSTALLMODE` public properties as shown. For example, to run msiexec to apply updates 9.1, 9.1.2, and 9.1.3 as a chained patch transaction silently over a previously installed Acrobat 9 Pro.

Example 2.4: msiexec: Chained updates for 9.x with REINSTALLMODE

```
msiexec /p "[UNC PATH]\AcroProStdUpd910_T1T2_incr.msp;[UNCPATH]\AcrobatUpd912_
all_incr.msp;[UNC PATH]\AcrobatUpd913_all_incr.msp"REINSTALLMODE=vomus
REINSTALL=ALL /qn
```

Example 2.5: msiexec: Chained updates

```
msiexec.exe /i "[UNC PATH]\AcroPro.msi" PATCH="[UNCPATH]\AcroProStdUpd910_T1T2_
incr.msp;[UNCPATH]\AcrobatUpd912_all_incr.msp; [UNCPATH]\AcrobatUpd913_all_
incr.msp TRANSFORMS="1036.mst"
```

2.2.6.4 Installing a quarterly update and then an out of cycle patch (8.x-9.x)

To install the 9.1.1 update at the same time as 9.1, use the following command:

Example 2.6: Quarterly + patch installation

```
set MSINAME=AdobeReader
set MSIVER=9.1.0
start /w msiexec /i %WINDIR%\installer\%MSINAME%\%MSIVER%\AcroRead.msi
TRANSFORMS=%WINDIR%\installer\%MSINAME%\%MSIVER%\AcroRead.mst /update
WINDIR%\installer\%MSINAME%\%MSIVER%\AdbeRdrUpd911_all_incr.msp ALLUSERS=2
DISABLE_CACHE=1 DISABLE_BROWSER_INTEGRATION=YES SUPPRESS_APP_LAUNCH=YES REBOOT=
ReallySuppress /qn /Liv c:\temp\%MSINAME%.log
```

2.2.6.5 Updating and patching 10.x

10. x installers are cumulative to the last released MSI for Adobe Reader. Since 10.0 and 10.1are both MSIs, the following patch patterns are supported:

- Any version over 10.0:
    - 10.0 > 10.0.1
    - 10.0 > 10.0.2
    - 10.0 > 10.0.3
- Any version over 10.1:
    - 10.1.0 > 10.1.1

Since you don't need to install any intermediate updates other than one MSI and the latest installer, you need never run more than two installers. Thus, the following is possible:

```
msiexec.exe /i "[UNC PATH]\AdbeRdr1010_en_US.msi" PATCH="[UNCPATH]\AdbeRdr1011_en_
US.msp
```

2.2.6.6 Silent uninstalls

A silent removal runs without any dialog boxes to show the user that the removal is running. All products use the same command line and the same installer file for silent updates:

```
msiexec /x {[Package Name | Product Code]} /qn
```

Note: You must include the braces in the command line. An MSI package name (e.g. AcroRead.msi) can be substituted for the Product Code. For Acrobat products, the Product Code is the GUID. See Decoding product details via Windows GUID for details on how to set the GUID.

2.2.6.7 Removing browser integration for an already installed product

When Reader is already deployed and a subsequent deployment requires disabling Browser Integration, it is possible to uninstall the feature from the command line:

```
msiexec /i {AC76BA86-7AD7-1033-7B44-A91000000001} REMOVE=
ReaderBrowserIntegration /q
```

To re enable Browser Integration, use ADDLOCAL:

```
msiexec /i {AC76BA86-7AD7-1033-7B44-A91000000001} ADDLOCAL=
ReaderBrowserIntegration /q
```

2.2.6.8 Installing a trial version without a serial number

Sometimes it may be expedient to install a the product without a serial number. For example, when creating a disk image for general use but not everyone is supposed to an Acrobat license. You can do this by installing a trial version.

To do so, when installing the product prior to creating your image, do not pass a serial number via `ISX_SERIALNUMBER`. If a number is not passed, then a trial version of the product is automatically installed.

The `ISX_SERIALNUMBER` property is usually used in setup.ini, abcpy.ini, or on the command line. Simply make sure you are not using it.

2.3 Adobe installer properties

The properties in Table 5 can also be sent to msiexec to modify the installer. These are supported in Setup.ini and on the command line.

As shown by the right-hand column, some of the properties appear in the installer tables by default.

Table 3 Adobe-specific installer properties: for 10.x and later

Property	Description	In 9.x
DISABLE_ASIAN_FONTS	YES prevents the installation of Asian language components.	NO
DISABLE_BROWSER_ INTEGRATION	YES prevents the viewer from opening in a browser. Beneficial in Terminal Server environments. When a PDF file opens in a browser and the user browses to a different page, viewer components stay in memory until the browser is closed.	YES
DISABLE_CACHE	1 disables setup file caching. The opposite of ENABLE_CACHE_FILES.	NO
ENABLE_CACHE_FILES	1 enables setup file caching. Caching is the default. The opposite of DISABLE_ CACHE.	YES

Table 3 Adobe-specific installer properties: for 10.x and later

Property	Description	In 9.x
ENABLE_OPTIMIZATION	1 runs a disk defragmentation utility that will automatically cluster files on a portion of the destination drive during installation, thereby improving launch time and performance. Defragmentation requires available disk space on the destination drive and adds time to the installation.	YES
DISABLE_DISTILLER	YES prevents the installation of Distiller components.	NO
DISABLE_PDFMAKER	YES prevents the installation of PDFMaker.	NO
EULA_ACCEPT	YES prevents the EULA from appearing the first time the viewer is invoked.	YES
IGNORE_INTEROP_REQS	YES disables interoperability dialogs in the full UI mode and allows installation to continue in the reduced UI mode or completely silent mode.	NO
	"Interoperability" refers to supported installations where one product is installed over another. For example, Acrobat Standard cannot be installed on top 3D. There are 3 use cases: The installation must abort, the installation cannot continue without user action (usually uninstalling the previous product), and the installation can continue. This property turns off warning dialogs for installation failure for the first two cases, thereby causing the abort to happen silently.	
ISX_SERIALNUMBER	A retail or volume serial number that can be passed to facilitates silent installs. If a number is not passed, then a trial version of the product is automatically installed. This property can be used in setup.ini, abcpy.ini, and on the command line.	NO
IW_DEFAULT_VERB	**Make Reader the default PDF viewer**: For Reader only. Set IW_DEFAULT_VERB to `Read`. **Make Acrobat the default PDF viewer**: For Acrobat only. Set IW_DEFAULT_VERB to `Open`.	NO
LEAVE_PDFOWNERSHIP	New for 10.0	NO
	YES prevents the new installation from taking over PDF ownership. NO allows the new install to own opening PDFs.	
REMOVE_PREVIOUS	Removes an already installed product including both Acrobat and Reader. The default is YES.	NO
SYNCHRONIZER	READER ONLY. NO prevents installation of synchronizer.exe components which are used for collaborative commenting, reviews, forms sharing, and the download of trust anchors from Adobe for signature workflows	YES
DISABLE_ARM_SERVICE_ INSTALL	New for 10.1.	NO
	10.1 installs ARMsvc.exe as part of the Updater which enables silent and automatic updates on Windows 7 and Windows Vista machines. A value of 1 disables the ARM service on Windows.	

Table 4 Adobe-specific installer properties: deprecated with 10.0

Property	Description	In 9.x
DEFAULT_VERB	Replaced by IW_DEFAULT_VERB with 10.0	YES
	Sets the default PDF viewer. Serves as a condition for the installation of the several components related to the file extensions like PDF as well as browser integration.	
	For 9.x and earlier, the behavior is as follows:	
	• Reader set to READ (Default): Reader takes over pdf ownership. • Reader set to OPEN: Reader will not touch pdf ownership. • Acrobat set to READ: Acrobat will not touch pdf ownership. • Acrobat set to OPEN (default): Acrobat takes over pdf ownership.	
	Interacts with LEAVE_PDFOWNERSHIP.	
DISABLE_3D	YES prevents the installation of 3D components.	NO
DISABLE_ACCESSIBILITY	YES prevents the installation of Accessibility components.	NO
DISABLE_AIR_SHARE	AIR is not included with the Reader download.	NO
	YES prevents the installation of the AIR runtime.	
DISABLE_LINGUISTICS	YES prevents the installation of spelling components.	NO
DISABLE_MULTIMEDIA	YES prevents the installation of multimedia plugin components.	NO
DISABLE_SEARCH	YES prevents the installation of searching and indexing components.	NO

Table 5 Adobe-specific installer properties: deprecated with 9.0

Property	Description	In 9.x
DISABLE_CE_FONTS	YES prevents the installation of Central European fonts	NO
DISABLE_IMAGEVIEWER	YES disables the image viewer plugin	NO
SUPPRESS_APP_LAUNCH	YES disables and hides the "Launch" checkbox on final dialog.	YES

Administrative Installations (AIPs)

Administrative installations via administrative install points (AIPs) create an uncompressed source so the application can be installed from a network location. AIPs allow you to create a canonical set of pre-configured files in one location that can be distributed across your organization from one location.

An administrative installation does not create shortcuts, register COM servers, create an **Add or Remove Programs** entry, and so on. Updates and patches also often leverage administrative installations because they require uncompressed images of the installed product versions in order to compute file differences. These points also act as an archive of what you installed. Note that when an MSI is released for Reader, it is usually not accompanied by an MSP, so you should start over with a new AIP.

3.1 Best practices

The following recommendations will help you successfully deploy updates and patches:

- Verify that no one else is using the network share.
- Also adhere to the rules described in MSI best practices.
- Copy and archive your AIPs both for future use and troubleshooting.
- If you have a problem patching Administrative Install Points (AIP), apply patches one-at-a-time.
- Adhere to the required patching order described in Update rules and constraints. 10x updates are cumulative to the base release or last MSI. Thus, 10.0 > 10.1 is valid. 10.0 > 10.0.3 > 10.1 isn't.
- Do not create the AIP directly on the root drive (e.g. C:\). Use TARGETDIR on the command line or the AIP user interface to specify a different install location.
- If you have previously deployed using an AIP, then you **must** apply the successive patches using an AIP.
- Know when you can reuse AIPs and when you have to create a new one. For example, Acrobat 10.x quarterlies are cumulative and cannot be installed on top of each other. For Reader, reuse is ok until an MSI appears or when you need to apply a quarterly over a security update. This means that for Acrobat you can always reuse the AIP of the base release, and for Reader you can always reuse that AIP of the base release or the last MSI (whichever is the most recent).

3.2 AIP creation

Administrative installation Points (AIP) lay out the installer according to the directory table in the MSI database. One advantage of AIPs is that they can be patched directly, easing deployment and updating of packages already assigned to collections or groups. Because the Customization Wizard allows users

to customize which files are installed, you should verify that any files that were included with the transform are laid out properly in the AIP directory structure.

To create and update an AIP:

1. Download the requisite installer. You'll need to know the following:

   - Language and locale IDs.

   - Whether the installer is providing a quarterly update or a patch.

   - What is already installed on the target machines.

   - A license number if installing Acrobat.

2. Understand the Update rules and constraints and create the AIP accordingly:

   - For 8.x and 9.x, do not apply a quarterly updates to an AIP in which an out of cycle patch was the most recently applied update. To deploy a quarterly update from an AIP, create a new AIP. Attempting to update in an unsupported order results in a failure that serves to prevent the use of updates that Adobe does not recommend.

   - For Adobe Reader 8.x and 9.x, create a new AIP when the release provides only an MSI. The install uninstalls the existing product in this case.

   - For Acrobat 10.x, quarterly updates are cumulative to the base release and security patches are cumulative to the last quarterly.

   - For Adobe Reader 10.x, quarterly updates are cumulative to the latest MSI (e.g. 10.1 replaces the base release of 10.0) and security patches are cumulative to the last quarterly.

3. Backup the installer files (both the MSI and any needed MSP files) to a location where you will store the original downloads. For example, C:\Temp\Reader<version>\sources\.

4. Create a distribution point folder where machines can install the uncompressed program files (e.g. \\<server>\Reader\AIP<version>\). The network share must provide authenticated users and Domain Computers with read access. This example calls the path <AIP distribution point dir path>.

5. Copy the installer files you downloaded to <AIP distribution point dir path>.

6. Verify no one is using the share. If a file is in use, the new file version will not copied to the AIP.

7. Change directories to the AIP directory and run the commands from there.

8. At a command prompt, run:

   ```
   msiexec /a <AIP distribution point dir path>\<ProductName>.msi
   <AIP distribution point dir path>
   ```

9. Choose **Next** at the welcome dialog.

Figure 1 msiexec: Welcome screen
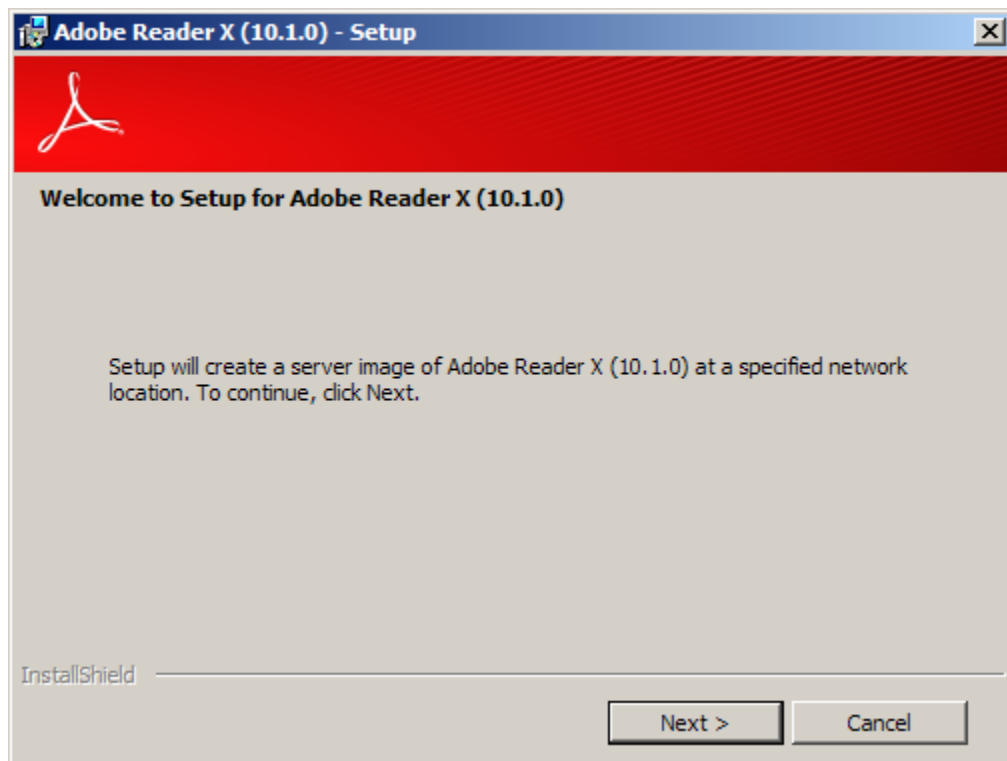
10. When prompted, specify a network location for the AIP.

Tip: Do not install the AIP at the root directory such as C:\ or D:\ as that often results in errors. You can use the AIP UI to specify a different location. Alternatively, when using the command line with the /qb or /qn switches, use the TARGETDIR property.

Figure 2 msiexec: Choose network location screen
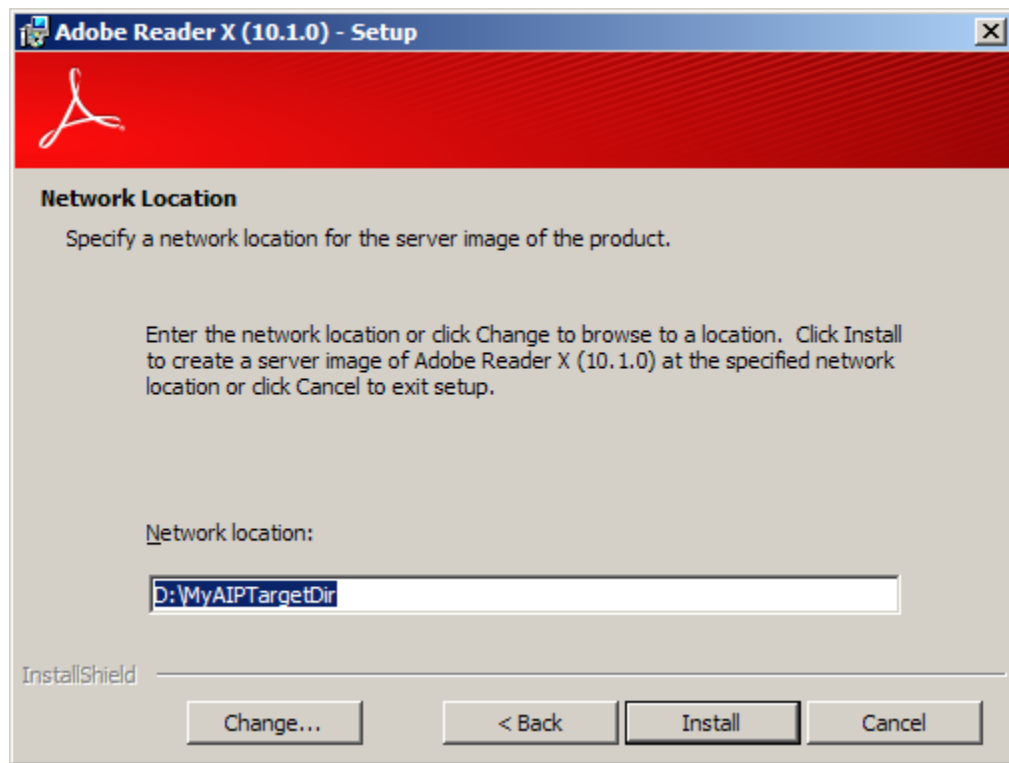
11. Choose **Install**.

12. Choose **Finish**. A server image of the expanded product is now available for distribution.

Figure 3 AIP expanded server image
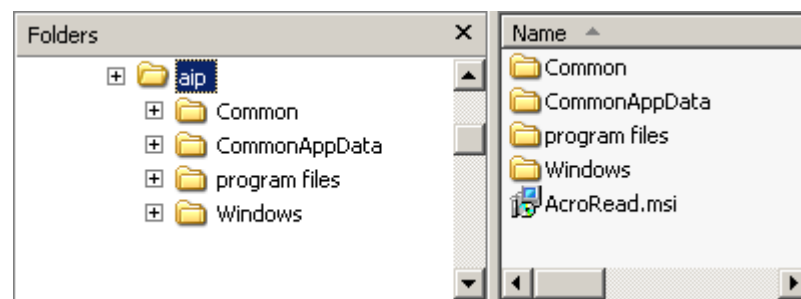
13. If there are patches, apply the patches to the install point. For example:

Example 3.1: 9.x patching on Windows

```
msiexec /a <AIP distribution point dir path>\<ProductName>.msi /p <AIP
distribution point dir path>\AdbeRdr910_en_US.msp
msiexec /a <AIP distribution point dir path>\<ProductName>.msi /p <AIP
distribution point dir path>\AdbeRdr912_en_US.msp
```

Example 3.2: 10.x patching on Windows

```
msiexec /a <AIP distribution point dir path>\<ProductName>.msi /p <AIP
distribution point dir path>\AdbeRdr1010_en_US.msi
```

```
msiexec /a <AIP distribution point dir path>\<ProductName>.msi /p <AIP
distribution point dir path>\AdbeRdrUpd1011.msp
```

14. **Optional**: If you wish to customize the MSI (disable and enable client features), create a transform (MST) file with the Customization Wizard. See Tuning with the Customization Wizard.

15. Apply the mst transform file to the expanded MSI in the AIP (note the use of the /i switch rather than /a or /p).

```
/i <AIP distribution point dir path>\<ProductName>.msi TRANSFORMS=<AIP
distribution point dir path>\<ProductName>.mst
```

16. Configure licensing if you have not already provided the license information in the Wizard when you created the MST. For details, see Acrobat deployments.

3.2.1 When the last update was an out of cycle patch (8-9.x only)

This information does not apply to 10.x products.

Unlike quarterly updates, Adobe recommends deploying out-of-cycle patches individually (not from an AIP). This is the most simple method for deploying these updates. Moreover, since a quarterly update cannot be applied to an AIP for which the last update was an out of cycle patch, create an AIP contains only quarterly updates.

When you can't create a new AIP and start over and the last update was an out of cycle patch, you can update user machines with the following:

```
msiexec /i <path of msi on AIP> REINSTALL=ALL REINSTALLMODE=vomus
```

The above command line updates user machines, not the AIP itself.

> **Tip:** When you patch an AIP image, the Windows Installer performs a re-cache and reinstallation of the original product version, thereby replacing the previously cached MSI file and overwriting any old files with the newer version. By installing complete files the administrative update can correctly replace any modified files on the server

3.3 AIP troubleshooting

Verify the following:

- You have complied with the Best practices.

- You have copied all files to the AIP directory and then have changed directories so that you are running the commands from the AIP directory.

- Do not install the AIP at the root directory such as C:\ or D:\ as that often results in errors. You can use the AIP UI to specify a different location. Alternatively, when using the command line with the /qb or /qn switches, use the TARGETDIR property.

- Your patch sequence is correct: 10.x installers are cumulative. For Reader, patch to the latest MSI. For Acrobat, any quarterly can be applied to the base release.

See also Chapter 17, "Troubleshooting and Support".

3.4 AIP Examples

3.4.1 AIP for Acrobat Pro 10.x.x patch

Creating an AIP for any version should not be more than two steps process except when there is also an out of cycle (security) patch.

