ArcGIS® 10 Enterprise Deployment

ArcGIS 10 Enterprise Deployment

An Esri Technical Paper

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Introduction

The ability to distribute software to a number of users or computers from a centralized location has become a requirement for many administrators. In addition, many companies would like to lock down a user's environment and remove the ability for a user to locally install or update existing software.

To solve these challenges, an administrator can use an enterprise deployment tool, such as Microsoft® Group Policy, System Management Server (SMS), or System Center Configuration Manager (SCCM), to manage the setups, allocating them to users or computers based on their needs. The software, of predetermined properties, is installed without the administrator physically visiting each machine. An administrator will also use an enterprise deployment tool to control a user's environment. These tools enable the administrator to prevent users from installing unauthorized software or removing files that an installed software application still requires.

ArcGIS® 10 setups are developed with Microsoft Windows® Installer technology, allowing ArcGIS software products and service packs to be deployed from a central server. With enterprise deployment of ArcGIS products, geographic information system (GIS) managers or system administrators can efficiently plan for and control installations and updates. For example, these maintenance activities can be scheduled when they have the least impact on users or the network. Installations can be targeted to specific groups of users or machines. ArcGIS product version updates throughout an organization can be synchronized. Software can be installed on computers for which users don't have administrative privileges.

ArcGIS 10 setups can be installed on many machines by deploying the .msi file directly. Any enterprise deployment tool that supports installation using a .msi file can be used to deploy ArcGIS 10 setups. This paper documents the enterprise deployment of ArcGIS 10 setups using the Active Directory® Group Policy and SMS/SCCM. The examples consider enterprise deployment in a secure lockdown environment as well as by users with administrative control on their machines.

Using Group Policy as an enterprise deployment tool requires an Active Directory environment. The Active Directory environment consists of a domain controller—Windows Server 2003 or Windows Server 2008—to manage the domain and numerous clients: Windows XP Professional, Windows Vista®, and Windows 7 Group Policy includes a software installation extension that enables the domain controller to manage setups that can be assigned to users or computers or can be published to users. These setups must be created with Microsoft Windows Installer technology. A deployment package is created that can be customized using a transform (.mst) file. The transform file can be used to specify the software seat, installation directory, and license manager as required. Once a package is deployed, either assigned or published, it is displayed in the Add/Remove Programs dialog box. An authorized user launches the setup from Add New Programs. Packages can be set to Always install with elevated privileges, enabling the Windows Installer to run as the local machine's system account. For more information on Group Policy software deployment, see www.microsoft.com.

Using SMS or SCCM as an enterprise deployment tool enables software to be distributed to all Windows operating systems using the software distribution feature. Enterprise deployment with SMS or SCCM allows distribution of software to computers without having to physically visit the location of the computers. Instead, a package is created that contains the program. For Esri® ArcGIS 10, the .msi file is bundled with the msiexec command line parameters to create a package. The package is then distributed to collections, which are computers or groups of users. Once a package has been distributed, client machines are alerted, and the user can choose to install the package immediately or schedule a time for installation. Packages can be run with administrative rights even if the user who is logged on is not an administrator. Packages can also be set to run whether or not a user is logged on to the machine. For more information on SMS and SCCM, see www.microsoft.com.

Enterprise Deployment Using Active Directory and Group Policy

The following ArcGIS 10 setups are supported for standard Windows Installer deployment in both a lockdown environment (user installing does not have administrator privileges) as well as an environment where the user installing does have administrator privileges. **Note:** If installing in a lockdown environment, a Group Policy must be set for the Windows Installer to Always install as elevated.

- ArcGIS Desktop.

- ArcInfo® Workstation.

- ArcGIS Engine Runtime.

- ArcReader™.

- ArcGIS Server for the Java™ Platform—A user with administrative privileges must run the postinstallation setup.

- ArcGIS Server for the Microsoft .NET Framework—A user with administrative privileges must run the postinstallation setup.

- ArcIMS®—A user with administrative privileges must run the postinstallation setup.

- ArcIMS Web Application Development Framework (ADF™) for the Java Platform.

- ArcGIS Mobile.

- ArcObjects™ Software Developer Kits (SDK).

Additional System Requirements

In addition to your machine being correctly configured for Active Directory, the following are also required:

- All ArcGIS products that are not of the same version must be uninstalled before installing ArcGIS 10 products.