1. Create AIP for Acrobat Pro 10.0:

   ```
   msiexec /a <Path to 10.0 AcroPro.msi> TARGETDIR="AIP_dir"
   ```

2. Patch with Acrobat 10.x.x patch

   ```
   msiexec /a <AIP_dir\AcroPro.msi> /p <Path to Acrobat 10.x.x patch>
   ```

3.4.2 AIP for Acrobat Std 10.x.x security patch

1. Create AIP for Acrobat Std 10.0

   ```
   msiexec /a <Path to 10.0 AcroStd.msi> TARGETDIR="AIP_dir"
   ```

2. Create the AIP for the previous quarterly patch

   ```
   msiexec /a <AIP_dir\AcroStd.msi> /p <Path to Acrobat 10.x.x patch>
   ```

3. Create the AIP for the security patch

   ```
   msiexec /a <AIP_dir\AcroStd.msi> /p <Path to Acrobat 10.x.y patch>
   ```

3.4.3 AIP for Reader quarterly patch

For Reader create an AIP from the latest available MSI. As of September 13, 2011, your AIP should start with 10.1 rather than the 10.0 MSI.

1. Create AIP for Reader 10.1

   ```
   msiexec /a <Path to 10.1 MSI> TARGETDIR="AIP_dir"
   ```

2. Create the AIP for the current quarterly patch

   ```
   msiexec /a <AIP_dir\AcroRead.msi> /p <Path to Reader 10.1.1 patch>
   ```

Bootstrapper Installations

4.1 What is the Bootstrapper?

Any setup.exe or any other executable that installs updates and launches the MSI installer is a bootstrapper. The Acrobat-Reader bootstrapper is provided as part of the Reader bundle on the CD and the web download. It is also provided for some releases on the FTP download site. It provides a streamlined way to chain installs without the need for administrative install points. The bootstrapper provides the following benefits:

- Detects whether the required Windows Installer (MSI) is available and installs it if it isn't.
- Detects whether the product is already installed and only proceeds if it does not exist on the target machine.
- Provides binary installations where the entire installer is supplied and run by each machine.
- Provides a simple way to chain updates in the required order by simply adding the msp to the installer folder and modifying Setup.ini to apply that patch.
- It is not subject to the patch constraint that limits an AIP from installing a quarterly update over a out of cycle patch. Thus, installs can always have the latest update without starting over.

   Note: Beginning with 9.3.3, Reader downloads on the Reader Download Center where the second number is incremented (e.g. are delivered with a bootstrapper that automatically detects, chains, and installs patches and updates in the correct sequence. Also, the product known as "Bootstrapper Big" used for Acrobat 3D 9.x is now deprecated. If you need information about this product, contact technical support.

4.2 Best practices

- Back up your original download. Do not modify the original download.
- Use the Customization Wizard to create an MST for customizations and Setup.ini file. Save the MST.
- Check Setup.ini prior to running Setup.exe. Make additional modifications as needed.
- Do not use the bootstrapper if you are already using administrative install points.

4.3 Bootstrapper usage

Common bootstrapper workflows can include any of the following:

- Manually configuring Setup.ini and running and the bootstrapper.
- Modifying the installer and/or installed product via Setup.ini or the command line.

- Using the Customization Wizard to modify product features set by the UI, registry, and files.

  > **Tip:**   Using Setup.ini and batch files allows you to keep a record of modifications for future troubleshooting. Always archive your original download and modify a copy rather than the original.

Modifying the installer with the Customization Wizard

1. Create a folder to store the original installation files and the MSP update files to apply. For pre 9.3.3 versions, download the needed base install and requisite patches from http://www.adobe.com/support/downloads/product.jsp?product=1&platform=Windows.

2. Open the Customization Wizard.

3. Modify the product install and other options.

4. Generate a new Transform file (.mst).

5. After the Wizard has created a new MST file and modified the Setup.ini file, open Setup.ini and verify it has all the options you need.

6. Make any additional modifications to Setup.ini and/or to the command line in a batch file.

   > **Note:**   Command line parameters can be sent to msiexec from the Setup.ini using /msi. See The Command Line and msiexec.

7. Run setup.exe to start the installation.

Chained install example

1. Create a folder to store the original installation files and the MSP update files to apply.

2. Download the needed base install and requisite patches.

3. Add the following line to setup.ini file, under the [Product] section:

   - **Acrobat 9.x**: [Product]PATCH=AcroProStdUpd910_T1T2_incr.msp;AcrobatUpd912_all_incr.msp;AcrobatUpd913_all_incr.msp

   - **Acrobat 10.x**: [Product]PATCH=AcrobatUpd1011.msp

     > **Note:**   It is not necessary to use path statements or quotes.

4. Make any additional modifications to Setup.ini and/or to the command line in a batch file.

   > **Note:**   Command line parameters can be sent to msiexec from the Setup.ini using /msi. See The Command Line and msiexec.

5. Run setup.exe to start the installation.

4.3.1 Bootstrapper configuration

The bootstrapper uses Setup.ini as a configuration file. Administrators typically modify this file via the Customization Wizard, manually, or both as needed.

Tip: The setup.ini files are not up to date. Either ignore the "RequireX" properties and change them to something reasonable. 10.x requires MSI 3.1. However, wrong values here will probably not result in installation failure.

Example 4.1: Setup.ini: Default for 10.x mui Reader

```
[Startup]
RequireOS=Windows 2000
RequireMSI=3.0
RequireIE=6.0.2600.0

[Product]
msi=AcroRead.msi
PATCH=AdbeRdrUpd1010_MUI.msp
Languages=1033;1031;1036;1041;1034;1040;1043;1046;1053;1030;1035;1044;2052;1028;
1042;1069;1027;1050;1029;1038;1045;1048;1049;1051;1060;1055;1058
1033=English (United States)
1031=German (Germany)
1036=French (France)
1041=Japanese
1034=Spanish (Traditional Sort)
1040=Italian (Italy)
1043=Dutch (Netherlands)
1046=Portuguese (Brazil)
1053=Swedish
1030=Danish
1035=Finnish
1044=Norwegian (Bokmal)
2052=Chinese Simplified
1028=Chinese Traditional
1042=Korean
1069=Basque
1027=Catalan
1050=Croatian
1029=Czech
1038=Hungarian
1045=Polish
1048=Romanian
1049=Russian
1051=Slovak
1060=Slovenian
1055=Turkish
1058=Ukrainian

[Windows 2000]
PlatformID=2
MajorVersion=5
ServicePackMajor=4

[MSI Updater]
Path=http://ardownload.adobe.com/pub/adobe/reader/win/8.x/8.0/misc/
WindowsInstaller-KB893803-v2-x86.exe
```

Example 4.2: Setup.ini: Default for 9.x Reader

```
[Startup]
RequireOS=Windows 2000
RequireMSI=3.0
RequireIE=6.0.2600.0
```

```
[Product]
msi=AcroRead.msi

[Windows 2000]
PlatformID=2
MajorVersion=5
ServicePackMajor=4

[MSI Updater]
Path=http://ardownload.adobe.com/pub/adobe/reader/win/8.x/8.0/misc/
WindowsInstaller-KB893803-v2-x86.exe
```

Table 1 Bootstrapper configuration sections

Section	Parameter	Description
Startup		
	RequireMSI	The minimum version of MSI service that requires. 9.x requires 3.0. 10.x requires 3.1.
	RequireIE	The minimum version of Internet Explorer that requires.
	RequireOS	A semicolon-separated list of operation systems. You need only specify the minimum required OS(s). Each OS name from the list must have corresponding INI section with OS specification. While there is no restriction on the string name, these names are used in any error messages. Therefore, real names are more user friendly.
[OS name]		A list of required OS names which matches those in RequireOS. The key values are always numbers. The default is 0 if any key or value is missing except that there is no default value for Architecture.
		It is possible to add recognition of the other operating systems such as Server/Client/Workstation and Professional/Home/Web/Enterprise editions.
	PlatformID	Identifies the OS. See Table 2.
	MajorVersion	Identifies the OS. See Table 2.
	MinorVersion	Identifies the OS. See Table 2.
		The keys below identify the service pack. Use CSDVersion to identify any OS prior of NT4-service pack 6, and use ServicePackMajor-ServicePackMinor for OS NT4-service pack 6 and higher. CSDVersion and ServicePackMajor-ServicePackMinor are mutually exclusive.
	CSDVersion	Use CSDVersion to identify any OS prior of NT4-Servise Pack 6.
		CSDVersion and pair of ServicePackMajor-ServicePackMinor are mutually exclusive. If you specify CSDVersion, then ServicePackMajor-ServicePackMinor are ignored. Use ServicePackMajor-ServicePackMinor for OS NT4-Service Pack 6 and higher.
	ServicePackMajor	Identifies the major service pack. See also CSDVersion.
	ServicePackMinor	Identifies the minor service pack. See also CSDVersion.

Table 1 Bootstrapper configuration sections

Section	Parameter	Description
	Architecture	If specified, the value must match:
		• 0: PROCESSOR_ARCHITECTURE_INTEL
		• 1: PROCESSOR_ARCHITECTURE_MIPS
		• 2: PROCESSOR_ARCHITECTURE_ALPHA
		• 3: PROCESSOR_ARCHITECTURE_PPC
		• 4: PROCESSOR_ARCHITECTURE_SHX
		• 5: PROCESSOR_ARCHITECTURE_ARM
		• 6: PROCESSOR_ARCHITECTURE_IA64
		• 7: PROCESSOR_ARCHITECTURE_ALPHA64
		• 8: PROCESSOR_ARCHITECTURE_MSIL
		• 9: PROCESSOR_ARCHITECTURE_AMD64
		• 10: PROCESSOR_ARCHITECTURE_IA32_ON_WIN64
[Product]		Product Section
	msi	Name of the msi file to sub-launch.
	CmdLine	Any msiexec command. See msiexec: switches and options and Bootstrapper configuration. Note if [Startup]-CmdLine contains /msi, [Product]-CmdLine is ignored.
	Languages	For multilingual installers only, a semicolon-separated list of languages in LANG_ID format.
	PATCH	Full or relative path to the msp file to apply with MSI sub-launch. **Do not use quotes.**
	LANG_ID	Language Description key, one for each language. See "Locale and language codes" on page 13.
[MSI Updater]		The bootstrapper can download and install the required MSI version if needed. Adobe provides the default data. See RequireMSI.
	Path	The absolute or relative path to the required MSI updater file starting with starting from http:// or ftp://. When a fully-qualified URL path os specified, the bootstrapper downloads the new Microsoft Installer first.
	Timeout	The time in minutes after which if downloading is not complete it will be aborted. The default is 15 minutes.

Table 2 OS identification for bootstrapper

PlatformID	MajorVersion	MinorVersion	OS Name
0	-	-	Win32s on Windows 3.1
1	4	0	Windows 95
		10	Windows 98
		90	Windows ME
2		0	Windows NT 4.0
		0	Windows 2000
		1	Windows XP
		2	Windows Server 2003
2	6	0	Windows Vista

4.3.2 Bootstrapper command line switches

Arguments can be passed to the Setup.exe bootstrap installer to control its operation (Table 3). The general form of the command is:

```
<path to>\Setup.exe [<switches>...]
```

> **Tip:** All parameters are case insensitive. There is no parameter merging; if any parameter passed as app argument all parameters from INI file will be ignored.

Table 3 Switches for the Setup.exe bootstrap installer

Switch	Description
/sAll	Run installer in silent mode.
/sPB	Silent mode with minimum UI: show the progress bar only.
/rs	Reboot Suppress. Setup.exe will not initiate reboot even if it is required.
/rps	Reboot Prompt Suppress. If reboot is required, the system restarts without warning.
/ini "PATH"	Relative or absolute path to an alternative (different) Bootstrapper INI file. The CmdLine of alternative INI will be ignored.
/l	Enable Error Logging. Log file Bootstrap.log will be generated in a temp directory.
/sl "LANG_ID"	Set Language, where LANG_ID is the decimal code of the destination installation language. Use it only for the multilingual installer, and make sure that the corresponding language transform file exist in the setup directory. If /sl "LANG_ID" is not set and you are running the multilingual installer interactively (not silently), 'Choose Setup Language' dialog will be displayed.
/msi[Command line]	Identifies the portion of CmdLine for additional MSIEXEC command line parameters. Everything following /msi is passed to MSIEXEC without analyzing and without any changes.

4.3.3 Setup.ini examples

Example 4.3 uses Acrobat 9 Pro for languages English, French and German. Except for the PATCH= line and the addition of the ADDLOCAL=ALL property, the changes were written to the file by the Adobe Customization Wizard.

Example 4.3: Setup.ini: chained install

```
[Startup]
RequireOS=Windows XP
RequireMSI=3.0
RequireIE=6.0.2600.0
CmdLine=/sl"1033" /sPB

[Product]
msi=AcroPro.msi
Languages=1033;1031;1036
1033=English (United States)
1031=German (Germany)
1036=French (France)
CmdLine=TRANSFORMS="AcroPro.mst" ADDLOCAL=ALL
PATCH=AcroProStdUpd910_T1T2_incr.msp;AcrobatUpd912_all_incr.msp;
AcrobatUpd913_all_incr.msp

[Windows XP]
```

```
PlatformID=2
MajorVersion=5
MinorVersion=1
ServicePackMajor=2

[Windows XP]
PlatformID=2
MajorVersion=5
MinorVersion=1
ServicePackMajor=2

[MSI Updater]
Path=WindowsInstaller-KB893803-v2-x86.exe
```

Example 4.4: Windows NT with different service packs

```
RequireOS=Windows NT
RequireMSI=3.0
RequireIE=6.0

[Windows NT]
PlatformID=2
MajorVersion=4
CSDVersion=5

[Windows NT]
PlatformID=2
MajorVersion=4
ServicePackMajor=6
```

Example 4.5: AcroPro7 EFG –Tuned for silent, transformed, German destination

```
[Startup]
CmdLine=/sAll /sl "1031"
RequireOS=Windows 2000

[Product]
CmdLine=TRANSFORMS="AcroPro.mst"
msi=AcroPro.msi
Languages=1033;1031;1036
1033=English (United States)
1031=German (Germany)
1036=French (France)

[Windows 2000]
PlatformID=2
MajorVersion=5
ServicePackMajor=2
```

4.3.4 Language based installer behavior

During installation, both the bootstrapper and the Select Language dialog behavior is determined by two items: the specified Lang_ID key in the setup.ini file and the existence of the language package in the file to be installed. There are three possible scenarios:

- When the OS user default locale matches one of the package languages:
    - The language dialog is invoked with strings in the OS locale language.

- Language descriptions in the drop-down list are populated with OS locale strings from system registry. If this fails, then the drop-down list populates with the string from the INI Language Description keys.

- The OS locale Language is pre-selected in the drop-down list.

- When the OS user default locale is one of the 15 supported languages but doesn't match any of the package languages:

  - The dialog labels appear in OS locale language.

  - Language descriptions in the drop-down list are populated with OS locale strings from the system registry. If this fails, then the drop-down list populates with the string from the INI Language Description keys.

  - The Package Default Language value of 'ProductLanguage' from the installer Property table is pre-selected in the drop-down list.

- When the OS user default locale doesn't match any of the 15 supported languages:

  - The dialog labels appear in the Package Default Language locale.

  - The drop-down list populates with string from INI Language Description Keys.

  - The Package Default Language is pre-selected in the drop-down list.

SCCM-SCUP Deployments

10.x products introduce support for SCCM deployments and SCUP. The SCUP catalogs can be found at http://www.adobe.com/go/acrobatitinfo.

System Center Updates Publisher (SCUP) is a stand-alone tool that is used in conjunction with Microsoft's System Center *Configuration Manager* (CM hereafter) to allow administrators to more accurately and efficiently install and update software. Together, CM and SCUP are Microsoft's latest change and configuration management solution that replaces older methodologies such as SMS and GPO. Unlike these older technologies, CM provides features such as metering, asset intelligence, and improved remote client administration. For example, CM users can easily determine what products versions are installed including all dot and double dot patches without having to write a complicated query.

This documentation is for administrators who are already familiar with managing networked environments via CM; it is not intended to replace the CM documentation.

Figure 1 CM: Update ready for distribution
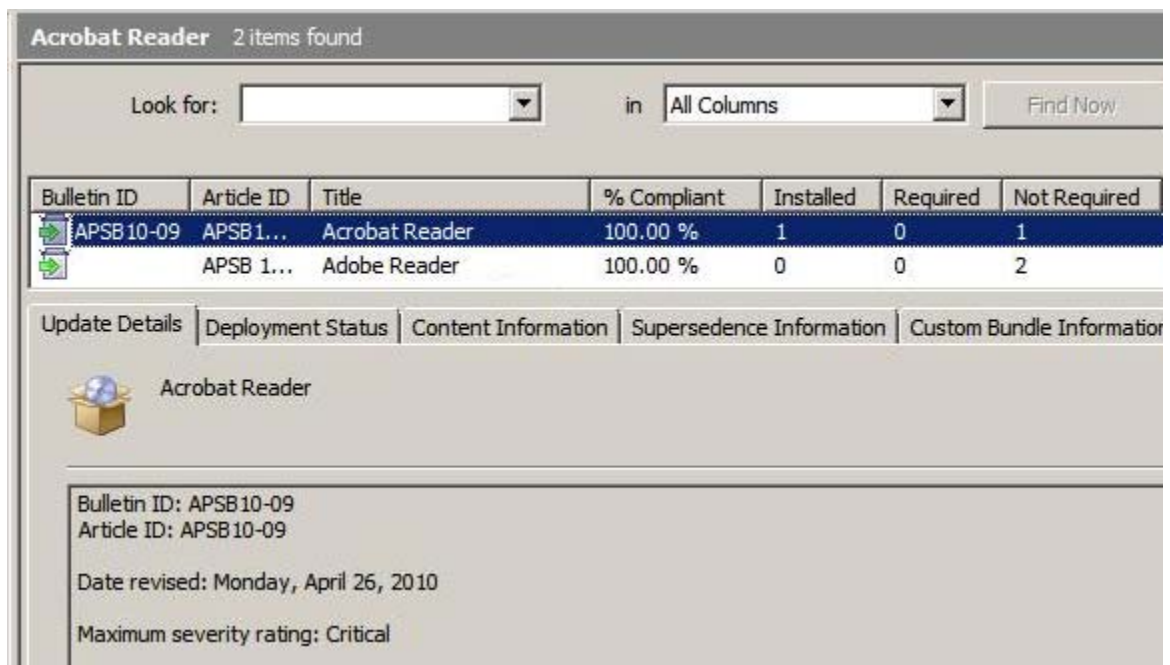
System requirements

The SCUP catalog for Acrobat products requires SCUP 4.5. All other requirements are defined by the Microsoft System Center Configuration Manager 2007.

> **Note:** Table 1 lists the base software used in Adobe's lab environment. Administrators should refer to Microsoft's documentation for information on installing and configuring these

requisite components. Every enterprise environment will be unique, and many configurations are possible.

Table 1 Required software

Software	Notes
Operating System	WIndows Server 2008. Admins should follow the Microsoft documentation and use whatever is appropriate for their environment.
Internet Information Services (IIS)	7.0 or later versions
.NET Framework 3.5	3.5 or later versions
WebDAV 7.5	The Background Intelligent Transfer Service (BITS)-enabled distribution point role requires BITS server extensions and WebDAV extensions.
Database	Microsoft SQL Server 2008
Microsoft Management Console 3.0 (MMC)	Framework that unifies and simplifies day-to-day system management tasks.
Microsoft Report Viewer Redistributable 2008	
Windows Server 2008	CM R2 requires WSUS 3.0 SP2. Do not install WSUS 3.0 SP1 on Windows Server 2008 R2.
Active Directory 2008	Defines computers the CM controls. Site servers may need to be a member of an Active Directory domain depending on the network architecture.
Windows Server Update Services 3.0 (WSUS)	Distributes the updates. Only the administrator console component is required, and it must be installed prior to SCUP,
SCUP 4.50.1103 (System Center Updates Publisher)	Publishes updates to WSUS. The Acrobat catalog requires version 4.50.1103.
System Center Configuration Manager 2007 SP2 (CM)	Configuration Manager 2007 R2 is not a full product version and requires that SP1 or SP2 already be installed before running Configuration Manager 2007 R2 Setup.

5.1 SCCM-SCUP basics

Tip: SCCM users should note that SCUP catalogs can't deliver anything but a generic installer. Because enterprises use different configurations, there is no way for Adobe to provide installers tailored to individual organizations. However, MSPs do not change existing settings, and MSI deployments always involve using an MST to migrate settings.

5.1.1 File location and types

SCUP files are hosted on a public server for manual or scripted download as needed. For example, files will reside at http://armmf.adobe.com/arm-manifests/win/SCUP/. There are two types of files:

- **cab**: cab files such as Acrobat10_Catalog.cab are the actual catalog.

- **xml**: xml files such as Acrobat10_Catalog.xml are a hash that can be compared to the cab file to verify its authenticity.

5.1.2 Best practices

- Update validation before deployment. Verify patch installation on the intended target for a manual install first (outside SCCM context).

- Don't test deployments during SCCM server changes

- Be patient: While operations appear to return UI control back to the user immediately (i.e. Run Synchronization), some operations are batch processes that run in the background and take some time to complete.

- Always **Run Synchronization** after integrating a SCUP catalog. Doing so ensures the WSUS and Configuration Manager Console gets synchronized.

- Refresh often: Often once a task completes, updates may not appear in the various UI components and you may not see changes take affect. Always refresh using the **Refresh** link or context sensitive menu item.

- Consider whether or not you should mark an expiration time (deadline) for publication. Once an update has expired, it will no longer be offered by the SCCM client. If you accidentally choose the wrong date or use the wrong UTC date setting, updates won't be issued in the managed client.

- Define boundaries for the managed environment.

- Ensure all your managed clients are hosted within the desired domain, and that clients that should not be managed similarly are outside of that domain. For example, you could have an Active Directory Server define the managed domain; anything outside that domain will not be managed by my SCCM server.

- Do not delete SCUP catalog components. Deleting the catalog component in SCUP simply deletes the SCUP reference to the package component (i.e. Reader English 9.3.3). Always expire a no longer used component to ensure its synchronized with the WSUS server and Configuration Manager Console before deletion. Otherwise, dangling pointers will prevent you from expiring the actual WSUS package component without some serious hacks.

- Do not use prerequisite rules in catalog.

- Consider not using Supersedence as SCUP 4.5 does not support Supersedence properly.

5.2 Catalog import

There is one catalog for Reader and one for Acrobat. The file names are static, so scripted downloads should be relatively straightforward.

> **Note:** It may also be useful to understand the differences between quarterly updates, out of cycle patches, and the possible file types. While SCUP catalogs provide a way to automate installs, you should understand what gets installed and why. For example, Acrobat updating always involves installing every MSP update in order. Reader updates may involve quarterly MSI files that don't require installing previous updates.

To import the SCUP catalog:

1. Download the catalog for your product.

2. In the SCUP Console, choose **Actions > Import Updates**.

3. Choose **Single Catalog** Import.

4. Choose **Next**.

5. Browse to the downloaded catalog.

6. Click **Accept Adobe as a Trusted Publisher** and then click **OK**.

After import, the a summary screen displays information about the current updates. You are now ready to deploy updates using the CM-defined workflow.

Figure 2 SCUP: Imported update catalog

Group Policy Object-Active Directory Deployments

The Windows Server Group Policy Objects (GPO) and the Active Directory services infrastructure enables IT administrators to automate one-to-many management of users and computers. Administrators can implement security settings, enforce IT policies, and distribute software across a given site, domain, or range of organizational units (OU). With the software installation extension of GPO, you can provide on-demand software installation and automatic repair of applications.

When the Customization Wizard is not used for pre-deployment configuration, GPO templates can be used to propagate the requisite configurations across your organization. The Group Policy settings that you create are contained in a GPO. To create a GPO, use the Group Policy Management Console (GPMC), which is available for download from the Microsoft website at http://www.microsoft.com/downloads/details.aspx?FamilyID=0A6D4C24-8CBD-4B35-9272-DD3CBFC81887&displaylang=en.

6.1 Tested environments

The procedures in this document were tested in the following environments:

- Acrobat 9.x:
    - Client computers running Windows 2000 Professional Service Pack 4 (Adobe Reader only), Windows XP Professional Service Pack 2 and later, and Windows Vista 32-bit and 64-bit.
    - Server computers running Windows Server 2003 Enterprise Edition.
- Acrobat 10.x:
    - Client computers running on OS versions defined by the publish system requirements.
    - Server computers running Windows Server 2008 Enterprise Edition.

6.2 Deployment using Group Policy Objects

This section describes how to install Acrobat products using GPOs. The general steps are as follows:

1. Perform an administrative installation as described in Administrative Installations (AIPs). Any installer tuning for pre-deployment configuration should occur at this time.

2. Start the Group Policy Management Console and create a GPO for the Acrobat application.

3. Edit the GPO to create a package for the Acrobat application, and then assign the package to a computer.

4. Set the package properties as needed.

5. Link the GPO to the assigned computer.

   After you have created and edited the GPO and linked it to a computer, the software is deployed by using the assigned deployment method.

Use the procedures in the following sections to perform the general steps listed above. For procedures involving transforms that you can deploy using GPO and Active Directory, use the Customization Wizard to create the transforms.

6.3 GPO deployments

All GPO-based deployment is managed using the Group Policy Management Console.

To start the Group Policy Management Console:

1. Log on as a Domain Administrator.

2. Open the Group Policy Management Console.

6.3.1 Assign the application to a computer:

1. Right-click **Group Policy Objects**.

2. Choose **New**.

3. In the New GPO dialog box, enter a descriptive name for the new policy.

4. Choose **OK**.

5. In the left-hand panel, expand **Group Policy Objects**.

6. Highlight the new policy name you just created.

7. On the Scope tab, choose **Add** in the Security Filtering section.

8. Choose **Object Types** in the Select User, Computer, or Group dialog box.

9. Choose **Computers** in the Object Types dialog box,

10. Choose **OK**.

11. Check the **Enter the object name to select text** check box in the Select User, Computer, or Group dialog box.

12. Enter the name of the computer to which you want to deploy the software. (To browse available computer names, choose **Advanced > Find Now**.)

    Note: Repeat this step for all computer names to which you want to deploy software.

13. Choose **OK** to close the Select User, Computer, or Group dialog box.

14. In the console's left panel, right-click the policy name that you initially created.

15. Choose **Edit**.

16. Expand **Computer Configuration** in the left panel n the Group Policy dialog box.

17. Expand **Software Settings**.

18. Right-click **Software installation**.

19. Choose **New > Package**.

20. In the Open dialog box, browse to the AIP you created.

21. Select the MSI file containing the installer you want to deploy.

22. Choose **Open**.

23. In the Deploy Software dialog box, do one of the following:

    - If you do not plan to apply transforms, select **Assigned > OK**.

    - If you plan to apply transforms during installation, select **Advanced > OK**.

24. In the Properties dialog box for the package you created:

    1. Choose the Deployment tab.

    2. Select Uninstall this application when it falls out of the scope of management.

    3. If you plan to deploy in multiple languages, choose **Advanced**. In the Advanced Deployment Options dialog box, choose Ignore language when deploying this package, and then choose **OK**.

    4. On the Modifications tab, specify any modification transforms you want to apply when the package is installed by choosing **Add** and then opening each transform from its network location.

    5. On the Security tab, verify the name(s) of any computer(s) to which you are assigning software.

25. Choose **OK** to close the Properties dialog box.

26. In the Group Policy dialog box, expand **Computer Configuration > Administrative Templates > Windows Components**.

27. In the Windows Components folder, select **Windows Installer**.

28. Select **Always install with elevated privileges**.

29. Select **Properties**.

30. In the Always install with elevated privileges Properties dialog box, choose the **Setting tab > Enabled > OK**.

31. Configure logging:

    1. In the Windows Installer panel of the Group Policy dialog box, right-click **Logging**, and then select **Properties**.

2. Choose **Enabled** on the Setting tab.

3. Enter `iweaprcv` in the **Logging** text box.

4. Choose **OK**.

32. In the Group Policy dialog box, choose **File > Exit**.

33. In the Group Policy Management Console, expand **Forests and Domains**.

34. Right-click the Acrobat OU to which you want to link the GPO that you created earlier in this procedure, and then select **Link an Existing GPO**.

35. In the Select **GPO dialog box > Group Policy objects list > the GPO you created > OK**.

> **Note:**   The GPO must be propagated to the Active Directory Global Catalog and then to the individual computers. For this reason, allow 5-10 minutes before restarting the computers to which you are assigning the Acrobat software, or plan to restart the client computers twice before the system policies are synchronized.

36. Perform the tests as described in Appendix 16, "Basic Acceptance Tests".

6.4 Removing products using Group Policy Objects

Removing Acrobat products by using GPOs requires unlinking the Active Directory OU from the GPO currently enabling the software to run.

To remove Acrobat products that are assigned to a computer, unlink the GPO from the OU, or remove the computer from the OU and GPO. The software will be removed the next time the computer restarts.

6.5 Creating GPO Templates

You can create GPO templates that will enable configuration of almost any feature. The process is as follows:

1. Create templates that conform to the Microsoft format. For more information, see:
    *   http://oreilly.com/catalog/winsyspe/chapter/ch08.html
    *   http://technet.microsoft.com/en-us/library/cc780425%28WS.10%29.aspx

2. Populate the template fields with information from the Preference Reference.

Example 6.1: GPO template: for Accessibility

```
CLASS USER
   CATEGORY "Accessibility"

    POLICY "bOverridePageLayout"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Access"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bOverridePageLayout"
     EXPLAIN "Toggles the ability of the application to override the page layout
embedded in the PDF."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bOverrideZoom"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Access"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bOverrideZoom"
     EXPLAIN "Enables the zoom setting drop down list so that the user can
specify a default zoom setting for all documents."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bOverrideLineArtColors"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Access"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bOverrideLineArtColors"
     EXPLAIN "Limits color changes to black text and line art when
iAccessColorPolicy is enabled and a replacement color has been specified."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bUseStructTabOrder"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Access"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bUseStructTabOrder"
     EXPLAIN "Specifies whether to use the PDF document structure for
determining the tab order. "
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bShowKeyboardSelectionCursor"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Access"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bShowKeyboardSelectionCursor"
     EXPLAIN "Specifies whether the keyboard selection cursor should always be
active in the document."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bUseSystemSelectionColor"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Access"
```

```
        VALUEON NUMERIC 0
        VALUEOFF NUMERIC 1
        VALUENAME "bUseSystemSelectionColor"
       EXPLAIN "Specifies whether the default selection color (blue) is overridden
    with a color that the system specifies."
        SUPPORTED "Adobe Reader 9.0"
      END POLICY

      POLICY "bUseDetailsNavigator"
       KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Access"
       VALUEON NUMERIC 0
       VALUEOFF NUMERIC 1
       VALUENAME "bUseDetailsNavigator"
       EXPLAIN "Specifies whether to show PDF Portfolio component files and file
    details in an accessible list. "
        SUPPORTED "Adobe Reader 9.0"
      END POLICY

      POLICY "bUsePlatformNavigator"
       KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Attachments"
       VALUEON NUMERIC 0
       VALUEOFF NUMERIC 1
       VALUENAME "bUsePlatformNavigator"
       EXPLAIN "Specifies whether to always show portfolios in an accessible view.
    "
        SUPPORTED "Adobe Reader 9.0"
      END POLICY

      POLICY "bAutoSaveDocsEnabled"
       KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\AutoSaveDocs"
       VALUEON NUMERIC 0
       VALUEOFF NUMERIC 1
       VALUENAME "bAutoSaveDocsEnabled"
       EXPLAIN "Specifies whether or not to automatically save documents."
       SUPPORTED "Adobe Reader 9.0"
      END POLICY

      POLICY "bAutoFill"
       KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\"
       VALUEON NUMERIC 0
       VALUEOFF NUMERIC 1
       VALUENAME "bAutoFill"
       EXPLAIN "Locks the auto-fill functionality on or off and disables the
    corresponding user interface item."
        SUPPORTED "Adobe Reader 9.0"
      END POLICY

      POLICY "xdata"
        KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs\
    cRequiredFieldHLColor"

        VALUENAME "xdata"
        EXPLAIN "The default color for required fields in forms."
        SUPPORTED "Adobe Reader 9.0"
      END POLICY

      POLICY "bRuntimeHighlight"
        KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs\
    cRuntimeBGIdleColor"
```

```
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bRuntimeHighlight"
     EXPLAIN "Specifies whether to show a field border color on hover. "
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bAutoCompleteOnTab"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bAutoCompleteOnTab"
     EXPLAIN "Specifies whether to auto complete form field entries on a tab key
action."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bStoreNumericEntries"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bStoreNumericEntries"
     EXPLAIN "Specifies whether to store user entered numeric values."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bFocusRect"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bFocusRect"
     EXPLAIN "Specifies whether to surround a field with a rectangle when it has
focus."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bInlineAutoComplete"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bInlineAutoComplete"
     EXPLAIN "Specifies whether to auto complete a field based on remembered
values when a user starts typing."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bRecordNewEntries"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bRecordNewEntries"
     EXPLAIN "Specifies whether to remember form field entries for use with
future auto-complete actions."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bRuntimeHighlight"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs"
     VALUEON NUMERIC 0
```

```
     VALUEOFF NUMERIC 1
     VALUENAME "bRuntimeHighlight"
     EXPLAIN "Specifies whether to highlight fields during data entry."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bUserAskedToEnableAutoComplete"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\FormsPrefs"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bUserAskedToEnableAutoComplete"
     EXPLAIN "Specifies whether the user is asked to enable auto complete at
runtime."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

    POLICY "bAccessOverrideDocColors"
     KEYNAME "SOFTWARE\Policies\Adobe\Acrobat Reader\9.0\Originals"
     VALUEON NUMERIC 0
     VALUEOFF NUMERIC 1
     VALUENAME "bAccessOverrideDocColors"
     EXPLAIN "Specifies whether to replace black test or line art colors when
iAccessColorPolicy is enabled and a replacement color has been specified."
     SUPPORTED "Adobe Reader 9.0"
    END POLICY

   END CATEGORY
```

Citrix Server Deployments

This document describes how to deploy Adobe® Acrobat® on a Citrix server and have it emulated on Windows machines. It provides details about both the Citrix Presentation Server and the Citrix XenApp Server.

> **Tip:** There is more than one way to configure the server and the client's connection to it. The instructions here are intended as helpful examples. Administrators should tailor these instructions to meet the requirements of their own environment.

7.1 Requirements

The following is required:

- A valid Acrobat software license for every computer that has access to Acrobat software on the Citrix Server.
- Citrix system requirements
  - **8.x products**: Citrix Presentation Server 4.0, Enterprise Edition.
  - **9.x products**: Citrix Presentation Server 4.5 and XenApp 5.0 on Windows Server 2003 64-Bit Enterprise Edition with Service Pack 2 (SP2) and 2008 server 64-Bit Enterprise Edition with Service Pack 1.
  - **10.x products**:
    - Citrix XenApp 5.0 with Win 2008 Server Enterprise edition x64Bit O/S.
    - Citrix XenApp 6.0 with Win 2008 R2 Server Enterprise edition x64Bit O/S.

  > **Note:** Each user runs a different instance of Acrobat, so performance should not degrade as users access the server. However, while each profile uses a separate instance of the running application, additional users do use more CPU and RAM resources. The server should be deployed with the resources needed to handle the expected number of simultaneous users.

7.1.1 Tested environments

Because there is an unlimited number of possible execution environments, Adobe confines its testing to common scenarios. For Citrix deployments, the environments used for testing were as follows:

- A user account was set up using Active Directory domain user group. The Anonymous User profile was not tested.
- The user account was set up on the server with a restricted Common User profile, with Read, Read and Execute, and List Folder Contents permissions. These permissions enable the user to operate the computer and save documents; they do not allow the user to install programs or make changes to the system files or settings.

- The server machine was running typical enterprise software. For example, for 9.x products the following is installed: Microsoft Office Professional Edition 2007, Microsoft Internet Explorer® 7.0, Microsoft Visio® Professional Version 2003 and 2007, Microsoft Office Publisher 2007, Microsoft Office Project Professional 2007, Lotus Notes® 8.0, and McAfee® VirusScan Enterprise 8.0.

7.2 Installing X products on a Citrix XenApp Server 5.0

7.2.1 Known Citrix limitations: with Acrobat X

The following are known issues for Acrobat products and Citrix clients:

- When version of Adobe Reader prior to 10.1 is used with Protected Mode enabled (the default), Citrix is not supported. Administrators should disable and lock Protected Mode. 10.1 and later support both Citrix and Windows Terminal Server deployments.

- Acrobat Standard and Reader users can run repair from the help menu on **Vista and above**. If a reboot is required, the Citrix server hosting the application will be restarted. To prevent this problem, create a JavaScript file (.js) with one line of code (`app.hideMenuItem("DetectAndRepair");`) and place it in the <root>\Reader 10.0\ Reader\Javascripts directory.

- Acrobat PDFMaker and Adobe PDF Printer do not currently check Citrix licensing restrictions. Even users who don't have access to the Acrobat application may be able to use Acrobat PDFMaker and Adobe PDF Printer.

7.2.2 Disabling Protected Mode

When version of Adobe Reader prior to 10.1 is used with Protected Mode enabled (the default), Citrix is not supported. Administrators should disable and lock Protected Mode. 10.1 and later support both Citrix and Windows Terminal Server deployments.

Protected Mode can be locked as enabled or disabled as follows:

1. Go to HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\<product name>\<version>\ FeatureLockDown.

2. Right click and choose **New > DWORD Value**.

3. Create `bProtectedMode`.

4. Right click on the key and choose **Modify**.

5. Set the value to 0.

7.2.3 Installing from the management console

1. Start the Citrix Access Management Console for XenApp Server 5.0 by doing one of the following:

   - Choose from **Start > Programs > Citrix > Management Consoles > Access Management Console**.

- Launch the console directly by double-clicking <install path\Citrix\Access Management Console - Framework\CmiLaunch.exe.

2. In the left-hand panel, highlight the needed farm.

3. If required, enter your ID and password and authenticate to the farm.

4. Click + (plus) next to the farm on which you will install the Acrobat X or Reader X applications.

5. Right click the **Applications** folder icon that is within the farm you just expanded.

6. Choose **New > Publish application**.

    Note: The Citrix Application Publishing Wizard will start and guide you through the process of publishing an application.

7. At the Welcome screen, choose **Next**.

8. Enter a **Display Name** for the application (for example, Acrobat X or Reader X) and an optional **Application Description**.

9. Choose **Next**.

10. Configure the type of application to publish:

    1. Select the Application' radio button (default).

    2. In the **Application Type** list, select "Accessed from a server".

    3. In the **Server application type** drop down list, verify *Installed application* is selected.

    4. Choose **Next**.

11. Choose **Browse** under the Command Line text field.

12. Navigate to Acrobat. exe or AcroRd32.exe file.

    Tip: The standard install path is C:\Program Files\ Adobe\<Acrobat 10.0 or Reader 10.0>\ <Acrobat or Reader>\<Acrobat.exe or AcroRd32.exe>.

13. Choose **OK**.

14. Leave the default values for the **Working Directory** text fields.

15. Choose **Next**.

16. Add the servers on which the published application will run:

    1. Choose **Add**.

    2. Select the servers.

    3. Choose **OK**.

    4. Choose **Next**.

17. Specify the Users who can use the published application:

- To provide usage privileges to a specific group, drill down through the domain tree and locate that group and choose **Add**.

- To let anyone on your network use the application, select **Allow Anonymous Connections**.

18. Choose **Next**.

19. *Optional*: Application shortcut placement fields are optional. Select the check boxes to add application shortcuts to the client's start menu, desktop, and Programs folder (when accessing through Program Neighborhood). Choose **Next**.

20. *Optional*: Configure advanced options:

    1. Check **Configure advanced application** settings check box.

    2. Choose **Next**.

    3. Set the following as needed:
       - Access Control
       - Content Redirection
       - Limits of instances of application on server
       - Client options
       - Application appearance

       Note: If you are unsure what settings to choose, leave the defaults and uncheck the check box for configuring advanced settings.

21. Choose **Finish**.

    Tip: If you receive a restart prompt, Adobe strongly recommends that you restart the system.

22. Perform the tests as described in Appendix 16, "Basic Acceptance Tests".

7.2.4 Accessing Citrix from a client

Using the application from a client can be done through a number of methods. This document defines two:

- Accessing Published Applications through the Citrix Web Interface
- Accessing Citrix via Program Neighborhood Client:

7.2.4.1 Accessing Published Applications through the Citrix Web Interface

1. Install the Citrix web client locally by running XenAppWeb.msi.

2. Open Internet Explorer and enter the server URL.

3. Enter your credentials.

Figure 1 Citrix: Authentication
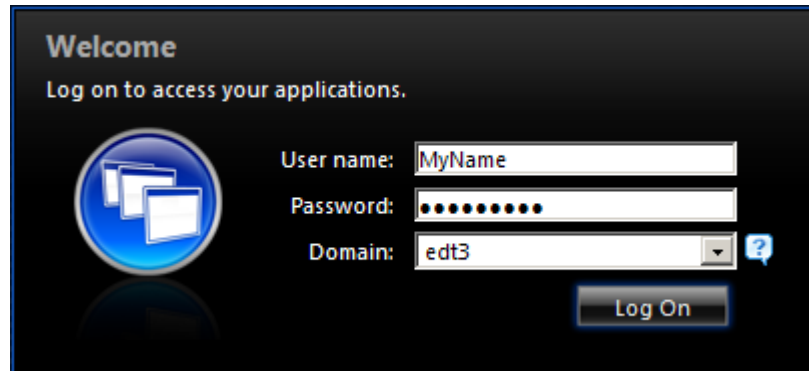
4. Choose **Log On**.

5. Double click on any Acrobat or Reader shortcut.

> **Tip:**   Citrix Maps your local drive with the server. Accessing any local file causes Citrix to open an ICA File Security dialog which asks to allow the server to access your local drive. If you select full access, Citrix maps your both your local drive and printer driver to the server hosted application so that you can seamlessly use the applications.

7.2.4.2 Accessing Citrix via Program Neighborhood Client:

1. Install the Citrix hosted client locally by running XenAppHosted.msi. Doing so installs the Web Client, Program Neighborhood Agent, and Program Neighborhood.

2. Use the installation setup details provided by the Citrix administrator.

3. Double click the Citrix Program Neighborhood icon to open Custom ICA Connection dialog.

4. Choose **File >Custom Connections Settings**.

5. Verify **Network Protocol Connection** is set to HTTP/HTTPS on the Connection tab.

6. Verify **Server Group** is set to Primary.

7. Choose **ADD**.

8. Enter the server details provided by the Citrix administrator

9. Choose **OK**.

10. Choose **Add ICA Connection**.

11. Set **Custom ICA connection** to Local Area Network.

12. Choose **Next**.

13. Enter a name for the ICA Connection.

14. Set **Network Protocol** to TCP/IP+HTTP.

15. Select the **Server** radio button.

16. Enter your server name or select one from drop down list.

17. Choose the **Published Application** radio button.

18. Select Acrobat or Reader from the drop down list.

19. Select a view for the published application.

20. Choose **Next**.

21. Leave the **Encryption Level** as default.

22. Choose **Next**. In the log-in Window dialog, do not provide any credential information.

22. Leave **Windows color** as default.

23. Choose **Next**.

24. Choose **Finish**.

> **Note:** An ICA connection icon is created with the name you provided. Double click this icon to launch the application.

7.3 Installing 8.x and 9.x on a Citrix Presentation Server

Install Acrobat products by using either **Add or Remove Programs** or Citrix Installation Manager on the computer running Citrix Presentation Server.

7.3.1 Installing with Add/Remove Programs

To install Acrobat products using **Add or Remove Programs**:

1. Choose **Start > Settings > Control Panel > Add or Remove Programs**.

2. Choose **Install**.

3. Do one of the following:

    - If you are installing from a CD, insert the disk and choose **Next**.