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- When deploying the ArcGIS Desktop 10 setup.msi, the following setups must be deployed in the following order:

  1. Sqlncli.msi—This is the Microsoft SQL Server Native Client. The sqlncli.msi is located in the \support\SQLNative folder. This .msi file can be run silently using standard Microsoft Installer (MSI) command line parameters, for example, `msiexec /i sqlncli.msi /qb`.

  2. Setup.msi—This is the ArcGIS Desktop 10 setup program.

- If deploying the ArcGIS Desktop VBA Resources for Developers setup.msi, the setups listed must be deployed in the following order:

  1. Setup.msi—This is the ArcGIS Desktop VBA Resources for Developers setup program. This setup is located in the SDK_VBA folder.

  2. VBAOF11.msi—This is the Visual Basic® for Applications (VBA) Core setup program. This .msi file is located in the VBA folder.

  3. VBAOF11I.msi—This is the Visual Basic for Applications Core English setup program. This .msi file is located in the VBA\1033 folder.

- All system requirements for products and their features must be met. See the Esri support site for the latest system requirements. If the system requirements for a feature specified to be installed have not been met, the setup will not fail but the feature will not be installed (e.g., .NET features).

- Microsoft Windows Installer version 3.1 must be installed on the machine. This is available from the ArcGIS 10 installation media. Launch instmsi3.exe to install Microsoft Windows Installer.

- The machine's system account must have full control of the system drive and the drive to which you will be installing.

- Some ArcGIS 10 postinstallation setups can only be run with administrator privileges.

- If deploying the software in a lockdown environment (users do not have administrator privileges), you will need to modify the Group Policy so that the Windows Installer is set to Always install with elevated privileges (both user and computer configuration).

Suggestions

- It is recommended that you use the following method:

  This method supports the Group Policy method of redeploying the setup package after a service pack has been applied. It is recommended that you perform an admin installation on the server and deploy to your clients from there. You can perform an admin installation on the server using the standard msiexec command line parameter `msiexec /a <location of ArcGIS setup>\setup.msi`. For service

pack deployment, you will patch the admin install on the server, then redeploy the package to your clients. Do not delete this admin installation; it is required for modifying installation features and additional service pack patching. See the section Deploying ArcGIS 10 Service Packs Using Active Directory and Group Policy for more information.

■   The domain controller should be used to uninstall ArcGIS. When the software is deployed per user and many different users install it, using the Add/Remove Programs dialog box to uninstall will remove all the files and registry keys for this product, but the software shortcuts will remain on the machine for other users. This may confuse users when their shortcuts fail to work because the files have been uninstalled. The Add/Remove Programs dialog box for these users will also state that the product is still installed on the machine. To avoid these issues, uninstall using the Group Policy's Remove option. When the software is deployed per machine, the Control Panel's Add/Remove Programs dialog box does not enable you to remove the software unless you have administrative privileges; using Group Policy to manage the uninstall of the software will uninstall with elevated privileges for all users.

■   You will need to use a transform file (.mst) to set the installation directory to a location other than the default and to specify your software type.

See the following Esri Knowledge Base documents, located on the Esri support site, for information on creating transform files for ArcGIS products:

●   For ArcGIS Desktop, see KB26751.

●   For ArcGIS Desktop Developer Kits and ArcGIS Engine Developer Kits, see KB28797.

●   For ArcInfo Workstation, see KB28813.

●   For ArcGIS Engine, ArcReader, and ArcGIS Server, see KB28791.

Known Issues   ■   When performing an admin installation of the ArcObjects SDK for the Java Platform, you cannot install to a directory structure that contains more than 25 characters (including the \).

Some Java files are located in a directory structure that would exceed the Windows 256-character limit. If the Windows character limit is exceeded, you will receive installation error 1335. This will also occur when performing an admin installation of ArcGIS Server for the Java Platform to a directory structure that contains more than 42 characters (including the \). There are two workarounds for this issue: you can either perform an admin installation to a directory structure that does not exceed the above limits, or you can perform an admin installation at the command line with the additional parameter of SHORTFILENAMES=TRUE; for example, `msiexec /a <location of setup>\setup.msi /qb TARGETDIR=<desired installation location> SHORTFILENAMES=TRUE`.