    - If you are installing from an executable file on the network, choose **Next**, and then choose **Browse** to locate the file.

4. Choose **Finish**.

> **Tip:** If the installer prompts you to restart the server, it is strongly recommended that you do so.

7.3.2 Publishing the application on the server

Before clients can access an application, you must publish it on the server by using the Citrix Management Console.

To publish an application:

1. Choose **Start > All Programs > Citrix > Citrix Management Console**.

2. In the Log On to Citrix Farm dialog box, select the server.

3. Enter your Citrix administrator credentials.

4. In the Citrix Management Console dialog box, expand the Applications tree.

5. Right-click **Application** and choose **Publish Application**.

6. On the first page of the Application Publishing Wizard, enter a display name (for example, Acrobat) and a description of the application (for example, PDF Creation). These details appear on the Web interface and other client interfaces.

7. Choose **Next**.

8. Choose **Application > Browse** to find the Acrobat product you want to publish. For example, Acrobat.exe.

9. Choose **Next**.

10. On the Program Neighborhood Settings page, choose **Next**.

11. On the Specify Application Appearance page, make any changes to the application resolution, and then choose **Next**.

12. On the next page, if you want to enable audio, choose **Enable Audio**. Then, choose **Next**.

13. On the Specify Application Limits page, choose **Next**.

14. On the Specify Servers page, choose **Citrix Server**.

15. Choose **Add** to move it to the Configured Servers list.

16. Choose **Next**.

17. On the Specify Users page, if you want to specify users who can run the application, clear the **Allow Anonymous Connections** option, and specify the users you want to allow.

18. Choose **Next**.

19. On the Specify File Type Associations page, choose **Finish**.

    The wizard finishes and the application is published.

7.3.3 Accessing Citrix from a client

After Acrobat is published on the server, Citrix client computers can establish connections to it.

Add a new Citrix client connection

1. Choose **Start > All Programs > Citrix ICA Client > Citrix Program Neighborhood**.

2. Select **Add New ICA Connection** to open the connection Wizard.

3. Choose **Next**.

4. Log on to the computer running Citrix Presentation Server.

Run Acrobat via the Citrix Web Interface from a client

1. On the computer you want to use to access Acrobat, point the Web browser to the Citrix Server Web portal (for example, http://editcitrix.corp.adobe.com).

2. If you have not yet downloaded the Citrix Web Interface client on this computer, you will be prompted to download it. Follow the on-screen instructions to download and install this application.

3. Log on to the Citrix Web Interface client.

4. On the Web portal site, choose the application icon for the requisite Acrobat application.

Access published files via the Citrix Program Neighborhood client

1. Run the installer file ica32.msi on the computer you want to use as the Citrix Program Neighborhood client.

2. Double-click the Citrix Program Neighborhood icon on the computer desktop.

3. Choose **File > Custom Connections Settings**.

4. On the Connection tab, verify the following settings:

   • **Network Protocol Connection**: HTTP/HTTPS

   • **Server Group**: Primary

   • Optional: To add an address list, choose **Add**, and then follow the on-screen instructions.

5. Choose **OK**.

6. On the computer desktop, double-click **Add ICA Connection**.

7. Set the connection type to Local Area Network.

8. Choose **Next**.

9. On the Connection page, do the following:

   1. Enter a description of the ICA connection.

   2. Verify that the Network Protocol is set to TCPIP/HTTP.

3. Choose the Server option and type the server name in the text box.

4. Choose Published Application.

5. In the list, select the name of the Acrobat application you want to run.

6. Choose **Next**.

10. Select a view for the published application.

11. Choose **Next**.

12. On the Encryption Level page, choose **Next**.

13. Enter your user credentials.

14. Choose **Next**.

15. Verify that the Windows colors are set to Default.

16. Choose **Next**.

17. Choose **Finish**.

> **Tip:** If you receive a restart prompt, Adobe strongly recommends that you restart the system.

18. Perform the tests as described in Appendix 16, "Basic Acceptance Tests".

7.3.4 Removing the product

Uninstall an Acrobat product by using either **Add or Remove Programs** or the Citrix Installation Manager on the computer running Citrix Presentation Server.

To remove an application using **Add or Remove Programs**:

1. Choose **Start > Settings > Control Panel > Add or Remove Programs**.

2. Select the application.

3. Choose **Remove**.

4. Restart the server to ensure that all the appropriate files are removed.

7.3.5 Known Citrix limitations: with Acrobat 9.x

The following are known issues for Acrobat products and Citrix clients:

- Acrobat PDFMaker and Adobe PDF Printer do not currently check Citrix licensing restrictions. Even users who don't have access to the Acrobat application may be able to use Acrobat PDFMaker and Adobe PDF Printer.

- Issue #1451407: The Acrobat 9 graphical interface renders poorly when displayed using 8-bit resolution on a Citrix client.

- TechNote #326511: (http://www.adobe.com/support/techdocs/326511.html): Acrobat closes when a user right-clicks inside the main window. This applies to Acrobat and Reader versions 7, 8 and 9running on Citrix Presentation Server 4.0. To fix this problem, install the Hotfix Rollup Pack PSE400W2K3R03 for

- Citrix Presentation Server 4.0, Citrix Access Essentials 1.0 and 1.5 for Windows Server 2003. For more information on this series of fixes, refer to the Citrix Systems KB article CTX111419 at http://support.citrix.com/article/CTX111419.

- Issue #1520296: Mail does not launch when taking a shared review offline and attempting to send comments by Email.

- Issue #1760973: Users are unable to Browse to Network folder via Add Existing folder.

Windows Terminal Services Deployments

8.1 Tested environments

Adobe has validated the remote application execution for all of the Acrobat family of products by using WTS.

The environments used for validation were set up in the following ways:

- Acrobat 9:

  - The WTS environment used Remote Desktop Client version 6.0.2448.0 with Microsoft Windows Server 2003 Enterprise Edition with Service Pack 2 and version 5.1.2600.2180 with Windows XP Professional Service Pack 2.

  - Client operating systems tested were Windows XP Professional Service Pack 2 and above, and Windows Vista Professional with and without Service Pack 1.

  - A user account was set up using a Microsoft Active Directory domain user group. Note The Anonymous User profile was not tested.

  - The user account was set up on the server with a restricted Common User profile, with Read, Read and Execute, and List Folder Contents permissions. These permissions enable the user to operate the computer and save documents; they do not allow the user to install programs or make changes to the system files or settings.

  - The server machine was running Microsoft Office Professional Edition 2003 and 2007, Microsoft Internet Explorer® 6.x and 7.0, Microsoft Office Publisher 2003, Microsoft Office Project Professional 2003, Lotus Notes® 7.0 and 8.0, and McAfee® VirusScan® Enterprise 8.5.

- Acrobat X

  - Windows Server 2008 R2 Enterprise Edition 64 bit OS.

  - Client operating systems tested were Windows XP Professional SP3, Windows Vista SP2 and Windows 7 (both 32 and 64bit)

  - Standard/Administrator user profiles were set up on and Active Directory and was used.

8.2 Installing Acrobat products

You must install applications by using **Add or Remove Programs** on the WTS server.

To install Acrobat products:

1. Choose **Start > Settings > Control Panel > Add or Remove Programs**.

2. Choose **Install**.

3. Do one of the following:

- If you are installing from a DVD, insert the disk, and then choose **Next**.

- If you are installing from an executable file on your network, choose **Next > Browse** to locate the file.

4. Choose **Finish**.

Systems Management Server Deployments

Acrobat products support workflows that use Microsoft's Systems Management Server (SMS) to deploy applications across your enterprise. The Adobe installer uses SMS features to create an installation package within the SMS administrator console.

Note: While SMS workflows are likely to work, Adobe has focused software distribution testing on System Center Configuration Manager (SCCM) 2007 and patch distribution through SCUP for the Acrobat X family of products. Since SMS is a legacy product for Microsoft, it is expected that most organizations have migrated or will migrate to SCCM or System Center Essentials (SCE).

9.1 Tested environments

The following has been tested:

- Acrobat 8:
  - SMS 2003 Service Pack 1 running on Windows Server 2003 Standard Edition with Service Pack 1.
  - Desktop client systems running on the following operating systems: Microsoft Windows 2000 Professional Service Pack 4 and Windows XP Professional Service Pack 2. Each system was also running Microsoft Office 2003 Professional Edition, McAfee® VirusScan® Enterprise 8.0, and Microsoft Internet Explorer® 6.0.
  - Localized versions that were tested are English, French, German, and Japanese. Adobe tested the deployment of the localized version of the application (for example, Adobe Acrobat 8 Professional Japanese) to the localized version of the operating system (for example, Windows XP Professional Japanese).
- Acrobat 9:
  - SMS 2003 Service Pack 2 running on Windows Server 2003 Edition with Service Pack 2.
  - Desktop client systems running on the following operating systems: Microsoft Windows 2000 Professional Service Pack 4 (Adobe Reader only), Windows XP Professional Service Pack 2 and Microsoft Vista with and without Service Pack 1. Each system was also running Microsoft Office 2003 and 2007 Professional Edition, McAfee® VirusScan® Enterprise 8.5, and Microsoft Internet Explorer® 6.x and 7.0.
  - The localized versions that were tested are English, French, German, and Japanese. Adobe tested the deployment of the localized version of the application (for example, Adobe Acrobat 9 Professional Japanese) to the localized version of the operating system (for example, Windows XP Professional Japanese).
- Acrobat X: Deprecated and untested. Emphasis is now on SCCM and SCUP.

9.2 Installing Acrobat products with SMS

Acrobat product installation is pushed to the client computer and requires no user interaction. You simply create a package and deploy the installation. If you are using the Customization Wizard to configure the client prior to deployment, the Wizard can create an SMS package for you.

9.2.1 Removing previous versions

You should remove any previous versions of the product you are about to install before you install. If you are installing Reader, you must install previous versions. With the X family of products, it is possible to have an earlier version of Acrobat and the most recent version of Reader on the same machine.

To remove an application using **Add or Remove Programs**:

1. Choose **Start > Settings > Control Panel > Add or Remove Programs**.

2. Select the application.

3. Choose **Remove**.

4. Restart the machine to ensure that all the appropriate files are removed.

9.2.2 Creating the SMS package

Tip: If you use Adobe Customization Wizard to create an SMS package, the wizard outputs a package definition file. A package definition file is a text file with an .sms filename extension that has all the information and command lines necessary to create a software distribution package for Acrobat and Reader application deployment.

To create the package that SMS uses for distribution:

1. Open the Systems Management Server console.

2. Right-click Packages.

3. Choose **New > Package**.

4. On the General tab, provide the following information:
   - Package name (up to 50 characters),
   - Version number of the software package, up to 32 characters
   - Name of the software publisher, up to 32 characters
   - Language version, up to 32 characters
   - Description of the package, up to 127 characters

5. On the Data Source tab, select **This Package Contains Source Files**.

6. In **Source Directory**, select the type of connection for the source files.

7. Choose **Apply**.

8. On the Distribution Settings tab, select High on the **Sending Priority** menu.

9. Choose **OK**. The package should appear under the Packages node of the Site Database tree on the SMS console.

10. Expand the package under the Packages node.

11. Right-click **Distribution Points**.

12. In the New Distribution Points Wizard dialog box, select the servers to designate as the distribution points.

13. Choose **Finish**.

14. Under the Packages node, right-click **Programs**.

15. Choose **New > Program**.

16. In the Command Line panel of the Program Properties dialog box, choose **Browse** to locate the install folder.

17. Do one of the following:

    - To run the installer by using setup.exe, enter:

    ```
    Setup.exe ISX_SERIALNUMBER="<your valid Acrobat serial number>" /sAll
    ```

    - To run the installer by using the msiexec program, enter:

    ```
    msiexec.exe /qn /i"<full path to the .msi file>.msi" ISX_SERIALNUMBER="<your
    valid Acrobat serial number>"
    ```

    Note: Use this option only if Windows Installer 3.1 is installed on all of the client computers.

18. On the Environment tab, select whether the user is logged on or not.

19. Choose **OK** to display the SMS package.

SMS distribution package creation

1. Open the Systems Management Server console.

2. Right-click **Packages**.

3. Choose **New > Package from Definition**.

4. In the Create Package from Definition Wizard panel, choose **Browse**,

5. Select the SMS definition file you want to use.

6. Choose **Open**.

7. Verify the product name, version, and language for the package.

8. Choose **Next**.

9. On the Source Files page, select **Always Obtain Files from a Source Directory**.

10. Choose **Next**.

11. On the Source Directory page, specify the path to the source directory for the package.

12. Choose **Next**.

13. On the last page, confirm all of the information for the package.

14. Choose **Finish**.

SMS advertisement creation

You can create an advertisement that offers the SMS package to the clients.

To create an advertisement:

1. On the Site Database tree, expand **Collections**.

2. Right-click the collection that will receive the package.

3. On the first page of the Distribute Software Wizard, choose **Next**.

4. In the Package dialog box, select **Distribute an Existing Package**.

5. Choose **Next**.

6. In the Distribution Points dialog box, make sure that the distribution point is selected.

7. Choose **Next**.

8. In the Advertise a Program dialog box, choose **Yes**.

9. Choose **Next**.

10. In the Advertisement Target dialog box, select **Advertise the Program to an Existing Collection**. choose **Browse** to locate the collection if it is not already displayed.

11. Choose **Next**.

12. In the Advertisement Name dialog box, make sure that the correct package and collection names appear.

13. Choose **Next**.

14. In the Advertise to Subcollections dialog box, specify any subcollections that should also receive the advertisement.

15. Choose **Next**.

16. In the Advertisement Schedule dialog box, confirm or change the time that the advertisement is offered; and then specify whether the advertisement should expire and when.

17. In the Assign Program dialog box, choose **Yes** to assign the program.

18. Choose **Next**.

19. In the Completing the Distribute Software Wizard dialog box, review your settings.

20. Choose **Finish**.

21. Perform the tests as described in Appendix 16, "Basic Acceptance Tests".

9.3 Removing Acrobat 9

To remove the application using SMS:

1. Open the Systems Management Server console.

2. Expand the package that contains it.

3. Open the Program Properties dialog box.

4. On the General tab, enter the following command line:

   ```
   msiexec /x "AcroPro.msi" /qn
   ```

9.4 Known limitations

The following are known issues for Acrobat products and SMS deployments:

- None.

SharePoint Integration

Acrobat and Adobe Reader X introduces a SharePoint integration feature that provides the following features:

- Associating Adobe's PDF icon with PDF files in the SharePoint browser user interface.
- Clicking a PDF link in the SharePoint browser user interface opens the PDF in an Acrobat product and the user is given an option to check out the PDF file.
- The SharePoint browser user interface indicates when a PDF is checked out.
- The **File > SharePoint Server** menu appears in the Acrobat product. Items include:
  - **Check In**
  - **Discard Check-Out**
  - **Prepare Document Properties**

10.1 SharePoint System Requirements

The following is required:

- A valid Acrobat software license for every computer that has access to Acrobat software on the Server.
- SharePoint 2007 or SharePoint 2010
- Client Machines: Windows, Internet Explorer, and Reader X or Acrobat X

10.1.1 Tested environments

Because there is an unlimited number of possible execution environments, Adobe confines its testing to common scenarios. Environments used for testing were as follows:

10.1.2 Changes across releases

Table 1 SharePoint changes across releases

Version	Description
10.0	Introduced SharePoint support.
10.1	Added bDisableSharePointFeatures.
	Signature workflow improvements

10.1.2.1 Digital signature changes for 10.1

10.1 improves the SharePoint end user experience during signature workflows by eliminating the Save step. Prior to 10.1, users were prompted to save a file locally after digitally signing a SharePoint-hosted PDF and then save a new version of the file separately in to SharePoint. With 10.1, the behavior for digitally signing a SharePoint-hosted PDF file is as follows:

- Signed files are saved directly to SharePoint if that PDF file is already checked out.

- The user is prompted to check out the file if that PDF is not already checked out.

10.2 SharePoint Configuration

10.2.1 Associating the PDF extension with the PDF icon

The DocIcon.xml file is present on every front-end Web server in a Microsoft SharePoint 2007 or SharePoint 2010 deployment. It is used to specify the icon that displays for different file types. Optionally, it can specify whether an ActiveX control opens the file.

See Understanding DocIcon.xml Files on MSDN to understand the functions of DocIcon.xml file

The DocIcon.xml performs three basic functions:

- Associates display icons with file types

- Assigns an ActiveX control to open the file for viewing or editing

- Configures the text that displays in the SharePoint pop-up menus.

Settings in the DocIcon.xml file are global to a SharePoint deployment and impact site definitions on all front-end Web servers. Each filename extension or ProgId can map to only one editing control, one icon, and one string of display text. This mapping is identical throughout a SharePoint deployment. You can add mapping elements to support additional filename extensions and ProgIds.

The ActiveX control AdobeAcrobat.OpenDocuments is installed on the client computer with Acrobat X or Reader X. To use that ActiveX control for opening PDFs on a user's computer, modify the DocIcon.xml file to associate an icon and assign an ActiveX control for PDF files as follows:

1. Find the DocIcon.xml file:

    - **SharePoint 2007**: %ProgramFiles%\Common Files\Microsoft Shared\web server extensions\ 12\TEMPLATE\XML

    - **SharePoint 2010**: %ProgramFiles%\Common Files\Microsoft Shared\web server extensions\ 14\TEMPLATE\XML

2. Open the DocIcon.xml file for editing.

3. Search for the <ByExtension> tag. It is a child tag of the root tag <DocIcons>. Create it If it does not exist.

4. Add a child tag inside <ByExtension>, with the following content:

```
<Mapping Key="pdf" Value="AdobePDF.png"
OpenControl="AdobeAcrobat.OpenDocuments"/>
```

5.   Save the DocIcon.xml file.

6.   Download AdobePDF.png from http://www.adobe.com/go/acrobatitinfo.

7.   Copy the icon to the following folder:

   •   **SharePoint 2007**: %ProgramFiles%\Common Files\Microsoft Shared\web server extensions\
       12\TEMPLATE\Images\

   •   **SharePoint 2010**: %ProgramFiles%\Common Files\Microsoft Shared\web server extensions\
       14\TEMPLATE\Images\

8.   Launch the IIS Manager and either restart IIS or refresh all the sites. IIS manager reads the xml once
     when it starts. Any new changes are not read again until a restart.

10.2.2 Allow HTTP methods in IIS 7 or later

SharePoint has its own WebDAV implementation. If the WebDAVModule is running, requests are routed
to it and not to the SharePoint WebDAV component. Disable the WebDAVModule to route the requests
to the WebDAV component.

To disable webDAVModule:

1.   Choose **Start > Administrative Tools > IIS Manager**.

2.   In the left pane, expand the tree, and navigate to your site.

3.   In the center pane, double-click **Modules**.

4.   In the Modules window, If WebDAVModule is present, remove it.

5.   Restart IIS.

10.2.3 Disabling SharePoint integration

10.1 adds support for disabling SharePoint integration via the `bDisableSharePointFeatures`
preference. A value of one turns off all SharePoint related functionality such as the check out prompt
and SharePoint menu items.

To disable SharePoint integration:

1.   Open the registry.

2.   Go to HKLM\SOFTWARE\Policies\Adobe\<ProductName>\<version>\FeatureLockDown.

3.   Create a key called `cSharePoint`.

4.   Create a DWORD value called `bDisableSharePointFeatures`.

5.   Set its value to 1.

Multi-User Reader Desktop Configuration

11.1 Overview

Adobe Reader's new Multi-User Reader Desktop (MURD) feature hosted on LABs allows enterprise users to install multiple Reader versions and define which version should open PDFs with a certain file extension. Organizations often have competing needs for mission critical workflows that present unique challenges for IT: On the one hand, security concerns and new features drive the need to install the latest product versions. On the other hand, certified and regulated workflows may require the continued use of earlier product versions.

For example, Reader 10.0 offers the highly secure Protected Mode as well as new features like commenting. However, workflows that require certification as part of government regulations may demand continued use of 9.x products. MURD enables the adoption of the latest products and product updates for most users while avoiding the time and expense of recertification.

> **Note:** Acrobat cannot be MURD-enabled, but with 10.1 it is MURD-aware. That is, if there is a MURD-enabled Reader present, Acrobat will open any PDF with a MURD extension.

At a high level, the MURD feature is simply a way of creating custom file extensions that are either blacklisted or white-listed for the specified version of the PDF viewer. MURD allows you to:

- Define custom file extensions.
- Map a specific version of Reader to files with a particular extension.
- Prevent Acrobat from opening files with MURD extensions.
- Update the operating system so that double clicking a file with a MURD extension opens the required version of Adobe Reader.

Figure 1 Custom MURD workflow example
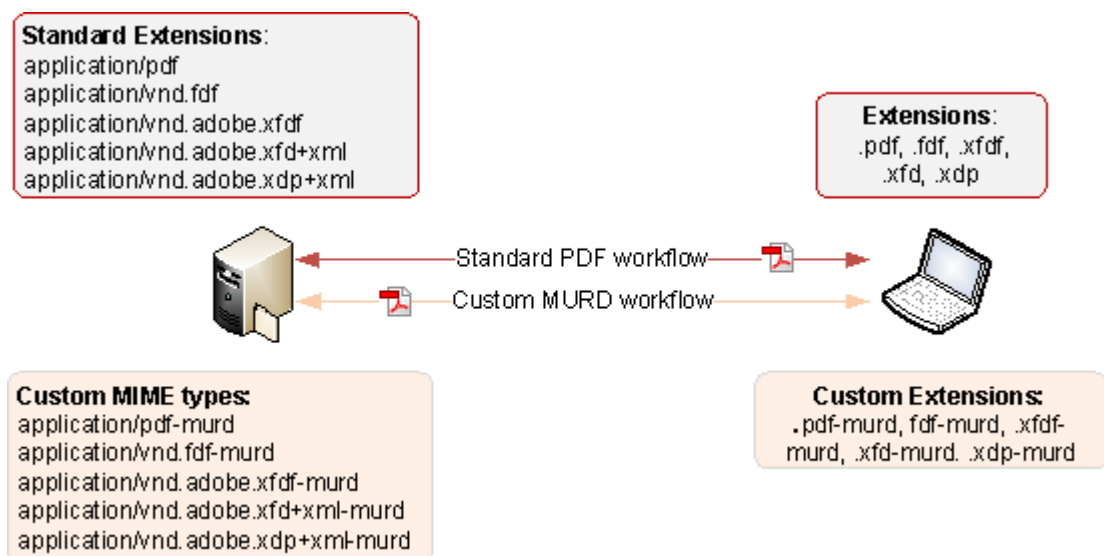
11.1.1 Why LABs?

Adobe intends to periodically release beta and experimental tools, utilities, and scripts on LABS at http:/
/labs.adobe.com/technologies/acrobat/. This informal pre-release program provides a way to help
customers while opening up channels for feedback that will help improve the product and related
enterprise resources. Items posted on LABs should be tested by your organization in order to determine
their compatibility with the particulars of your environment.

11.1.2 What's supported?

Due to an almost limitless number of possible version variations for Reader, OS, browser, etc, testing
focused on a few common scenarios--primarily Windows XP with IE 7 and 8 and Windows 7 with IE 8.

Table 1 System requirements

Component	Version
non-MURD PDF viewer	9.4.2 and later and/or 10.1 and later.
	On a system that has any MURD Reader, all 9.x versions MUST be 9.4.2 or later, and all 10 versions MUST be 10.1 or later even if they're not MURD.
MURD viewer	9.4.2 and later and 10.1 and later
OS	Windows
Browser	Internet Explorer 7 and 8

Because MURD is designed to allow more than one PDF viewer on a machine, the configurations listed
in Table 2 are supported.

Table 2 Supported PDF viewer configurations

Non-MURD	MURD-enabled	MURD-enabled
9.4.2 and later Acrobat or Reader	9.4.2 Reader and later	x
9.4.2 and later Acrobat or Reader	10.1 Reader and later	x
10.1 and later Acrobat or Reader	9.4.2 Reader and later	x
10.1 and later Acrobat or Reader	9.4.2 Reader and later	10.1 Reader and later

11.2 Deploying a multi-Reader desktop

At its simplest, setting up a MURD-compatible workflow involves these steps:

- Install the non-MURD PDF viewer if it is not already installed.

- Install zero or more PDF viewers that will be MURD-enabled.

- Configure the MURD-enabled PDF viewer.

- Configure any servers used for this workflow to serve the requisite extensions and mime types.

11.2.1 Download the requisite files

Before continuing, download the following:

1. The requisite product installers. Only the installers listed in Table 1 support MURD.

2. The MURD tool files from http://labs.adobe.com/technologies/acrobat/.

3. Extract MURD.zip to any location convenient for accessing the files from the command line. The new directory contains two folders called MURDTool and Browser that contain the files listed in Table 3.

Table 3 MURD files

MURDTool.js	Configures the system to be MURD-enabled
MURDConfig.txt	A configuration file read by MURDTool.js
Rdr09PDF.dll	The dll used in Internet Explorer for Reader 9.4.2 when it is MURD-enabled
Rdr10PDF.dll	The dll used when Reader 10.1 is MURD-enabled.

11.2.2 Client installation

To install and configure a MURD-capable machine, install all the applications you need whether or not they are to be MURD enabled:

1. Install the requisite 9.x clients. In most scenarios, a non-MURD client will already be installed, and you will only need to install or update the client that will be MURD-enabled (either 9.4.2 and later or 10.1 and later).

    Note: Regardless of what you have installed or will install, the applications MUST be installed in sequential version order. For example, install Reader 9.4.2 before Reader 10.1.

2. Verify the EULA has been accepted and exit the application.

3. Install the requisite 10.x Reader application (if needed):

    1. Open a command prompt.

    2. Run the following command:

    ```
    msiexec /i <path to msi file>\AcroRead.msi REMOVE_PREVIOUS=NO
    ```

    3. Start the application.

    4. From the menu, choose **Edit > Preferences > General**.

    5. Uncheck **Enable Protected Mode at startup**.

    6. Verify the EULA has been accepted and exit the application.

4. Configure the registry to recognize the client that will by MURD enabled:

    1. Open a cmd prompt.

2. Run the following:

```
regsvr32 <path to extracted MURD files>\Browser\Rdr<09 or 10>PDF.dll
```

11.2.3 MURD configuration

After installing Reader onto the managed desktops, run the MURD tool locally.

1. Go to <path to extracted MURD files>\MURDTool\.

2. Open the MURD configuration file murdconfig.txt.

3. Configure murdconfig.txt using the parameters listed in Table 3. At a minimum, you will need to configure the following:

   - COMMAND: Enable or disable MURD.

   - PATH: The path to the client .exe.

   - VERSION: The application version.

   - EXTENSION: You custom extensions.

     Note: Do not leave spaces before or after the colon delimiter. Parameters are case sensitive.

4. Run MurdConfig.js. On Windows 7, the file must be run from the command prompt with administrative privileges.

Example 11.1: Sample configuration file

```
COMMAND:ENABLE
VERSION:09
PATH:C:\Program Files\Adobe\Reader 9.0\Reader\AcroRd32.exe
ICON:C:\WINDOWS\Installer\{AC76BA86-7AD7-1033-7B44-A93000000001}\PDFFile_8.ico,0
EXTENSION:murd09
EXTENSION:<your custom extension>
```

5. Reboot the machine.

Table 3 murdconfig.txt configuration parameters

Parameter	Description
COMMAND	Required. Options include: ● **ENABLE**: Adds MURD capabilities to Reader and the OS. ● **ENABLE_MURDONLY**: Adds MURD capabilities to Reader and the OS. Reader 9.4.2 and later only supports MURDOnly (not ENABLE) For Reader X it is treated the same as ENABLE. ● **DISABLE**: Disables MURD capabilities from Reader. ● **DISABLE_AND_CLEANALL**: Disables MURD capabilities from Reader and removes the version-specific MURD registry entries. Note that the extensions to remove must be identical to the extensions previously added via ENABLE or ENABLE_MURDONLY.
VERSION	Required. The two digit major version of Reader that should be MURD-enabled. For example, for Reader 9.3.1, you would only put 09.
PATH	Required. The path of the installed application.
ICON	Optional. The file location of the icon that you want to represent your business workflow PDF document (MURD document). If this parameter is not specified, then the default PDF icon is used.
EXTENSION	Required. If you wish to specify multiple extensions to use for business workflow PDFs, then list them as separate parameter-value pairs. Naming restraints include: ● Only upper/lowercase characters, digits, and hyphens can be used. ● No spaces in the extension name.

11.2.4 MURD server configuration

When a server is used in the PDF workflow, configure it to serve the MURD-specific content of the desired mime type. The table below provides example mappings. In this example, the business workflow that requires a specific PDF viewer consumes PDFs with "murd" in the extension's name. Here a hyphen and business workflow name (-murd") is simply appended to the original Reader extensions and MIME types.

Table 4 Example MURD extensions and mime types

MURD Extension	MURD Mime Type
.pdf-murd	application/pdf-murd
.fdf-murd	application/vnd.fdf-murd
.xfdf-murd	application/vnd.adobe.xfdf-murd
.xfd-murd	application/vnd.adobe.xfd+xml-murd
.xdp-murd	application/vnd.adobe.xdp+xml-murd

11.3 Updates and patches

Upgrading to a higher version of a MURD-enabled application requires removing any previously installed versions.

11.4 FAQ

Does the MURD tool change the registry?

Yes. The MURD Tool is a JavaScript file that modifies the Windows registry for MURD-enabled versions of Reader. By changing the GUID of PDF file types to use the browser integration component Rdr09PDF.dll. GUIDs after MURD enablement as follows:

- AcroPDF GUID: CA8A9780-280D-11CF-A24D-444553540000

- Rdr09PDF GUID: 5CE32390-7AFA-4FF2-8224-8596307ED852

- Rdr10PDF GUID: 5D3C3CE1-7D27-41e3-A2FE-760E69BB3D56

What happens when a non-MURD Reader tries to open a MURD document?

An error dialog appears.

Figure 2 MURD error dialog
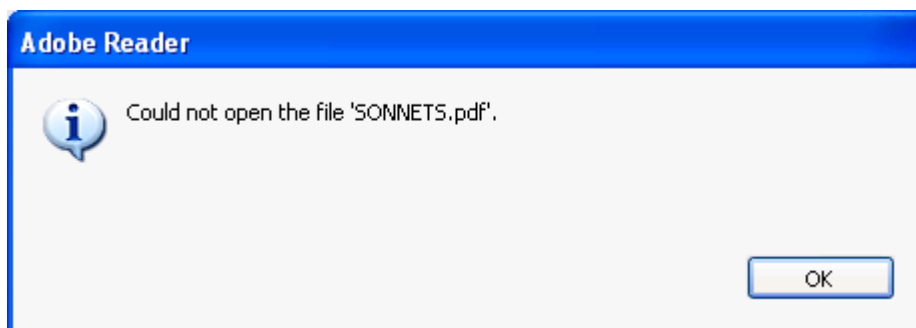
Macintosh Deployments

12 | Deployment Methods (Mac)

The Acrobat X and Reader X release (10.0) introduces an installer for the Macintosh platform and support for the Apple Remote Desktop (ARD). Unlike previous product versions which required manual installs, product installation and some configuration can be managed automatically for enterprise deployments.

12.1 Installation scenarios

The Acrobat installer for Apple platforms can leverage either the command-line (CLI) or graphical (GUI) interfaces provided by the Apple installer. Support for Apple's installer format and conventions allow customers install the product to managed systems via their preferred methods, including:

- **CLI**: Supports any custom installation solutions required in the enterprise. Acrobat X products support the **Apple Remote Desktop (ARD)** which provides built-in support for pushing Apple installer packages to groups of machines. For ARD details, see http://www.apple.com/remotedesktop/.

- **GUI**: User interface installations manage the install on a per user basis. These are seldom used in enterprise settings.

12.1.1 Standalone products vs Creative Suite bundles

Installation workflows vary depending on whether you are installing Acrobat as a standalone application or as part of a Create Suite (CS) bundle. Standalone Acrobat deployments use a standard installer and should adhere to the instructions in this document.

> **Tip:**   For Acrobat bundled and installed with Creative Suite, use the tools and methodologies described in the CS documentation available at http://www.adobe.com/devnet/creativesuite/enterprisedeployment.html.

12.2 Installer details

12.2.1 Installer behavior for existing installations

When installing the application on a system where it already exists in the installation location, several factors may affect the installation workflow:

- **Installing over an earlier version (Reader only)**: When an earlier version already exists in the target install location, then:
  - For GUI installations, a prompt informs the user that the product already exists and asks whether the installation should proceed. If YES, the existing <application>.app is moved to

Trash and the new Reader is installed. If NO, then the existing Reader is not touched and the installer returns with an error.

- For CLI installations, then the installer silently moves <application>.app to Trash and installs the newer one without further input. The old application is moved to Trash so that if installation fails then the user can restore old application.

- **Installing over the same base version**: If the existing application has the same base version as the new one, then both GUI and CLI installations proceed as normal upgrades.

- **Installing over a new version**: If the existing application has a higher version than the installing one, then the installation fails.

  - For GUI installations, an alert informs the user that a new version is already present.

  - For CLI installations, a log entry in the system's installer log (/var/log/install.log) indicates that a new version is already present.

12.2.2 Install locations

For command line installations, the default locations are configurable as described in Pre-deployment customization.

GUI installations of Acrobat and Reader options are as follows:

- **Reader**: Reader is always installed in /Applications of the root volume. The location is not customizable.

- **Acrobat**: Acrobat can be installed to any custom folder on 10.6 and later. Customization is not supported in 10.5 and the application installs in the

12.2.3 Components

Adobe's Mac installer is a flat package installer. The .pkg can be expanded using the system's `pkgutil` command. Once expanded, one can see the distribution file and its Components.

Acrobat

The choices available in Acrobat's distribution file are shown in Table 1.

> **Note:** The Application checkbox that allows selection of that component does not appear on 10.5 due to an Apple bug.

Table 1 Distribution file: for Acrobat

Component	Description
acropreinstall	**Required**: Validates if the installation should proceed or not.
aam	**Required**: Installs Adobe's licensing module in the /Library/Application Support/Adobe/OOBE folder.
coreapp	**Required**: Installs Acrobat.app and Distiller.app. The default location is /Applications/Adobe Acrobat X Pro/.
appsupport	**Required**: Installs various support files in the /Library/Application Support/Adobe/ folder.

Table 1 Distribution file: for Acrobat

Component	Description
prefs	**Required**: Installs files in the /Library/Preferences area.
browserplugin	**Optional**: Installs the Internet plug-in which integrates Acrobat with Safari.
printerworkflow	**Optional**: Installs the Automator Print workflow called Save as Adobe PDF.

Reader

The choices available in Reader's distribution file are shown in Table 2.

Table 2 Distribution file: for Reader

Component	Description
coreapp	**Required**: Installs Acrobat.app and Distiller.app. The default location is /Applications/Adobe Acrobat X Pro.app/Adobe Acrobat Pro.app and /Applications/Adobe Reader.app
browserplugin	**Optional**: Installs the Internet plug-in which integrates Acrobat with Safari.
appsupport	**Required**: Installs various support files in the /Library/Application Support/Adobe/ folder.

12.2.4 Language

Language is determined by the system OS language.

Adobe ships strings, a ReadMe, custom installer plugins, and related resources in all locales with the installer in order to provide a seamless user experience. The installer GUI itself is provided by the built-in Mac OS X system installer, with the application localized by Apple and using the current system language. For Adobe files like ReadMe's, the Mac OS X system installer simply offers the user to view the ReadMe in the system language.

12.3 Pre-deployment customization

Adobe installers can be deployed over the network using standard deployment tools. As described below, some installation and application customization is available by creating and configuring com.adobe.Acrobat.InstallerOverrides.plist.

12.3.1 Install location

The default install location for Acrobat products is:

- **Acrobat**: /Applications/Adobe Acrobat X Pro/Adobe Acrobat Pro.app
- **Reader**: /Applications/Adobe Reader.app

The default location can be customized by choosing a custom location during a GUI install or modifying the installer package manually. The standard Updater normally determines the application location on

its own, if for some reason that search fails, the Updater looks at the AppPath preferences described below.

However, the Updater is rarely used in enterprise settings, and non-default install locations are sometimes needed. When either or both of those conditions are true, set the AppPath preferences as follows:

1. Navigate (or create) to /Library/Application Support/Adobe/<product>/<base version>/. For example, the Acrobat X path would be /Library/Application Support/Adobe/Acrobat/10.0/.

2. Create a file called com.adobe.<Acrobat | Reader>.InstallerOverrides.plist if it doesn't exist.

3. Add a key called ReaderAppPath or AcrobatAppPath.

> **Note:** Only standalone installers consume the ReaderAppPath. Updates and patches consume both ReaderAppPath and AcrobatAppPath.

4. Set the key value to the application's path. For example, for Reader it could be /Applications/MyCustomFolder/Adobe Reader.app (note the missing trailing /).

Location determination for Acrobat and Reader
- **Updater workflow**: When invoked by **Help > Check for Updates**, the Updater checks its own files for an ID, version, and the application's absolute path. The default installation path is :
  - **Acrobat**: /Applications/Adobe Acrobat Pro/Adobe Acrobat X Pro.app
  - **Reader**: /Applications/Adobe Reader.app
- **Installer workflow**: The Updater is typically not used in enterprise settings so that IT can manage what versions are installed. When updates are invoked by using the `installer` command from the command line:
  1. The installer looks for `InstallerOverrides.plist.` to see if it exists (see above).
  2. If the file is absent:
     - The machine is searched for all valid applications by OS calls.
     - The first valid application found is patched.
     - If no valid application is found the patch installation fails giving appropriate message.
  3. If the file is present:
     - The installer checks for the presence of an `AcrobatAppPath` or `ReaderAppPath` key.
     - If no valid path is found, the Updater looks for key `BreakIfAppPathInvalid`.
     - If `BreakIfAppPathInvalid` is TRUE, the Updater stops.
     - If FALSE, it again tries to sniff the application path from the OS.
     - If no valid path can be found, the installation fails with an error.

12.3.2 Choosing what components are installed

There are several ways to control what components get installed. These include:
- Using the installer command

- Modifying the distribution file

12.3.2.1 Using the installer command

The installer command allows you to perform a number of installer-related actions. For example, you can select particular components for install during a command line installation via a `choices` file.

Viewing a list of what can be installed

Viewing a list of available choices within the pkg, run:

```
installer -package <path/Acrobat X installer.pkg> -showChoicesXML -target / |
grep -A 1 choiceIdentifier
```

> **Tip:** Every `choiceIdentifier` maps to one of the choices in the installer. The installer choices for Acrobat products are listed in Table 1 and Table 2.

Controlling what gets installed

The choices XML file is an array of `choiceIdentifiers` that toggles the installer to behave the opposite of its default. For example, since everything is installed by default, including any component deselects that component for install. For example, to not install the optional Acrobat components, include the two optional components in choices as shown in Example 12.1.

Example 12.1: choices XML

```
<array>
    <string>browserplugin</string>
</array>
<array>
    <string>printerworkflow</string>
</array>
```

Verifying what will be installed

To verify which components will be installed, run:

```
installer -package <path/Acrobat product installer.pkg> -target /
-showChoicesAfterApplyingChangesXML <path/choices.xml>
```

For Example 12.1, both the browserplugin and printerworkflow's selected attribute should be set to 0.

Applying choices.xml

To apply the choices.xml file during installation, run:

```
installer -package "path to Adobe Reader X Installer.pkg"  -target /
-applyChoiceChangesXML  <path/choices.xml>
```

12.3.2.2 Modifying the distribution file

The Acrobat product installer pkg contains a customizable distribution file you can use to permanently update the installer. Todo so:

1. Expand the flat package distribution file at pkg-path into a new directory specified by dir-path with `--expand pkg-path dir-path`. For example:

```
--expand <path/Acrobat product installer.pkg> <target install folder>
```

Tip: The target install directory can't exist on the machine (even in Trash).

2. Open the distribution file in a text editor.

3. Navigate to `choices-outline` and note the list of choices (For a description of these components, see Table 1 and Table 2).

4. Add a `start_selected` attribute to each `choice` node and set it to true or false as desired:

```
<choice
description="DESCRIPTION_BROWSER"
id="browserplugin"
start_selected="false"
title=""AcroBrowserPlugIn">
```

Note: For additional distribution file details, see http://developer.apple.com/library/mac/documentation/DeveloperTools/Reference/DistributionDefinitionRef/DistributionDefinitionRef.pdf.

5. Save the distribution file.

6. Flatten the expanded package:

```
pkgutil --flatten <path/expanded folder> <path/Acrobat product installer.pkg>
```

You can now deploy the new package via your preferred method.

12.3.3 Installing special fonts

Acrobat products ship with a number of fonts. However, you may need to install certain fonts manually or customize the installer to perform that task. For example, non-Japanese Reader installers do not come with Japanese fonts, but such fonts can be included at installation time.

Note: The font packs and spelling dictionary only need to be installed with Reader as they are already present in Acrobat.

To enable the application to render non-default fonts do the following (this example uses the Japanese font pack):

1. Install the application.

2. Download the requisite font pack installers. For example, the Japanese package identifier is com.adobe.Reader.fontpack.10.ja_JP.pkg.

3. Run the installer via the GUI or command line:

```
sudo installer -pkg JPNLanguagePack Installer.pkg -target /
```

12.4 Apple Remote Desktop

Starting with the release of Acrobat X products, administrators can remotely deploy Acrobat/Reader to multiple Macintosh systems running Mac OS 10.5 or later across their network. Using Apple Remote Desktop 3 (commonly referred to as ARD), an administrator can install Acrobat/Reader automatically,

without user intervention, to one or more remote computers. ARD copies the package to the computers selected for installation, runs the installer with no visible window or user interaction required, and then erases the installer files on completion.

The Acrobat Macintosh installer will perform initialization work such as the Adobe Application Manager installation as well as components needed for the serialization of the application. While serialization happens at launch time by default, enterprises can preserialize using a provisioning tool described in Apple Remote Desktop.

> **Note:** The locale of the launched installation depends upon the current locale set on the user's machine. The Installer application picks up strings from within our installation package in the order of locales specified in the system locale preference panel.

12.4.1 Install Acrobat products using ARD

These instructions provide only an overview. If you are not familiar with Apple Remote Desktop, refer to Apple's documentation http://www.apple.com/remotedesktop/.

> **Note:** This workflow is a two step process, for another scenario, see One step ARD deployments.

To deploy the product via ARD:

1. Open ARD.

2. Select one or more Macintosh computers on which you want to install Acrobat or Reader.

   > **Tip:** Remote Management and Sharing must be enabled for every target computer.

3. Choose **Install** on the top of the Remote Desktop window.

4. When the Install Packages window appears, choose the **+** button at the top left of the **Install Packages** window.

5. Locate and select the Acrobat or Reader .pkg file.

6. Choose **Open** to add it to the Install Packages List.

7. Choose **Install** to perform a complete installation of Acrobat or Reader on the selected machines.

   Apple Remote Desktop shows a progress bar and task status of the installation for each of the machines selected for the installation.

12.4.2 Deploy the Adobe Provisioning Tool (APT)

> **Note:** This tool was released in December, 2010. The provisioning tool is only for Acrobat deployments and does not work with Reader.

The Adobe Provisioning Tool streamlines enterprise deployment by enabling control of installation workflows such as:

- Configuring licenses for X number of users (pre-serializes the keys).
- Suppressing the end user license agreement (EULA).

- Suppressing the Adobe ID dialog.