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■ Software deployment using Group Policy requires the use of transforms to customize a setup. The features specified using a transform should replicate the selection of features in the Add/Remove dialog box. If you want to create a transform that adds an installation feature to an existing setup, that transform must include the features that are already installed on the machine and the feature you would like to add. If you do not include the already installed features, they will be uninstalled while the added feature and its associated features are installed.

■ If you are deploying ArcInfo Workstation, the default workspace directory is C:\Workspace. If you use the default workspace directory or you specify a different workspace directory, the user must have write permissions to that directory. If the user does not have write permissions to the workspace directory, ArcInfo Workstation applications will fail to open.

■ For ArcGIS Desktop, you can only switch between software product types using the ArcGIS Administrator, which requires administrative privileges. However, you can specify the initial software type using a transform file during installation.

■ If installing any of the ArcObjects Software Developer Kits, ArcGIS Desktop, ArcGIS Engine, or ArcGIS Server must already be installed on the same machine. The ArcObjects SDK for Cross Platform C++ specifically requires ArcGIS Engine Runtime.

■ It is not recommended that you assign an ArcGIS setup package to a user. Assigning an ArcGIS setup to a user will not successfully add a shortcut to your desktop, and the setup will not autoinstall by file extension activation.

Deploying ArcGIS 10 Service Packs Using Active Directory and Group Policy

Service packs are released as .msp files. A .msp file cannot be directly deployed as a package using Group Policy software deployment. To deploy a .msp file, follow these steps:

1. Apply the .msp file to the admin installation using the following command line:
```
msiexec /a <location of ArcGIS admin
installation>\setup.msi /p <location of ArcGIS service
pack>\<patchname>.msp
```

For example: `msiexec /a c:\admins\desktop\setup.msi /p c:\admins\desktop\ArcGISDesktop10sp1.msp`

The image below shows the setup dialog box that is displayed when you launch the command to apply a service pack to an admin installation location.
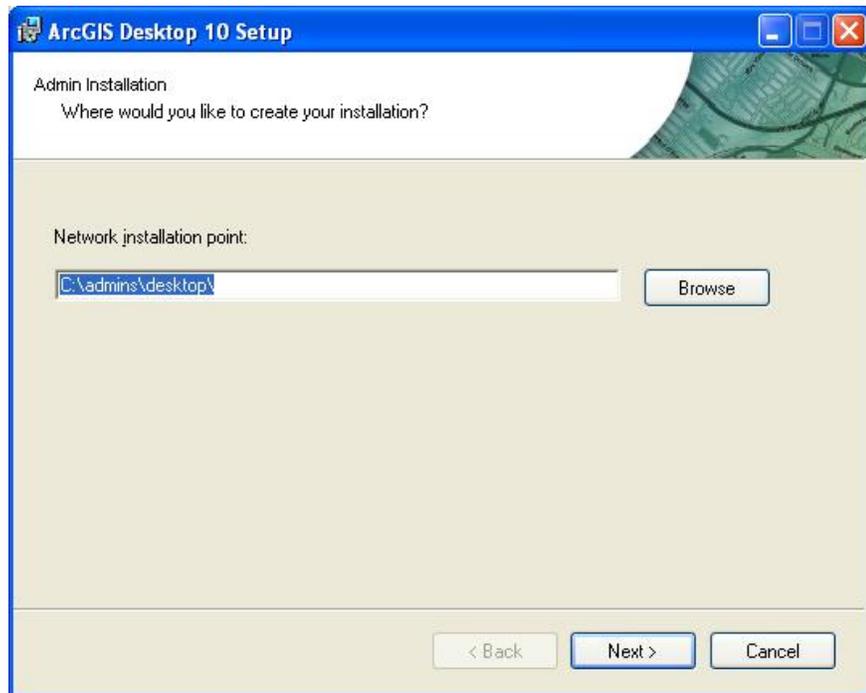
Once the command is launched to apply the service pack to the admin installation, the setup dialog box will prompt you for the network installation location. This installation location will be prepopulated with the location of your 10 admin installation. Do not change this location; you want the files in this location to be updated with the service pack changes.

Once the setup is complete, the setup.msi will have been updated with any service pack changes. The date of the setup.msi will be updated to the current date.

2. Redeploy the ArcGIS package.

    ●   Select the package in the Group Policy > Software Settings > Software installation.

    ●   Right-click the package and click All tasks > Redeploy application.