To use the provisioning tool:

1. Download the provisioning tool from ftp://ftp.adobe.com/pub/adobe/acrobat/mac/10.x/10.0.0/misc/.

2. Open ARD.

3. Select one or more Macintosh computers on which you want to configure Acrobat products.

4. Choose **Copy**.

5. In the Copy Items screen's **Place Items** drop down list, choose **Applications Folder**.

6. Verify the **Set Item ownership** drop down list is selected to **Inherit from destination folder**.

7. In the **Items To Copy** list, navigate to the .dmg that you downloaded.

8. Select the Adobe provisioning tool.

9. Choose **Copy**.

   Once the Adobe provisioning tool is copied to the client machines, use a UNIX command to configure licensing and to suppress EULA and Adobe ID dialog.

12.4.3 Customizing Acrobat installs with APT

The APT is not for use with Adobe Reader. Acrobat installs can be customized with the APT as follows.

1. Open ARD.

2. Select one or more Macintosh computers on which you want to license an Acrobat product.

3. Choose **Manage > Send UNIX Command**.

4. Type the desired command shown in Table 4 or run the command from a script as follows:

   ```
   sudo "<path>/adobe_provisioning_tool.app/Contents/MacOS/adobe_provisioning_tool"
   <command line(s) from Table 4>
   ```

5. Run the command as the user "root."

6. Choose **Send**.

Table 4 Provisioning tool commands: Acrobat

Feature	Command
Configure enterprise licensing	-C -a "/Library/Application Support/Adobe/Acrobat 10 AMT/AMT" -s <serial number>
Suppress the end user license agreement (EULA)	-S -a "/Library/Application Support/Adobe/Acrobat 10 AMT/AMT"
Suppress the Adobe ID dialog	-R -a "/Library/Application Support/Adobe/Acrobat 10 AMT/AMT"

12.4.4 One step ARD deployments

It is also possible to deploy the product in one step via ARD using a script. To do create a wrapper installer and write a script to trigger the provisioning tool and ARD in the correct sequence.

For example:

1. Compress the Adobe Acrobat X Pro Installer PKG file into a .zip file. For example:

   ```
   zip AcroProX.pkg.zip "Adobe Acrobat X Pro Installer.pkg"
   ```

2. Create a new package in PackageMaker.

3. Add AcroProX.pkg.zip a a s payload to the new package and set its destination to `/private/tmp`.

4. Add the adobe_provisioning_tool.app application to the new package.

5. Set its destination to `/private/tmp`. Verify relocation is off.

6. Create a deployment `sh` file as shown in Example 12.2.

Example 12.2: postintall.sh

```
unzipPkg()
{
    rm -rf "/private/tmp/Adobe Acrobat X Pro Installer.pkg"
    unzip /private/tmp/AcroProX.pkg.zip -d /private/tmp }

installAcrobat()
{
    installer -pkg "/private/tmp/Adobe Acrobat X Pro Installer.pkg" -target /
    rm -rf "/private/tmp/Adobe Acrobat X Pro Installer.pkg"
    if (test $? = 0) then
        echo "Acrobat X installed."
    else
        echo "ERROR: Acrobat X installation failed."
        exit 1
    fi
}

serializeAcrobat()
{
    "/private/tmp/adobe_provisioning_tool.app/Contents/MacOS/adobe_provisioning_
tool" -C -a "/Library/Application Support/Adobe/Acrobat 10 AMT/AMT" -s
1118-xxxx-xxxx-xxxx-xxxx-xxxx

    if (test $? = 0) then
        echo "Acrobat X serialized."
    else
        echo "ERROR: Acrobat X serialization failed."
    fi
}

suppressAcrobatEULA()
{
    "/private/tmp/adobe_provisioning_tool.app/Contents/MacOS/adobe_provisioning_
tool" -S -a "/Library/Application Support/Adobe/Acrobat 10 AMT/AMT"

    if (test $? = 0) then
```

```
            echo "Acrobat X EULA suppressed."
      else
            echo "ERROR: Acrobat X EULA suppression failed."
      fi
}

suppressAdobeIDDialog()
{
      "/private/tmp/adobe_provisioning_tool.app/Contents/MacOS/adobe_provisioning_
tool" -R -a "/Library/Application Support/Adobe/Acrobat 10 AMT/AMT"

      if (test $? = 0) then
            echo "Acrobat X Adobe ID suppressed."
      else
            echo "ERROR: Acrobat X Adobe ID suppression failed."
      fi
}

unzipPkg
installAcrobat
serializeAcrobat
suppressAcrobatEULA
suppressAdobeIDDialog
```

7. Add the postInstall.sh script as the post install step for the component package created in Step 4

8. Create a pkg from the new package.

9. Deploy the new pkg using ARD.

12.5 Uninstalling via the command line

Product installs also provide an uninstaller along with the application at Applications/<product name>. For example, the path might be Applications/Adobe Acrobat X Pro>. End users will uninstall the product via the user interface. However, it's also possible to uninstall via the command line.

Differences between the 9.x and 10.x uninstaller

The improved 10.x uninstaller differs from the 9.x uninstaller as follows:

*   9.x removes all application files except Acrobat Uninstaller.app and its folder. While it removes licensing files, it doesn't remove the license, or uninstall the application files or Distiller. During uninstallation, the uninstaller displays detailed output about what it is doing.

*   10.x removes all application files, the license, and provides a detailed output of what does and doesn't get found and removed.

To uninstall from the Terminal in Mac OS X:

1. Close any running Acrobat products.

2. **9.x retail users only**: By default, two machines can be licensed by a single retail serial number. If you need to install the application on a 3rd machine, deactivate the Acrobat application.

> **Note:** For 9x users with a volume license, the serial number will continue to reside on another machine and the license usage count will be increased on the activation server, if tracked. There is no activation/deactivation for 10.x on Mac.

3. Invoke the uninstaller as follows:

    9.x: The syntax is as follows: $ sudo <Remover tool path> <Uninstaller.app path> <Acrobat App path>. For example:

    ```
    $ sudo "/Applications/Adobe Acrobat 9 Pro/Acrobat Uninstaller.app/Contents/
    MacOS/RemoverTool" "/Applications/Adobe Acrobat 9 Pro/Acrobat Uninstaller.app/
    Contents/MacOS/RemoverTool" "/Users/myname/Desktop/Adobe Acrobat 9 Pro/Adobe
    Acrobat Pro.app"
    ```

    10.x: The syntax is as follows: $ sudo <Remover tool path> <Uninstaller.app path> <Acrobat App path>. For example:

    ```
    $ sudo "/Applications/Adobe Acrobat X Pro/Adobe Acrobat Pro.app/Contents/
    Support/Acrobat Uninstaller.app/Contents/MacOS/RemoverTool" "/Applications/Adobe
    Acrobat X Pro/Adobe Acrobat Pro.app/Contents/Support/Acrobat Uninstaller.app/
    Contents/MacOS/RemoverTool" "/Applications/Adobe Acrobat X Pro/Adobe Acrobat
    Pro.app"
    ```

    > **Note:** In Acrobat 10.x, the uninstaller application is located inside the Acrobat App.

Successful uninstalls should remove product files, licensing information (including the serial number, EULA acceptance status, and so on).

12.6 Disabling the Updater

There are two ways to prevent automatic updates: Setting the update mode to manual and disabling the application's ability to update altogether.

12.6.1 Setting the Updater to manual

The update mode is set on a per user basis as follows:

1. Go to ~/User/Library/Preferences/.

2. Open one of the following:

    - **10.0**: com.adobe.<app name>.plist
    - **9.x**: com.adobe.<app name>_<ppc/i386>_<version>.plist

3. Find `CheckForUpdatesAtStartup` or create the preference if it does not exist.

4. Set the boolean (data type = 0) value as follows:

    - False: **Manual**. Do not download or install updates automatically.
    - True: **Semi-automatic**. Automatically download updates, but let me choose when to install them.

12.6.2 Preventing any updates

To disable the application's ability to update altogether, use a post install script to move, rename, or delete the Updater.acroplugin file from the <root>/Contents/Plug-ins/Updater.acropluginplug_ins directory.

12.7 Troubleshooting

12.7.1 Logging

There are two primary logs: one for the installer application and one for the Updater which is responsible for detecting and downloading updates as well as invoking the installer.

12.7.1.1 Install log

Apple's Installer.app creates an install log that should contain all basic success and failure details. The file is located at /private/var/log/install.log created by Apple's Installer.app.

By default, the installer logs only necessary information in installer log. However, it is possible to configure the log to provide debug output for 10.x and later products.

To set this preference, do the following:

1. Go to /Library/Application Support/Adobe/Acrobat/10.0 or create it if it doesn't exist.

2. Open com.adobe.acrobat.InstallerOverrides.plist or create it if it doesn't exist.

3. Create following key-value pair: AcroPatchLogLevel:debug

Example 12.3: debug logging
```
<key>AcroPatchLogLevel</key>
<value>debug</value>
```

4. Save and close the file.

12.7.1.2 Updater log

The Updater creates a log at ${HOME}/Library/Logs/Adobe/{application name} Updater.log. By default, it provides non-verbose output. To change the default:

1. Go to <user>/Library/Preferences.

2. Open to com.adobe.ARM.plist.

     Note: Create the file if it does not exist. The file will not exist unless the Updater has run at least once.

3. Create a new key if it does not exist: LogLevel.

4. Set `LogLevel`:

- **Brief**: -int 0
- **Verbose**: -int 1

5. Save and close the file.

The log size limit is as follows: If an existing log is bigger than 1 MB, the Updater truncates the log. Old log files are backed up once as Adobe Acrobat/Reader Updater-old.log and overwrites any existing old.log.

12.7.2 Installation failures

Conflicting processes running

Installs should take place on machines where there are no instances of an Acrobat product or plugin running.

Client Configuration and Tuning

Planning and Tuning
Preference Basics
Feature Lockdown

13 | Pre-Deployment Planning and Customization

13.1 Configuration planning

A key step in planning for deployment is to decide the installation parameters and user preferences you would like to set. You can specify both the installation type (silent, reboot, etc.) and product preferences (application settings such as whether to update, enable security, etc.). Depending on your requirements, you may make use of one or more of the following:

- command line: For running msiexec commands and setting both MSI and Adobe properties

- Customization Wizard: For copying registry settings and folders/files from existing installations as well as creating new configurations.

- Manual manipulation of the registry pre and post deployment. Post deployment product configuration is common, and IT personnel often manage preferences via standard (non-Adobe technologies) such as GPO or SCCM.

> **Tip:** A database of registry and plist preferences resides in the Administrator's Information Manager (AIM). AIM is an AIR application containing the Preference Reference for Windows and Macintosh, Feature inSight, and other resources.

13.1.1 Preference migration and updates

Most application settings are not automatically migrated. If you inspect the TransferRegistry table via the Wizard, Orca, etc, you can see what gets migrated. When deploying, keep in mind the following:

- MSIs uninstall the existing product before continuing with the new installation. Therefore, you should save your existing MST for future MSI deployments. Alternatively, you can keep a reference copy of the application from which you can leverage the registry settings each time.

- MSPs don't uninstall the product, so existing settings remain intact.

Note that Adobe has implemented cumulative updates with 10.0 and beyond, thereby greatly simplifying keeping the product up to date. The intention is to provide MSI installers rarely and only when required due to the extensive nature of changed features or fixes.

For 10.x products, quarterly MSPs are cumulative to the last MSI, and out of cycle patches are cumulative to the last quarterly. You can always remain up to date with no more than two chained installers. Also, MSIs are rarely released, thereby reducing the number of installs that require setting migration.

> **Tip:** SCCM users should note that SCUP catalogs can't deliver anything but a generic installer. Because enterprises use different configurations, there is no way for Adobe to provide installers tailored to individual organizations. However, MSPs do not change existing settings, and MSI deployments always involve using an MST to migrate settings.

13.1.2 Installing Reader and Acrobat on a single machine

Prior to 10.x, Adobe did not recommend or support having both applications installed on the same system. Ideally, Acrobat should be upgraded to the latest version and used as the default viewer since it provides the best performance and security. If you do deploy both applications, the installer sets

Acrobat as the more functional of the two applications as the default PDF viewer. If the Acrobat application is an early version such as 5 or 6, opening PDFs can be significantly slower than with Reader.

For 10.0 and later, the product allows the user to specify the default PDF handler on first launch. Alternatively, admins can preset that choice via a registry/plist preference. The `DisablePDFHandlerSwitching` preference in HKLM cannot be changed without admin privileges.

13.1.3 Plug-ins

Many organizations use plug-ins for Reader to customize their workflows to meet their particular needs. The Customization Wizard allows you to specify custom plug-ins for automatic installation. You can use plug-ins from third-party suppliers or develop your own using the Acrobat Software Developers Kit (SDK). For more information, see the Acrobat Developer Center: http://www.adobe.com/devnet/acrobat/.

13.1.4 Preferences

Configure preferences via the Wizard, installer tables, or the command line. For example, turning off the EULA, disabling the updater, and disabling acrobat.com integration are common tasks. There are hundreds of other preferences that you can use to control workflows, certificate processing, data handling, communications with others servers, and so on. Refer to the Preference Reference in Administrator's Information Manager (AIM). AIM is an AIR application containing a database of preferences and other resources.

13.1.5 Acrobat.com integration

All versions of Acrobat and Reader after 9.0 provide some level of acrobat.com integration by default. Disable Acrobat.com integration by setting preferences via one of the following methods:

- Use Customization Wizard to disable Acrobat.com menus.

- Edit the registry-plist to disable the acrobat.com features. For example, you can set the following:
  [HKEY_CURRENT_USER\Software\Adobe\(product name)\(product version)\Workflows]
  "bEnableAcrobatHS"=dword:00000000

  > **Note:** The are a number of acrobat.com settings which allow you to fine tune acrobat.com access. For details, refer to the Preference Reference in Administrator's Information Manager (AIM). If you disable access to Acrobat.com, take care to avoid inadvertently prevent access to shared reviews.

13.1.6 Configuring Reader Help for offline use

With 10.x products, the Reader Help system is only available online. If the product does not have online access, configure the installations to point to a local version on your Intranet.

> **Note:** For alternative solutions as well as solutions for 9.x, see http://kb2.adobe.com/cps/865/cpsid_86505.html.

To configure local access to Help for 10.x products:

1. Download the Help from http://help.adobe.com/en_US/reader/using/reader_X_help.pdf.

2. Install it in some accessible location.

3. Place the JavaScript in Example 13.1 in the JavaScripts directory of each installed client. For example, (C:\Program Files\Adobe\Reader <version>\Reader\Javascripts). This script replaces the existing Help link with your custom link.

> **Tip:** The easiest way to place this file prior to deployment is by using the Customization Wizard's Files and Folders feature. The Wizard allows you to create an MST file that will modify the installer with any of your customizations.

Example 13.1: Help menu JavaScript

```
/*********************************************************************
Copyright (C) 1998-2011 Adobe Systems Incorporated. All rights reserved.

 NOTICE: Adobe permits you to use, modify, and distribute this file
 in accordance with the terms of the Adobe license agreement
 accompanying it. If you have received this file from a source other
 than Adobe, then your use, modification, or distribution of it
 requires the prior written permission of Adobe.
 ********************************************************************/
/****************************    Hide Menu ****************************/
//Hide the default Help menu

app.hideMenuItem("HelpReader");

/****************************    Menu Execution items *********************/

app.addMenuItem({ cName: "Adobe Reader Help PDF", cParent: "Help", cExec:
"fTDocs1()", nPos: 0});

/*************************** Functions *********************************/

// Note: The "/C/Program Files/Adobe/" convention was used to conform to the
// Adobe SDK format but the installer does not do this so you may need to
// edit the path for your system.

function fTDocs1()
    {app.openDoc("/C/Program Files/Adobe/Reader 10.0/Help/reader_X_help.pdf");};
```

13.1.7 AIR

Reader X does not include the AIR runtime, but 9.x English language versions provided from the Reader Download Center do install the AIR™ runtime. There are several ways to avoid AIR installation:

- Download the enterprise installer without AIR from ftp://ftp.adobe.com/pub/adobe/reader/, or

- Use installer properties on the command line or in the bootstrapper's Setup.ini file during installation to prevent AIR installation. For details, see The Command Line and msiexec.

13.2 Customizing installations

Installer customizations are the norm in enterprise settings. Administrators usually want to enable, disable, and preconfigure numerous features. There are three alternatives:

- Manual configuration

- Tuning with the Customization Wizard

- Some combination of the two above. If this is a new installation, this is the most common choice. You will likely install the application, configure it manually, further configure it via the Wizard, and then copy the MST to the administrative installation point.

13.2.1 Manual configuration

MSI and Adobe-specific properties can be set on the command line during install time. For details, see The Command Line and msiexec.

13.2.2 Tuning with the Customization Wizard

> **Tip:** Wizard documentation is included with the application, but the latest PDF or CHM (compiled help) documentation can be downloaded from www.adobe.com/go/acrobatitinfo.

The Adobe Customization Wizard enables tuning the Windows installer for Adobe products prior to mass deployments. The Wizard is a free, downloadable utility designed to help IT professionals take greater control of enterprise-wide deployments of any of the Acrobat family of products.

> **Note:** Prior to version 8, customization was handled by the Adobe InstallShield Tuner® utility.

The Wizard enables IT to:

- Modify the installer via a transform file (MST file) without altering the original package (MSI file).

- Leverage existing installations by drag and dropping registry settings and file from already configured applications.

- Take advantage of an intuitive user interface to customize the Installer.

- Optimize installer behavior by including silent installation, pre-serialization, reboot, multilingual, and custom setup choices.

- Optimize first time startup behavior including suppressing the EULA, registration prompts, and the Getting Started window.

- Customize key application preferences such as collaboration and security settings, access point to Acrobat.com, and any other feature.

- Prevent users from modifying certain preferences by locking them.

> **Note:** Although many tools (such as Orca and Admin Studio) and can be used to customize Microsoft transform (MST) files, Adobe Technical Support only supports the Adobe Customization Wizard and the supported command line options.

To download the Wizard, go to:

- **10.x**: ftp.adobe.com/pub/adobe/acrobat/win/10.x/10.0.0/misc/

- **9.x**: ftp.adobe.com/pub/adobe/acrobat/win/9.x/9.0/misc/

13.2.2.1 Basic Wizard Tuning

The Wizard provides a user interface for modifying the installation without preinstalling the application. You can modify the registry, files, and user interface options using only the Wizard. However, to take full advantage of the application's configuration options, advanced users should skip this section and proceed to "Advanced Wizard tuning for new installations" on page 111.

The limitations to only using the Wizard UI include:

- **Files and Folders**: Many template files won't exist unless you have installed and configured the application. For example, the easiest way to create a directory server file is via the application's GUI.

- **Registry-plist**: Many application preferences and directories do not exist until the code is exercised from an installed application. While you could build the paths and add the values manually, simply configuring an installed application and using it as a template does most of the work for you.

- **Other options**: The Wizard does not provide an UI for every configurable option, but much of the application's behavior is modifiable. Installing, configuring, and using the application is the quickest way to understand how and why the installer should be modified to suit your environment.

Figure 1 Wizard: Main user interface
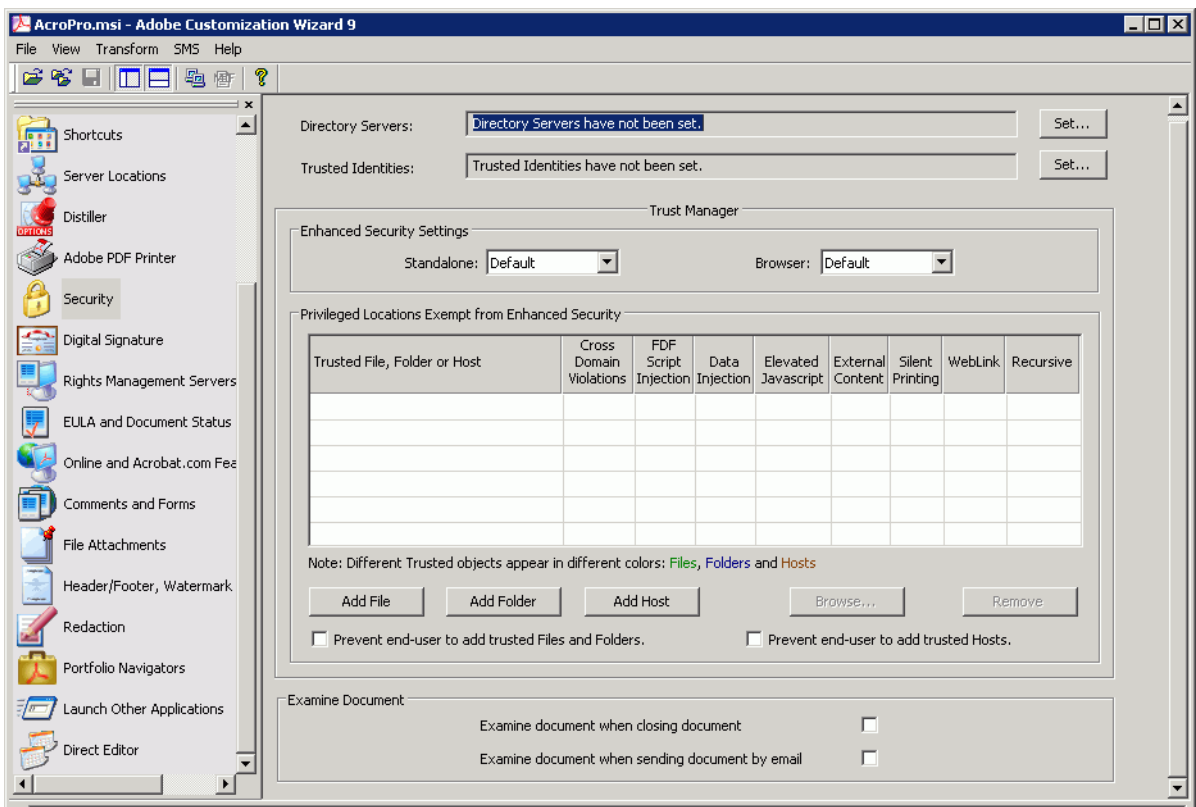
13.2.2.2 Advanced Wizard tuning for new installations

The Wizard's user interface (GUI) only provides basic options for security configuration. Moreover, using the Wizard's GUI to set preferences will result in overwriting existing registry settings that you might drag and drop from your template application. For these reasons, power users--those with extensive experience modifying the registry and who are familiar with the products advanced features--may want to utilize a more manual process. A feature rich deployment workflow involves the following:

1. Install the new application (or use an already configured existing installation).

2. Configure the application via its user interface. In particular, go through the menus under **Edit > Preferences**.

    Tip: UI configuration modifies, files, installer properties, and the registry. There are dozens of registry preferences that you can use to control, feature access, workflows, certificate processing, data handling, communications with others servers, and so on. Refer to the Preference Reference in Administrator's Information Manager (AIM). AIM is an AIR application containing a database of preferences and other resources.