    ●   Click Yes to the message, confirming that you want to redeploy the application.

3. Redeployment of the application occurs on the next logon or reboot, depending on how the application was deployed (user-based deployment or computer-based deployment).

Suggestion   For more information on applying patches to an admin installation, see the Microsoft Knowledge Base Article 226936.

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Enterprise Deployment Using SMS or SCCM

The ArcGIS 10 setups below are supported for deployment using SMS or SCCM in both a lockdown environment (user installing does not have administrator privileges) as well as an environment where the user installing does have administrator privileges. **Note:** If the user performing the installation does not have administrative permissions, the package must be deployed using Run with administrative rights.

- ArcGIS Desktop.

- ArcInfo Workstation.

- ArcGIS Engine Runtime.

- ArcReader.

- ArcGIS Server for the Java Platform—A user with administrative privileges must run the postinstallation setup.

- ArcGIS Server for the Microsoft .NET Framework—A user with administrative privileges must run the postinstallation setup.

- ArcIMS—A user with administrative privileges must run the postinstallation setup.

- ArcIMS Web ADF for the Java Platform.

- ArcGIS Mobile

- ArcObjects Software Developer Kits.

Authorizing ArcGIS Desktop 10 (Single Use)

During creation of the ArcGIS Desktop setup package, you can specify the software type using the command line parameters SOFTWARE_CLASS and SEAT_PREFERENCE. If you installed ArcInfo (single use), ArcView® (single use), or ArcEditor™ (single use), you can perform silent software authorization. To perform authorization of an ArcGIS Desktop (single use) product as a user without administrative privileges, follow these steps:

1. Create an admin installation of ArcGIS Desktop on your server.

2. Copy a valid authorization file (.prvc file) to the Program Files\Common Files\ArcGIS\bin location on your server.

Create a new SMS or SCCM package that runs SoftwareAuthorization.exe using Run with administrative rights. SoftwareAuthorization.exe should be run from the Program Files\Common Files\ArcGIS\bin with the following command line:
`SoftwareAuthorization.exe LIF <name of authorization file>.prvc /s.`

The /s parameter can be used to run this registration tool silently. If you do not copy the authorization file to the Program Files\Common Files\ArcGIS\bin location on your server, the authorization file (.prvc) cannot be in a location with spaces.

Additional System
Requirements

In addition to your machine being correctly configured as an SMS or SCCM client, the following are also required:

■   When deploying the ArcGIS Desktop 10 setup.msi, the following setups must be deployed in the following order:

1.   Sqlncli.msi—This is the Microsoft SQL Server Native Client. The sqlncli.msi is located in the \support\SQLNative folder. This .msi file can be run silently using standard MSI command line parameters, for example, `msiexec /i sqlncli.msi /qb`.

2.   Setup.msi—This is the ArcGIS Desktop 10 setup program.

■   To deploy the setup.exe

●   The ArcGIS Desktop 10 setup.exe can be silently deployed using the /s command line parameter. If you deploy the setup.exe, the Microsoft SQL Server Native Client setup will be included in the installation.

●   The uninstallation package will only uninstall ArcGIS Desktop and not the Microsoft SQL Server Native Client. To create the uninstallation package, you will need to use the msiexec commands with the ArcGIS Desktop 10 product code: `msiexec /x {64665955-E1A1-4A8B-BFFA-673A95318909} /qb`.

■   If deploying the ArcGIS Desktop VBA Resources for Developers setup.msi, the setups listed must be deployed in the following order:

1.   Setup.msi—This is the ArcGIS Desktop VBA Resources for Developers setup program. This setup is located in the SDK_VBA folder.

2.   VBAOF11.msi—This is the Visual Basic for Applications Core setup program. This .msi file is located in the VBA folder.

3.   VBAOF11I.msi—This is the Visual Basic for Applications Core English setup program. This .msi file is located in the VBA\1033 folder.

■   All ArcGIS products that are not of the same version must be uninstalled before installing ArcGIS 10 products.

■   All system requirements for products and their features must be met. See the Esri support site for the latest system requirements. If the system requirements for a feature specified to be installed have not been met, the setup will not fail but the feature will not be installed (e.g., .NET features).

■   Microsoft Windows Installer version 3.1 must be installed on the machine. This is available from the ArcGIS 10 installation media. Launch instmsi3.exe to install Microsoft Windows Installer.

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■ The machine's system account must have full control of the system drive and the drive to which you will be installing.

■ If installing any of the ArcObjects Software Developer Kits, ArcGIS Desktop, ArcGIS Engine, or ArcGIS Server must already be installed on the same machine. The ArcObjects SDK for Cross Platform C++ specifically requires ArcGIS Engine Runtime.

Suggestions   It is recommended that you use **one** of these methods to deploy from a server location:

1. Perform an admin installation on the server machine. You can perform an admin install using the standard msiexec command line parameter `msiexec /a <location of setup.msi>`. Do not delete this admin installation; it is required for modifying installation features and additional service pack patching.

2. Copy the entire contents of the installation media to your server machine for deployment. At a minimum, the following files should exist on the server machine for the deployment packages (if applicable, some files or folders may not exist for some setups): .msi file, .cab file(s), .ini file, install.htm, Documentation folder, and Support folder. You cannot copy just the .msi file from the installation media to your server machine for deployment; other associated files are also required.

When the software is deployed, the Control Panel's Add/Remove Programs dialog box does not enable you to remove the software unless you have administrative privileges; using SMS or SCCM to manage the uninstall of the software will uninstall with elevated privileges for all users.

Known Issues   ■ When performing an admin installation of ArcObjects SDK for the Java Platform, you cannot install to a directory structure that contains more than 25 characters (including the \). Some Java files are located in a directory structure that would exceed the Windows 256-character limit. If the Windows character limit is exceeded, you will receive installation error 1335. This will also occur when performing an admin installation of ArcGIS Server for the Java Platform to a directory structure that contains more than 42 characters (including the \). There are two workarounds for this issue: you can either perform an admin installation to a directory structure that does not exceed the above limits, or you can perform an admin installation at the command line with the additional parameter of SHORTFILENAMES=TRUE; for example, `msiexec /a <location of setup>\setup.msi /qb TARGETDIR=<desired installation location> SHORTFILENAMES=TRUE`.

■ If you are deploying ArcInfo Workstation, the default workspace directory is C:\Workspace. If you use the default Workspace directory or you specify a different Workspace directory, the user must have write permissions to that directory. If the user does not have write permissions to the Workspace directory, ArcInfo Workstation applications will fail to open.

Windows Installer Command Line Parameters

Standard Windows Installer command line parameters are used to deploy the software. See http://msdn2.microsoft.com/en-us/library/Aa367988.aspx for Windows Installer command line options. Common msiexec command line parameters include

- ■ /i to install
- ■ /x to uninstall
- ■ /qb to display a basic user interface only (e.g., a progress bar)
- ■ /qn to install with no user interface

The Windows Installer commands specific to ArcGIS products are specified in the topics below. The feature names provided are for ArcGIS 10 only.

ArcGIS Desktop

The following are the command line switches to execute the ArcGIS Desktop .msi file directly. Use these with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
ESRI_LICENSE_HOST=	License Manager Hostname	Yes	Yes	Machine name of license manager.
SOFTWARE_CLASS=	Viewer	Yes	Yes	Installs ArcGIS Desktop as ArcView.
	Editor			Installs ArcGIS Desktop as ArcEditor.
	Professional			Installs ArcGIS Desktop as ArcInfo.
SEAT_PREFERENCE	Fixed	Yes	Yes	Installs ArcGIS as a single use seat.
	Float	Yes	Yes	Installs ArcGIS as a concurrent use seat.
INSTALLDIR		Yes	No	ArcGIS Desktop installation location. If not specified, the installation location is C:\Program Files\ArcGIS.
INSTALLDIR1		Yes	No	Python™ installation location. If these features are required and this value is not specified, the default location is C:\Python26.
DESKTOP_CONFIG	TRUE	Yes	No	Setting this parameter to TRUE will prevent the ArcGIS Administrator Wizard from being launched automatically at the end of the setup.
BLOCKADDINS	#0	Yes	No	Load all add-ins regardless of whether they have digital signatures.
	#1	Yes	No	Only load and use add-ins that are digitally signed by a trusted certificate authority.