3. Lock down features so that settings can not be changed by end users. See the Preference Reference for available options.

4. Use the Wizard to drag and drop the configured template registry to the installer.

5. Use the Wizard to configure application preferences not already configured manually.

6. Set up file deployment:

    1. Click on **Files and Folders** to open a directory of files on the source computer that enables copying existing files to the destination system. You can add or remove files from the installation list and modify file records. Copy preconfigured files from an existing installation from the top window to the appropriate folder in the bottom window under **Destination Computer**.

    2. Copy needed files. Paths vary by application, version, and user. For example, on Windows XP, drag and drop all acrodata files from `C:\Documents and Settings\<user name>\ Application Data\Adobe\Acrobat\<application version>\Security` to `CommonAppDataFolder\Adobe\<application>\<version>\Replicate\ Security`. Acrodata files could include:

        *   **addressbook.acrodata**: Populates the Trusted Identity Manager with certificate data. This file can be used to distribute a trust anchor for signature validation.

        *   **directories.acrodata**: Populates the directory server list in the Security Settings Console. This file can be used to configure connections to an LDAP server used as a certificate repository.

        *   **Appearances.acrodata**: Stores signature appearances. Unless there is a shared company appearance, do not use this file.

        *   **security-policy.acrodata**: Populates the security policy list in the Security Policy Manager. This file can be used to distribute common document security policies.

    3. Copy other needed files to a custom or existing directory. For example, expand the Destination Computer directory `ProgramFileFolder\Adobe\Acrobat <application version>\Acrobat\` and create a new folder called `Security`. Some common files that may be distributed this way include:

        *   **SignatureLogo.pdf**: To create a watermark or logo on each employee signature, create the logo and manually copy the file to the Documents and Settings Directory under their username.

        *   **PKCS#11 drivers**: If you use smart cards, you can distribute drivers that end users can import via the Security Settings Console.

- **Custom security handlers**: If you have developed a custom handler for signing or document security, install it in the application's plugin directory.

> **Note:** The tuned installer will copy these files to the matching location.

You are now ready to deploy the application as described in the Wizard's documentation.

13.2.3 Multilanguage (MUI) configuration (Reader only)

Multilanguage (MUI) installers provide a way to install Reader with support for more than one language. Features include:

- Support for more than one language so that users can switch languages.
- Automatic selection of the language based on the language of the current OS.

MUI usage requires a MUI installer. The base installer is an MSI file, and MSP patches are also periodically released which can only be applied over the base mui MSI install. Both installers are identified by "_mui" in the filename.

> **Tip:** MUI installers are only created in tandem with full MSI installers. They are not created for MSP updates and patches. For example, 10.0 and 10.1 include MUI installers while 10.0.1, 10.0.2, and 10.0.3 do not. Download the MUI installer from ftp.adobe.com/pub/adobe/reader/.

The MUI Reader always contain the base English resources. To support another language, an additional resource bundle is added to the installation. Therefore, English is always present, and the single language Reader is about the same size as the MUI Reader.

The installation size varies with the type of install:

- **Bootstrapper (setup.exe) or UI-based installer**: The size is approximately 275 MB larger than the single language version because the full installer is kept on the disk.
- **AIP install**: Except for minor differences in some of the text files, the size of the MUI Reader will be about the same as the single language Reader.

13.2.3.1 MUI configuration via the Customization Wizard

When a mui installer is opened in the Wizard, mui configuration options appear in the Installation Options panel. Select one of the following options:

- **Allow the user to choose the installation language**: Provides the user the user will have the option of selecting an available language to use during installation. Deselecting this box enables the Install Language drop down list.
- **Install Language**: Provides a drop down list of available languages you can preselect for the user.

  The setup.ini command line will be set to /sl <language ID code>.

13.2.3.2 MUI configuration via the registry

You can configure the application to use the OS language for MUI installers as follows:

1. Navigate to HKEY_CURRENT_USER\Software\Adobe\<product name>\<version>\Language.

2. Create a key called UseMUI.

3. Right click and choose **New > DWORD value**.

4. Set the value to 1.

> **Tip:** You can also create a machine-level setting at HKEY_LOCAL_MACHINE\SOFTWARE\ Adobe\Adobe Acrobat\(version: 10.1 or later)\Language\UseMUI. End users cannot change this setting without administrator privileges. For more detail about Language and other preferences, see the Preference Reference.

13.2.3.3 Non mui language selection via the command line

Before starting, verify you have the correct installer. There are several installer types:

- Single language installers identified by the lang_ID in the installer name (e.g. en_US).

- Tier installers identified by tier_# in the installer name that typically support 4 or more languages. For example, Tier 1 supports English, French, German, and Japanese.

- MUI installers identified by _mui in the installer name.

> **Tip:** In addition to the filename, you can also check the setup file directory which includes the language specific .mst files as well as the Acrobat msi file. These are identified by language ID codes (see Locale and language codes).

The installer installs the default language unless a language specific mst is specified. To specify a non-default language for an AIP install, do the following:

1. Create the AIP.

2. Copy the language mst files as well as any custom mst you may have to the AIP directory.

> **Note:** The language mst files provided with your installer do not automatically get copied to the Administrative Install Point (AIP) created by the msiexec utility. Transforms in the installer media directory do not require fully qualified paths in the command. Patches do require fully qualified paths.

3. Change directories to the AIP.

4. Patch the AIP to the desired level.

5. Deploy from the AIP. For example, to deploy a Dutch version of the product, use:

```
msiexec /i AcroStan.msi TRANSFORMS="1043.mst;Custom.mst" /qf
```

13.2.4 Wizard FAQs

Why do I get the error "The Wizard cannot modify this MSI package. . ."?

- You are trying to open a product MSI that is not supported. The Wizard checks a signature based on a GUID in the property table: the target product should have the requisite signature property as well as the expected major version value in the GUID.

- You are using Acrobat Elements which is not supported by the Wizard.

- The versions of the Acrobat product and Wizard are not identical. For example, the Wizard 9 can only be used with 9.x products and Wizard X can only be used with 10.x products.

Why doesn't my install respect the "silent install" settings I specified with the Wizard?

If you command line is something like:

```
MSIEXEC /I C:\somePath\AcroPro.msi TRANSFORMS="C:\somePath\AcroPro.mst
```

Then you are not using Setup.ini your workflow. The Wizard rewrites Setup.ini when you specify a silent install to include this option. The silent install switch is not saved in the MST. Either run Setup.ini or change your command line to:

```
MSIEXEC /I C:\somePath\AcroPro.msi TRANSFORMS="C:\somePath\AcroPro.mst" /qn
```

14 | Application Preference Basics

Administrators often need to configure end user machines before deployment and manage, patch, and update those clients after deployment. Since manipulation of client side settings through the user interface is rarely scalable, configuration typically occurs at the registry or plist level. This configuration can be handled via the Adobe Customization Wizard prior to deployment, manually, or via standard scripting mechanisms with which you are already familiar. All of the Acrobat family of products are built on a uniform platform, share a common set of preferences, and are similar in their configuration details.

Before continuing, you should know that:

- The tables and examples use the Windows registry. Most are applicable to Macintosh, Unix, and Linux systems.

- Feature lockdown is not available on Macintosh.

- The root directory for registry settings stored on a per-user basis are at: `HKEY_CURRENT_USER\Software\Adobe\<application>\<version number>\<some feature>\`.

- The examples use Acrobat; other applications may provide different menu options.

- Some keys do not appear in the registry until after a feature is used. Subdirectories also appear as the code is exercised.

- Many preferences cannot be set thought the UI and must be manually created and configured at the registry level.

> **Caution:** Adobe strongly recommends that you do not make changes to the registry unless you are knowledgeable about editing and troubleshooting application settings. Improper use of this feature can result in the corruption of critical system files Before modifying the registry, make sure you understand what product versions are supported, what the default settings are, and how to create new keys.

14.1 Supported products

In general, the preferences in this and related document apply to all products in the Acrobat family, including Acrobat Professional, Acrobat Standard, and Adobe Reader. While differences may be noted on a per-setting basis, if a product or product version does not support a feature, then its related registry setting is also unsupported. For example, setting all the signature preferences for Adobe Reader might not result in any behavioral change since Reader only supports signing under limited conditions.

> **Note:** This document originally included information applicable to versions as early as 7.0. Over time, these earlier versions become unsupported and certain preferences may become deprecated. Legacy content is not removed from this document, and differences between settings and versions are noted when known.

14.2 Platform specifics

The path to a particular key varies by platform. For example:

14.2.1 Windows

On Windows, the a preference path is a registry path. The path varies with both the nature of the key and the OS as follows:

- User modifiable keys. HKEY_CURRENT_USER (HKCU) stores settings that are specific to the currently logged-in user:

  - **Current user keys**: HKEY_CURRENT_USER\Software\Adobe\(product name)\(version)\

    Note: Some HKCU keys have a matching key in FeatureLockdown.

- Admin-only keys (require administrator privileges to modify). HKEY_LOCAL_MACHINE (HKLM) stores settings that are specific to the local computer.

  - **Lockable keys (32 bit)**: HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\(product name)\ (version)\FeatureLockDown\

  - **Lockable keys (64 bit)**: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Adobe

  - **Non lockable machine keys**: HKEY_LOCAL_MACHINE\SOFTWARE\Adobe\(product name)\ (version)\

14.2.2 Macintosh

Macintosh uses plist files to manage preferences. Look for the plist under Acrobat or Reader package > MacOS/Preferences.

The plist path and keyname is in most cases similar to Windows. For example, to set the log level for the Acrobat Updater logging, on Windows you would set iLogLevel to 0 or 1. On Mac, you would do the following:

1. Go to Mac: com.adobe.ARM.plist.

2. Set `LogLevel`:

   - **Brief**: defaults write com.adobe.ARM.plist LogLevel -int 0

   - **Verbose**: defaults write com.adobe.ARM.plist LogLevel -int 1

14.2.3 Unix

UNIX uses an equivalent of the registry key system used on Windows. Preferences are stored in a preferences file in the users' home directory. For example, .adobe/Acrobat/8.0/Preferences/reader_ prefs.

Example 14.2: Preferences: UNIX

```
/AVPrivate [/c << /ChooseLangAtStartup [/b false]
/EULAAcceptanceTime [/i 1169559777]
/ForceXFADirectRender [/b true]
/SplashDisplayedAtStartup [/b true]
/UnixLanguageStartup [/i 4542037]
```

```
/showEULA [/b false]
>>]
```

14.3 Default values

Some keys have default values which are used internally and do not appear in the registry. These keys may be overridden by the administrator's registry configuration or as a result of a user's action. Other keys are directly created as a result of some user action such as checking a checkbox or selecting a drop down list item or are indirectly generated by the application; for example, the application maintains a list of opened certified documents and their signature status the last time they were opened.

The default values listed in the following tables only apply to fresh installations that have not been modified by the Adobe Customization Wizard. The values include:

- **N/A**: The key does not exist at installation time or contains subkeys with no set value.

- **<some value>**: Preferences that exist by default (are set at install time) are usually prepopulated with some value. many default preferences do not appear in the UI unless they are configured manually; that is, the application uses a value which is stored internally until it is overridden by the administrator.

14.4 Directory and key creation

Many preferences are exposed in the API. The plugins use the cross platform ASCab preference mechanism supported by all Acrobat products. This mechanism uses calls such as `AVAppGetPrefCab` and `AVAppSetPrefCab`, that were introduced in Acrobat 5.0. Refer to the *Acrobat and PDF Library API Reference* for details on these calls.

Most settings only appear if a certain part of the code is exercised. For example, `cMain` registry keys only appear if someone uses security envelopes (eEnvelopes prior to 8.0) to deliver a document securely. Some are set by the UI automatically; others must be manually added. On a Windows OS, many registry entries only exist (physically in the registry) if the value is manually set. Many default values are simply provided internally by the application.

If you would like the application to automatically build the directories prior to registry customization, exercise the UI.

For example, to configure digital signature-related settings:

1. Launch the application. This example uses Acrobat on Windows. Other applications on other platforms provide different menu options.

2. Navigate to the top level security-related menu items under the **Advanced** menu.

    Note: If you are not using the customization wizard or an existing installation, it is helpful to access the security-related menu to exercise the code and let the application build the directories. For example, directories are written to the registry when menu items are used as follows:

- **Advanced > Manage Trusted Identities** creates `Security\PPKLite`.

- **Advanced > Security Console** creates `Security\cASPKI`.

- **Advanced > Manage Security Policies** creates `Security\PPKHandler` and `Security\cSecurityConsole`.

- **Advanced > Sign & Certify** creates `Security\cHandlers` and `Security\cPubSec`.

3. Close the application.

14.5 Importing and exporting preferences

For Windows machines, use the Customization Wizard to tune the application installer when upgrading or deploying in large, multi-user environments. There are other, scripted ways to manage configurations as well. The following describes a simple import/export method that should be familiar to administrators.

For example, say you want to share trusted site settings:

On Windows, begin by prepopulating the trust list in Acrobat's user interface and then exporting the URL list from the registry. To create a trust list that can be shared across product installations, add the URL to the URL list manually by typing it into the edit field above the list box and then choosing **Allow** or **Block** as appropriate. Once you have built this list you and can export the `HKEY_CURRENT_USER\Software\Adobe\<application>\<version>\TrustManager` key from the Windows registry.

On the Macintosh, you would have to navigate to the `Users:<user>:Library:Preferences` folder and open either the `com.adobe.Acrobat.<version>.plist` (Acrobat Standard) or the `com.adobe.Acrobat.Pro<version>.plist` (Acrobat Professional) and then extract everything between the following:

```
<key>TrustManager</key>
<dict>
~
</dict>
```

Importing the Data

All of the settings extracted from the `TrustManager` key can either be imported as is for each installation, or you can modify the REG file and change `HKEY_CURRENT_USER` to `HKEY_LOCAL_MACHINE` for enterprise installations where the computer will support multiple users.

Acrobat does not support the concept of shared preferences on the Macintosh. You would need to devise a method of programmatically writing the data into the plist file for each user.

14.6 Data types: Windows

When adding new keys to the registry it is critical that you get the **Value data** and **Name** fields correct as shown in Table 4. Every Windows registry preference has a data type as indicated by its prefix. These need to be added in the format that the application can recognize.

For example, to force a digest comparison with `bEnforceSecureChannel`:

1. Open the registry.

2. Navigate to `HKEY_CURRENT_USER\Software\Adobe\<product name>\<evaluated product version>\Security\PubSec`.

3. Highlight `PubSec`.

    `EnforceSecureChannel` is a boolean so its prefix is "b." Looking at Table 4 we learn that this is mapped to REG_DWORD.

4. In the right pane, right click and choose **New > DWORD Value**.

5. Create a value called `bEnforceSecureChannel`.

6. Right click on `bEnforceSecureChannel`.

7. Choose **Modify**.

8. Set **Value Data** to 1.

Table 4 Registry preference data types: Versions 8.x and later

Acrobat Prefix	Data Type	Registry type	Description
a	atom	REG_SZ	The string may be UTF-8 and can therefore include Unicode. The Value Data field is typically entered as text. For example, a value for cHandlers:aPrivKey could be `Adobe.PPKLite`.
b	bool	REG_DWORD	0 (false) or 1 (true).
c	cab	N/A	Containers that hold keys are preceded by a "c" on Windows.
i	int	REG_DWORD	An integer.
s	string	REG_BINARY	ASCII only.
t	text	REG_SZ	The string may be UTF-8 and can include Unicode. The Value Data field is entered as text. For example, a value for cEDC:tLastServerURL could be `https://aps.serv.com:123`. **Note**: 7.x and earlier use REG_BINARY and tValue.
a, s, or t	ASPath	See a, s, and t above.	ASPath objects require three components: **aFS**: The filesystem for the path, such as DOS. **sDI**: A string of device independent path. **tDIText**: The device independent path again in Unicode.

14.7 Data types: Macintosh

When adding new keys to the registry it is critical that you get the key name and data type correct. Every preference has a data type as indicated by the integer field under the key. These need to be added in the format that the application can recognize.

For example, to force a digest comparison with `EnforceSecureChannel`:

1. Open ~root/com.adobe.(product name)_(product version).plist

2. Navigate to [Security\PubSec] .

3. Under PubSec add a new key `EnforceSecureChannel`.

4. Create an array element with an integer element specifying the data type and the boolean value (Example 14.3).

Example 14.3: Setting a Mac preference

```
<key>EnforceSecureChannel</key>
<array>
<integer>0</integer>
<false/>
</array>
```

Table 5 Registry preference data types: Versions 8.x and later

Integer	Data Type	Description
0	bool	true or false
1	int	An integer.
2	atom	The string may be UTF-8 and can therefore include Unicode. The field typically contains text. For example, a value for Handlers:PrivKey could be `Adobe.PPKLite`.
3	number	Double.
4	text	The string may be UTF-8 and can include Unicode. The Value Data field is entered as text. For example, a value for cEDC:tLastServerURL could be `https://aps.serv.com:123`. **Note**: 7.x and earlier use REG_BINARY and tValue.
5	string	ASCII only.
6	data	A binary blob.
7		Unused.
8	dict	Containers that hold additional keys.

14.8 Preference convention basics

Modifying existing or creating custom preferences requires some knowledge of the supported naming conventions and data types. In general:

- Folders or directories that contain the actual preferences (keys), appear in the left-hand window are the names are always prepended by a "c." For example, `cAdobe_ChainBuilder` and `cAcceptablePolicyOIDs` are containers.

- The lowest level key container is an array. Item names are always "c" + <index number>. Thus, in Figure 2, an array under `cAcceptablePolicyOIDs` could be c0, c1, c2, c3, and so on.

- Keys are usually stored in the lowest level container. The subkey structure has a dependency on the data type of the parent container. Cabs at the c0, c1, c2, etc. level use a subdirectory named `cValue` that contain the actual key data. For all other data types, store the value directly at the c0, c1, c2, etc. level (Figure 2). For example, to create keys for a cab container such as `cAcceptablePolicyOIDs`:

  1. Look up the container data type in this specification. `cAcceptablePolicyOIDs` is a cab of cabs.

  2. Right click on the container and choose **New > Key**. Name it c0. Repeat for each new key and increment by 1.

  3. Right click on each `c<index>` item, and choose **New > Key**. Add a new subentry called `cValue`.

  4. Right click on `cValue` and choose **New > <Data type> Value**. In this example, choose **Binary Value** because strings are mapped to REG_Binary (Table 4).

  5. Provide a value name and a value that match one of those listed in Table 4.

Figure 2 Preference relevance keys
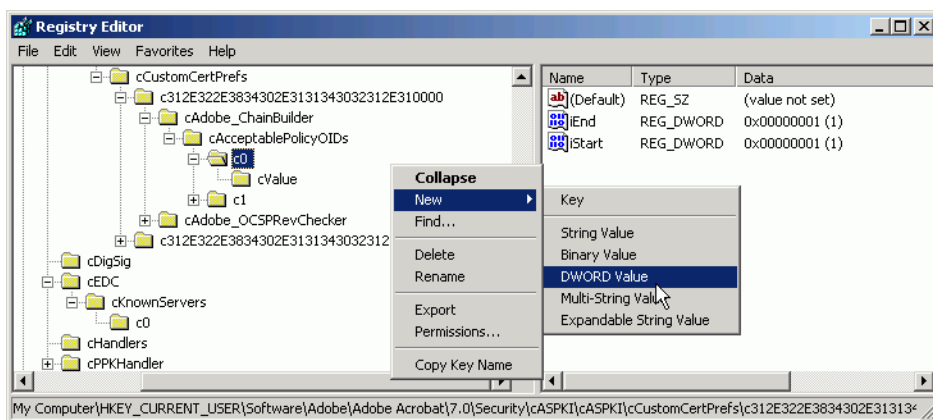
14.9 Order of precedence

Most features do not provide more than one setting or component that interact in a way that cancels the affect of another setting. Many preferences are simply off or on and are either toggled via the UI or direct registry configuration.

However, for some complex features, understanding the order of precedence is critical. For example, in Acrobat 9.x, the trust manager, certified documents, and the enhanced security feature are tightly integrated. Each of these can allow a PDF to access a networked file, and the most permissive setting generally applies.

Additionally, Acrobat's signing and security feature behavior is determined by registry configuration, certificate extensions, and seed values. One or more of these variables may be changed by an administrator or an end user. In order to understand what is happening to a document then, it is important to understand how these variables interact and which one is controlling.

In general, the smaller the scope of the variable, the more controlling it is. Thus, seed values override application preferences, and application preferences override certificate extensions (which has a larger scope because it can be used in a number of contexts). Such a hierarchy allows document authors to have more control over their documents once they are published.

For example, an application has a default timestamp server configured, a certificate contains an OID that specifies a different timestamp server, and a seed value specifies a third timestamp server for a particular signature field; in this case, the seed value timestamp server is used.