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Parameter	Value	Case Sensitive	Required	Description
	#2	Yes	No	Only load and use add-ins that have been published by Esri.
	#3	Yes	No	Only load add-ins from the administrator folders and all add-ins published by Esri.
	#4	Yes	No	Do not load or execute add-ins in this application.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature (Each feature name must be specified; for example, you cannot use ADDLOCAL=Applications to install all application subfeatures.)
Applications
ArcMap
ArcCatalog
Miscellaneous features
Python
Extensions
Ext_3D_Analyst
ArcScan
GeoStatisticalAnalyst
Maplex
ArcMap_Publishing_Extension
NetworkAnalyst
Schematics
SpatialAnalyst
TrackingAnalyst
Styles and templates
TemplateWorld
TemplateUSA
TemplateIndustry
TemplateGeneral
CivicAndBusiness
NaturalResources

ArcInfo Workstation   The following are the command line switches to execute the ArcInfo Workstation .msi file directly. Use these with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
LICENSESERVER=	Hostname	No	Yes	Machine name of license manager.
INSTALLDIR			No	ArcInfo Workstation installation location. If not specified, the installation location is C:\ArcGIS.
WORKSPACE			No	The ArcInfo Workspace location. If not specified, the default location is C:\Workspace.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature (Each feature name must be specified; for example, you cannot use ADDLOCAL=Applications to install all application subfeatures.)
CoreArcInfo
ARC
Plotters
Database_Integrators
ArcDoc
ArcTools
CoreArcInfoExtensions
TIN
ArcScan
ArcPress
Network
ArcStorm
COGO
ArcGrid
DataConverters
Data_Converter_ADS
Data_Converter_ARCS57
Data_Converter_DFAD
Data_Converter_DIGEST
Data_Converter_DLG
Data_Converter_DTED
Data_Converter_DXF

DataConverters (continued)
Data_Converter_ETAK
Data_Converter_GBF_TO_DIME
Data_Converter_GIRAS
Data_Converter_GRID
Data_Converter_GRID_to_ArcInfo
Data_Converter_Graphics_file_to_icon
Data_Converter_IGDS
Data_Converter_IGES
Data_Converter_IMAGE_to_IMAGE
Data_Converter_MOSS
Data_Converter_SDTS
Data_Converter_SLF
Data_Converter_TIGER
Data_Converter_VPF
ArcInfoDeveloperTools
Arc_ActiveX_Automation_Server
ArcEdit_ActiveX_Control
ArcGrid_ActiveX_Control
ArcPlot_ActiveX_Control
Arc_Bean_for_Java
ArcEdit_Bean_for_Java
ArcGrid_Bean_for_Java
ArcPlot_Bean_for_Java
ODE_Tools

ArcIMS The following is the command line switch to execute the ArcIMS .msi file directly. Use this with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcIMS installation location. If not specified, the installation location is C:\Program Files\ArcGIS.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature
ActiveX_Applications
ActiveX_Connector
Administration_Tools
Administrator
Application_Server
Author
ColdFusion_Applications
ColdFusion_Connector
Designer
Developer_Solutions
Docs
Gazetteer
HTML_and_Java_Viewers
Metadata_Service_Samples
Metadata_Solutions
OAI_CLIENT
OAI_CONNECTOR
OGC_Interoperability
Samples
SDE_Administrator
Servlet_Connector
Server_Components
Service_Administrator
Spatial_Server
Tutorial_Data
WFS_Connector
WMS_Connector
Z3950_Connector

ArcGIS Server for the Java Platform

The following are the command line switches to execute the ArcGIS Server for the Java Platform .msi file directly. Use these with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcGIS Server installation location. If not specified, the installation location is C:\Program Files\ArcGIS.
INSTALLDIR1			No	Python installation location. If these features are required and this value is not specified, the default location is C:\Python26.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature
Application_Developer_Framework
ArcGIS_Web_API_Shortcuts
DeveloperHelp
GIS_Server
JavaEngine
Server_object_container
Server_object_manager
Python

ArcGIS Server for the Microsoft .NET Framework

The following are the command line switches to execute the ArcGIS Server for the Microsoft .NET Framework .msi file directly. Use these with the standard msiexec commands as required (applies to both ArcGIS Server GIS Services and ArcGIS Server Web Applications setups).

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR		Yes	No	ArcGIS Server installation location. If not specified, the installation location is C:\Program Files\ArcGIS.
INSTALLDIR1		Yes	No	Python installation location. If these features are required and this value is not specified, the default location is C:\Python26.
INSTANCE	<Instance Name>	Yes	No	Property used for configuring the IIS-dependent features. By default, it is set to ArcGIS. The instance name cannot contain spaces.
WEBSITE_ID	<Numeric value of Web site>	Yes	No	Property used for configuring the IIS-dependent features. Used to determine the Web site where the ArcGIS Server instance will be created. The value is a number specific to each Web site on your server and assigned by IIS. The default Web site has a Web site ID of 1. By default, the WEBSITE_ID parameter is set to the default Web site.

If you are installing ArcGIS Server GIS Services and ArcGIS Server Web Applications, the first setup installed will determine the instance configuration of the second setup. For example, if the GIS Services instance is configured with an instance name of ArcGIS and created on the default Web site, the Web Applications instance will be automatically created under the instance created by the GIS Services setup (instance ArcGIS on the default Web site). This behavior is the same if Web Applications is installed before GIS Services.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature
ArcGIS Server 10—GIS Services features
ServerObjectContainer
ServerObjectManager
Python
ServicesManager
WebServices
ArcGIS Server 10—Web Applications features
Applications_Manager
Web_Applications_Developer
Software_Developer_Kit
VS2008
VWEB2008
ADDLOCAL feature (continued)
VS2010
VWEB2010
ArcGIS_Web_API_Shortcuts

ArcIMS Web ADF for the Java Platform

The following is the command line switch to execute the ArcIMS Web ADF for the Java Platform .msi file directly. Use this with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcIMS Web ADF installation location. If not specified, the installation location is C:\Program Files\ArcGIS.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature
ArcIMS_Web_Manager
Web_Application_Developer_Framework
Java_Connector

ArcGIS Engine Runtime

The following are the command line switches to execute the ArcGIS Engine Runtime .msi file directly. Use these with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcGIS Engine Runtime installation location. If not specified, the installation location is C:\Program Files\ArcGIS.
INSTALLDIR1			No	Python installation location. If these features are required and this value is not specified, the default location is C:\Python26.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature
ArcEngine
JavaRuntime
DotNetRuntime
Python

ArcReader

The following is the command line switch to execute the ArcReader .msi file directly. Use this with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcReader installation location. If not specified, the installation location is C:\Program Files\ArcGIS.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature
ArcReader
Tutorial
Documentation
DotNetRuntime

The command line parameters INSTALLDIR and ADDLOCAL can be used for all ArcGIS setups.

ArcGIS Mobile   The following is the command line switch to execute the ArcGIS Mobile .msi file directly. Use this with the standard msiexec commands as required.

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcGIS Mobile installation location. If not specified, the installation location is C:\Program Files\ArcGIS.

Specify installation features as follows:

The ADDLOCAL command line parameter can be used to install specific features. If you want to perform a complete installation, use ADDLOCAL=ALL. If you want to perform a typical installation, omit the ADDLOCAL command line parameter, as a typical installation is performed by default. **Note:** All feature names are case sensitive.

ADDLOCAL feature
Software Developer Kit
Windows Mobile
Tablet
Project Center
GP Tools

The command line parameters INSTALLDIR and ADDLOCAL can be used for all ArcGIS setups.

J-9736

Deploying ArcGIS 10 Service Packs Using SMS or SCCM

Service packs are released as .msp files. There are two methods of deploying .msp files using SMS or SCCM. Select one of these methods to deploy ArcGIS service packs:

1. Apply the service pack .msp file to an admin installation and deploy the patched .msi file.

2. Deploy the service pack .msp file separately from the setup.msi.

To Apply the .msp File to an Admin Installation and Deploy the Patched Windows Installer File

Applying the service pack to an admin installation will update the setup.msi with service pack changes. The setup.msi can then be deployed. To apply the service pack to an admin installation

1. Perform an admin installation. If an admin installation does not already exist on your server, perform one using `msiexec /a <location of setup.msi>\setup.msi`.

2. Patch the admin installation using `msiexec /a <location of the admin installation>\setup.msi /p <location of the .msp file>\<patchname>.msp`.