Figure 3 Precedence order
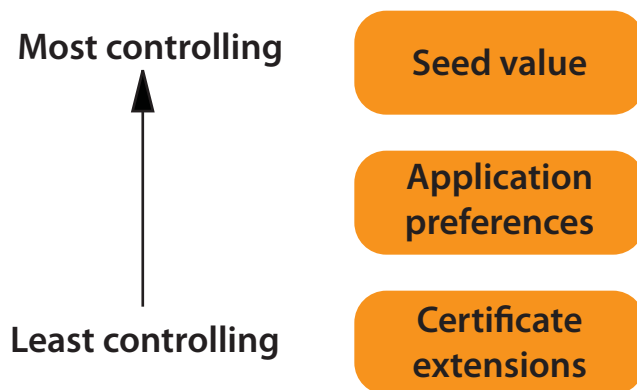
14.10 Pre-deployment configuration

Preconfiguration of clients involves customizing the product installer with the Adobe Customization Wizard so that clients behave consistently and adhere to the same policies across the organization. Application level preferences (registry settings and plist preferences) are available for controlling many aspects of the product. For details, see http://www.adobe.com/go/enterprise_deployment.

You can use the wizard to customize product installers in the following ways:

- Modify application registry and installer tables for any security feature, including enhanced security, digital signatures, and document security.

- Lock settings so they cannot be altered by users.

- Install files such as templates, trusted identity lists, and so on.

Figure 4 Customization wizard
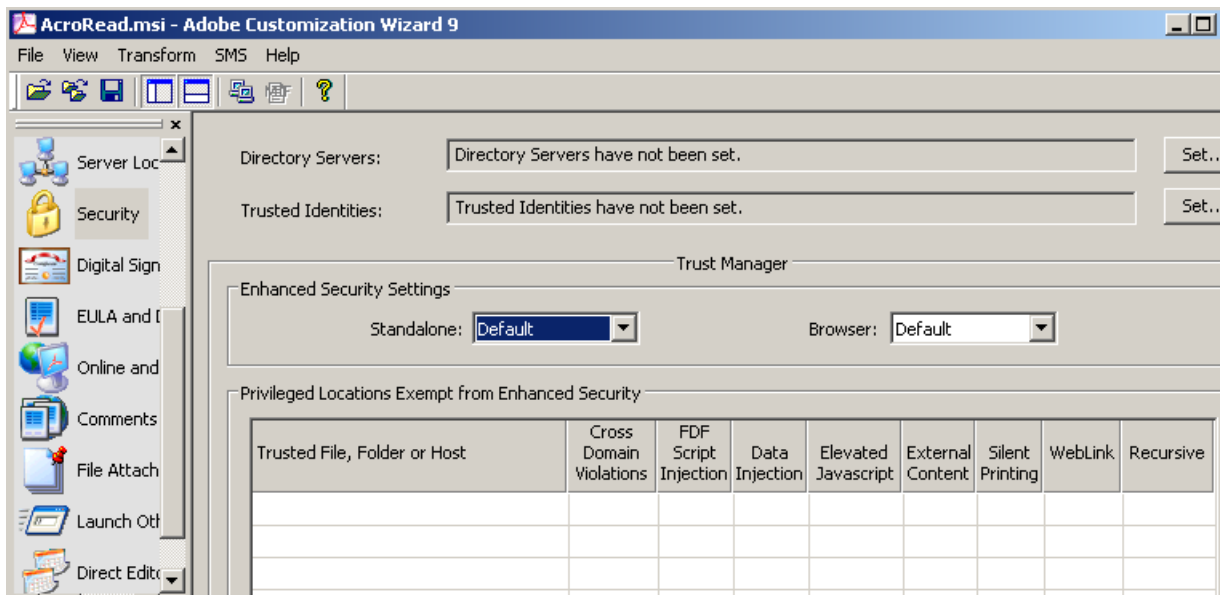
15 | Locking Preferences

Certain security-sensitive or otherwise enterprise-centric preferences can be locked so that they are uneditable by end users through the user interface. Lockable settings include preferences in HKCU that are mapped to entries in the registry's HKLM `FeatureLockdown` section as well as keys that only exist in HKLM. Preferences that reside in HKLM rather than HKCU can't be modified by end users unless they have administrator privileges.

> **Tip:** For details about all lockable keys besides those listed here, refer to the Preference Reference. Feature lockdown is not supported on the Macintosh platform.

15.1 Platform specifics

The path to a particular key varies by platform as described below.

15.1.1 Windows

On Windows, the a preference path is a registry path. The path varies with both the nature of the key and the OS as follows:

- User modifiable keys. HKEY_CURRENT_USER (HKCU) stores settings that are specific to the currently logged-in user:

    - **Current user keys**: HKEY_CURRENT_USER\Software\Adobe\(product name)\(version)\

      > **Note:** Some HKCU keys have a matching key in FeatureLockdown.

- Admin-only keys (require administrator privileges to modify). HKEY_LOCAL_MACHINE (HKLM) stores settings that are specific to the local computer.

    - **Lockable keys (32 bit)**: HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\(product name)\ (version)\FeatureLockDown\

    - **Lockable keys (64 bit)**: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Adobe

    - **Non lockable machine keys**: HKEY_LOCAL_MACHINE\SOFTWARE\Adobe\(product name)\ (version)\

15.1.2 Unix

UNIX uses an equivalent of the registry key system used on Windows. Lockable preferences reside in the FeatureLockdown section is stored files at a location based on the product type and version. For example, for Adobe Reader 9.x :

[ReaderInstallationLocation]/Adobe/Reader9/Reader/GlobalPrefs/reader_prefs

15.1.3 Macintosh

Not supported.

15.2 Preventing End-User Modification

While many lockable preferences have a matching corollary stored in HKCU, their editability via the user interface is controlled by their boolean lockdown counterpart in HKLM. When marked as uneditable, the application user interface item associated with that preference is disabled. The hierarchy within `FeatureLockdown` is typically the same as the one under the HKCU `Security` directory.

The Adobe Customization Wizard provides a UI for modifying some of these keys when tuning the client installer for Windows prior to deployment. However, because some lockable keys are not exposed in the wizard, it is often simpler to modify the keys manually and then use the Wizard to drag and drop the configured registry directories to the installer.

To lock down features:

1. Navigate to:

    - **7.x**: HKEY_LOCAL_MACHINE\SOFTWARE\Adobe\<product>\<version>\FeatureLockDown

    - **8.x and later**: HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\<product>\<version>\ FeatureLockDown

    - **64 bit Windows**: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Adobe\ FeatureLockdown.

2. Create a directory path that mirrors the path in HKCU. For example, when configuring a digital signature key, create a `cSecurity` directory.

    > **Tip:** The HKLM path usually mirrors the HKCU path, but is sometimes different. For details about keys besides those listed here, refer to the Preference Reference.

3. Add the requisite subdirectories. Use the same path used for the settings described in the rest of this chapter. For example, create a directory `cPPKLite` to set `bAllowPasswordSaving"=dword:00000000`. See Example 15.4.

4. **Predeployment installer tuning via the Wizard**: When you finish your other registry modifications, use the wizard UI to drag and drop the FeatureLockDown directory from My Computer to the Destination Computer.

    > **Tip:** Most of the lock down keys are booleans indicating whether the preference is editable by end users. For more detail about a particular setting, refer to the Preference Reference. When looking for a key, search for the key name without the data type prefix. For example, search for `PrivKey` and NOT `bPrivKey` since that setting is not a boolean in HKCU.

Table 6 Lockable keys: For security features (e.g. digital signatures)

Preference	Feature	Description
bAllowPasswordSaving	Various	Caches passwords so they don't have to be re-entered when accessing digital IDs, policies, and other features that use passwords. HKLM and HKCU
bPrivKey	Certificate handling	Prevents a user from changing the security handler used for signing and certificate security. HKLM and HKCU

Table 6 Lockable keys: For security features (e.g. digital signatures)

Preference	Feature	Description
bVerify	Signature validation	Prevents a user from changing the security handler used for the default signature verification method. HKLM and HKCU
bVerifyUseAlways	Signature validation	Qualifies the use of aVerify. HKLM and HKCU
bValidateOnOpen	Signature validation	Forces signature validation when a document opens. HKLM and HKCU
bReqRevCheck	Signature validation	Requires revocation checking to behave as specified. HKLM and HKCU
bReasons	Signing	Prevents users from modifying the reasons setting. v8.1: If locked and cReasons if empty, bAllowSigningReasons is 0 and read only. If locked and cReasons has values, then bAllowSigningReasons is true and read only. HKLM and HKCU
bSuppressStatusDialog	Signing	Deprecated since 8.0. Prevents the Document Status dialog from appearing when a certified document opens. HKLM and HKCU
bSuppressMessageBar	Signing	(v 8.0) Default: 0 **Path**: cPPKHandler Prevents the appearance of the document message bar. Adversely affects signing when preview mode is used. HKLM only
bWinCacheSession Handles	Signing	(v 8.1 Windows only) Default: 1 **Path**: cPPKHandler Specifies whether to retain CSP handles when a user authenticates to a digital ID. If true, a user does not have to reauthenticate to use the ID unless they log out or the session ends. The impact of this preference will vary based on the CSP in use; however, the setting does not affect the Windows CSPs. HKLM only
bWinCacheSession Handles	Signing	(v 8.1 Windows only) Default: 1 **Path**: cPPKHandler\bWinCacheSessionHandles Specifies whether to retain CSP handles when a user authenticates to a digital ID. If true, a user does not have to reauthenticate to use the ID unless they log out or the session ends. The impact of this preference will vary based on the CSP in use; however, the setting does not affect the Windows CSPs. **Note**: This key cannot be used in HKCU.
bAllowInvisibleSig	Signing and document security	Prevents user from signing with an invisible certification signature. Disables the menu option in the signing menus. HKLM and HKCU

Table 6 Lockable keys: For security features (e.g. digital signatures)

Preference	Feature	Description
bMSStoreTrusted	Signing and document security	Prevents the user from changing the settings for using certificates in the Windows Certificate store for validating approval and certification signatures. Disables the two checkboxes in the digital signature advanced preferences Windows Integration tab. HKLM and HKCU
bAllowAPSConfig	Document security	v 8.1 (Windows only) Default: 1 Prevents a LiveCycle Rights Management Server from being configured via Acrobat. Disables the menu option in the Security Settings Console. HKLM only
tWhiteList	Attachments	(v 7.0) Default: see list **Path**: FeatureLockDown\cDefaultExecMenuItems Prevents users from opening or launching file types other than PDF or FDF. Disables the menu option in Trust Manager. HKLM only
tBuiltInPermList	Attachments	(v 7.0) Default: see list **Path**: FeatureLockDown\cDefaultLaunchAttachmentPerms Prevents users from modifying the behavior for the listed attachments file types. For more details, see the document *Vulnerability and Runtime Security in the Acrobat Family of Products*. HKLM only
tSchemePerms	Links to external content	(v 7.0) Default: see list **Path**: FeatureLockDown\cDefaultLaunchURLPerms Prevents users from modifying the behavior for links to the listed file types. HKLM only
bEnhancedSecurity Standalone	Enhanced Security	(v 9.0) Default: 0 **Path**: FeatureLockDown\ Locks enhanced security either off or on for the standalone application. Setting configured in HKCU; lockdown is configured in HKLM by setting 1 to lock.
bEnhancedSecurity InBrowser	Enhanced Security	(v 9.0) Default: 0 **Path**: FeatureLockDown\ Locks enhanced security either off or on for the application running in the browser. Setting configured in HKCU; lockdown is configured in HKLM by setting 1 to lock.
t<some id>_file path and name	Enhanced Security	(v 9.0) Default: null **Path**: FeatureLockDown\TrustManager\cTrustedFile\one or more of these: cCrossdomain, cDataInjection, cExternalStream, cScriptInjection, cSilentPrint, cWebLink Locks enhanced security either off or on for the application running in the browser. Setting configured in HKCU; lockdown is configured in HKLM by setting 1 to lock.

Table 6 Lockable keys: For security features (e.g. digital signatures)

Preference	Feature	Description
t<some id>_folder path and name	Enhanced Security	(v 9.0) Default: null
		Path: FeatureLockDown\TrustManager\cTrustedFolders\one or more of these: cCrossdomain, cDataInjection, cExternalStream, cScriptInjection, cSilentPrint, cWebLink
		Locks enhanced security either off or on for the application running in the browser.
		Setting configured in HKCU; lockdown is configured in HKLM by setting 1 to lock.
t<some id>_host name	Enhanced Security	(v 9.0) Default: null
		Path: FeatureLockDown\TrustManager\cTrustedSites\one or more of these: cCrossdomain, cDataInjection, cExternalStream, cScriptInjection, cSilentPrint
		Locks enhanced security either off or on for the application running in the browser.
		Setting configured in HKCU; lockdown is configured in HKLM by setting 1 to lock.
bDisableTrustedFolders	Enhanced Security	(v 9.0) Default: 0
		Path: FeatureLockDown\
		Prevents the user from setting a folder as a privileged location.
		HKLM
bDisableTrustedSites	Enhanced Security	(v 9.0) Default: 0
		Path: FeatureLockDown\
		Prevents the user from setting a site/host as a privileged location.
		HKLM

Example 15.4: Lockdown example

[HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\Adobe Acrobat\8.0\FeatureLockDown\ cDefaultLaunchAttachmentPerms]"tBuiltInPermList"="version:1|.ade:3|.adp:3|.app:3|.asp:3|.bas:3|.bat: 3|.bz:3|.bz2:3|.chm:3|.class:3|.cmd:3|.com:3|.command:3|.cpl:3|.crt:3|.csh:3|.desktop:3|.exe:3|.fxp:3|.gz:3|. hex:3|.hlp:3|.hqx:3|.hta:3|.inf:3|.ini:3|.ins:3|.isp:3|.its:3|.job:3|.js:3|.jse:3|.ksh:3|.lnk:3|.lzh:3|.mad:3|.maf:3|. mag:3|.mam:3|.maq:3|.mar:3|.mas:3|.mat:3|.mau:3|.mav:3|.maw:3|.mda:3|.mde:3|.mdt:3|.mdw:3|.mdz:3|. msc:3|.msi:3|.msp:3|.mst:3|.ocx:3|.ops:3|.pcd:3|.pi:3|.pif:3|.prf:3|.prg:3|.pst:3|.rar:3|.reg:3|.scf:3|.scr:3|.sct:3|. sea:3|.shb:3|.shs:3|.sit:3|.tar:3|.tgz:3|.tmp:3|.url:3|.vb:3|.vbe:3|.vbs:3|.vsmacros:3|.vss:3|.vst:3|.vsw:3|. webloc:3|.ws:3|.wsc:3|.wsf:3|.wsh:3|.zip:3|.zlo:3|.zoo:3|.pdf:2|.fdf:2"

[HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\Adobe Acrobat\8.0\FeatureLockDown\ cDefaultLaunchURLPerms]"tSchemePerms"="version:1|shell:3|hcp:3|ms-help:3|ms-its:3|ms-itss:3|its: 3|mk:3|mhtml:3|help:3|disk:3|afp:3|disks:3|telnet:3|ssh:3|javascript:1|vbscript:1|acrobat:2|mailto:2|file:2"

[HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\Adobe Acrobat\8.0\FeatureLockDown\ cDocumentStatus]"bSuppressMessageBar"=dword:00000001

[HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\Adobe Acrobat\8.0\FeatureLockDown\cSecurity\ cDigSig]"bValidateOnOpen"=dword:00000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\Adobe Acrobat\8.0\FeatureLockDown\cSecurity\ cEDC]"bAllowAPSConfig"=dword:00000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\Adobe Acrobat\8.0\FeatureLockDown\cSecurity\
cHandlers]
"bVerify"=dword:00000000
"bPrivKey"=dword:00000000
"bVerifyUseAlways"=dword:00000000

[HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Adobe\Adobe Acrobat\8.0\FeatureLockDown\cSecurity\
cPubSec]"bReasons"=dword:00000000

Appendices

Basic Acceptance Tests

After the installation is complete, test the application on a target computer to ensure that you installed Acrobat successfully.

Verify that the Acrobat plug-ins have been loaded

1. Start the application, and verify that no error messages appear on the startup screen.

2. On the Help menu, choose About Adobe Acrobat Plug-ins.

3. Select each plug-in listed in the left column, and verify that the Loaded status is **Yes**.

Check that basic file commands are working

1. Open one or more files.

2. Page through the files by using the up and down arrows.

3. Print the files to a printer on the network.

4. Choose **File > Save As** to save the files with or without changes.

5. Select **Document > Insert Pages**. Insert another file into the document, save the file, and then close the file. Reopen the file and verify that the document contains the inserted pages.

Verify menu items

Select the menu item you want to check, and then do the following:

- If a dialog box appears, close it.
- If a document opens, close it.
- If a Web page opens, close it.

Repeat steps for each menu item you want to check.

Create a test PDF file:

1. Start the application.

2. On the File menu, choose Create PDF, and then choose From File.

3. In the Open dialog box, browse to any Office Word, Excel, or PowerPoint file, and then choose Open.

4. Verify that a PDF file was created. For example, check file properties to verify that file size is greater than zero, or open the file.

Verify viewing a PDF file in a browser

1. Open a browser.

2. Go to http://kb2.adobe.com/cps/837/cpsid_83709/attachments/Acrobat_Enterprise_Administration.pdf.

Troubleshooting and Support

17.1 Troubleshooting Windows installations

Why do I get a Setup.ini not found error?

If you get a *Setup.ini not found error*, create an empty setup.ini file in the AIP's root.

Why does my AIP install result in an "Upgrade can't be applied error"?

Patching of AIP is failing because you are trying to apply a quarterly update over an out of cycle security patch. To fix the problem:

1. Discard your AIP.

2. Create a new AIP to the most recent quarterly.

3. Patch that AIP with the latest out of cycle patch.

Figure 1 Windows installer error

Why do I get an <license number>.error when installing Acrobat from my AIP?

Patching of AIP is failing because you may be trying to apply a quarterly update over an out of cycle security patch. See also Why does my AIP install result in an "Upgrade can't be applied error"?

Why am I not getting the right language in the installed product, the logs, or some other feature?

When you are using a transform file, select the language as follows:

```
msiexec /i AcroStan.msi TRANSFORMS="1043.mst;Custom.mst" /qf
```

What are some common syntax errors?
- All mst files should be separated by semicolon (;).
- The entire mst string along with separators must be enclosed in " ".

For example:

- Correct: "<mst1>;<mst2>"
- Incorrect: "<mst1>";"<mst2>"

Why am I getting a "Cannot use this product under a guest account" error?

Acrobat with a volume license will not run for users under a guest account. This error will appear if a local user account is in an administrator group as well as a guest group. Removing the user account from guest group usually resolves this issue. Verify any group policies applied to the user's profile are not in the "guest" category.

Why does my patch or update result in the product being reverted to an earlier version?

All browsers must be closed. If they are not, it is possible that the updates will fail and the application version will be reverted to an earlier one. For more information, see this thread: http://forums.adobe.com/message/2902858#2902858.

Why does my install fail with a fatal error?

If the application event log generates errors similar to those in Example 17.1 every time the PC is started and the installation is started over, verify the license key is correct.

Example 17.1: Event log install errors
```
EVENT ID: 1040
Beginning a Windows Installer transaction:
{ac76ba86-1033-0000-7760-000000000004}. Client Process Id: 1120.
EVENT ID: 1013
Product: Adobe Acrobat 9 Pro -- 1118############### error.
EVENT ID: 102
The install of application Adobe Acrobat 9 Professional from policy Install -
Adobe Acrobat 9 Professional failed.  The error was : Fatal error during
installation.
```

Why doesn't my install respect the "silent install" settings I specified with the Wizard?

If you command line is something like:

```
MSIEXEC /I C:\A9\AcroPro.msi TRANSFORMS="C:\A9\AcroPro.mst
```

Then you are not using Setup.ini your workflow. The Wizard rewrites Setup.ini when you specify a silent install to include this option. The silent install switch is not saved in the MST. Either run Setup.ini or change your command line to:

```
MSIEXEC /I C:\A9\AcroPro.msi TRANSFORMS="C:\A9\AcroPro.mst" /qn
```

Error 16 appears during GPO deployments

This error occurs because one of the product's subdirectories under Program Files does not have the correct group permissions. To fix the problem, modify your GPO policy so that the Everyone group should have write permissions on the "Adobe PCD\cache" folder.

Error 2203: Database : C:\<productName>.msi cannot open Database file"

AIPs should not be created on the drive root. Use TARGETDIR on the command line or the UI to specify another location.

17.2 Contacting support

If you need to contact Adobe Technical Support, please prepare answers to the following questions:

- Server software:

  - Management tool software version (e.g. Citrix, SMS, WTS, etc):

  - Operating system:

  - Service Packs:

  - Are the system requirements met?

- Client software:

  - Operating system:

  - Service Packs:

  - Adobe product

  - Are the system requirements met?

- Problem details:

  - Type of problem:

  - Error message (if any):

  - Logged on as administrator or user?

  - Problem persists as administrator?

  - Can you reproduce the problem when you test the problem on the server?

Deployment details

If you are having deployment problems, also record the following:

- Base version

- Any patching/chaining you are using

- Using MSI or EXE?

- Using the Customization Wizard?

- Deployment method (AIP, GPO, SCCM, ARD?)

- Installing over other products?

- Did you attempt to install any third-party scripts or application programming interfaces (APIs) with Acrobat during deployment? If so, does the problem reside with these elements? (To find out, create a test package containing only Acrobat.)

- How did you create the package?

- Does the problem occur when you install the application from a DVD? If so, does the problem occur when you copy the contents of the DVD to a local or network drive?

17.3 Installation FAQs

For FAQs about a particular deployment method, refer to the documentation for that method.

Why does my installation of one product over another fail with a file-related error?

When installing a product of one type over another type, always uninstall the other product first. For example, when installing Acrobat Pro Extended on machines where Acrobat Standard is already installed, it is a best practice to uninstall the existing product first. You should not rely on MSI parameters such as REINSTALLMODE=amus (where "a" forces all files to be reinstalled), as this may result in a mixture of product files on the target machines.

Index