   For example: `msiexec /a c:\admins\desktop\setup.msi /p c:\admins\desktop\ArcGISDesktop10sp1.msp`

   The image below shows the setup dialog box that is displayed when you launch the command to apply a service pack to an admin installation location.
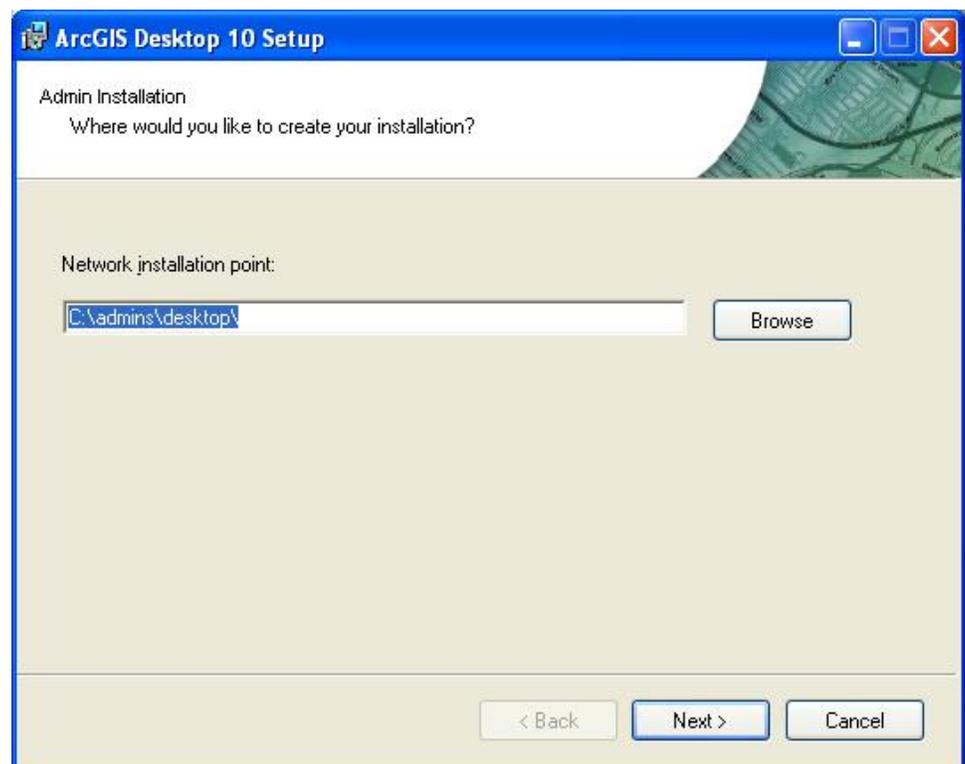
Once the command is launched to apply the service pack to the admin installation, the setup dialog box will prompt you for the network installation location. This installation location will be prepopulated with the location of your ArcGIS 10 admin installation. Do not change this location; you want the files in this location to be updated with the service pack changes.

Once the setup is complete, the setup.msi will have been updated with any service pack changes. The date of the setup.msi will be updated to the current date.

3. Create an SMS or SCCM package using the patched .msi file and deploy it. The following command line parameter should be used: `msiexec /a <location of the admin installation>\setup.msi`.

To Deploy the Service Pack .msp File Directly

The service pack .msp file can be directly deployed using SMS or SCCM. The setup for the ArcGIS product must have already been deployed and installed on the client machine.

1. Copy the .msp file to the server machine.

2. Create a package to deploy the .msp file. The following command line parameter should be used: `msiexec /p <location of .msp file>\ <patchname>.msp REINSTALL=ALL REINSTALLMODE=omus`.

    REINSTALLMODE must always be equal to omus.

    REINSTALL can be equal to ALL to reinstall all features already installed, or you can specify individual features (same feature names as ADDLOCAL).

3. Deploy the .msp package.

To Deploy ArcGIS Patches (.exe files)

ArcGIS patches (.exe files) are often available from the Esri support site. These patches can be deployed directly using SMS or SCCM.

1. Download the required patch (.exe file) from the Esri support site.

2. Create a new package specifying the .exe file to be run. The command line switch /s can be used to silently run the setup program.

Summary

Successful enterprise deployment requires good planning and implementation of your system environment. To successfully deploy a Windows Installer package, you should have a solid understanding of your chosen enterprise deployment tool. This technical paper does not attempt to introduce you to, or educate you on, the usage of SMS, SCCM, or Group Policy. An in-depth understanding of your chosen deployment tool is required. For more information on Windows Installer, transform files, .msp files, SMS, SCCM, Group Policy, or Active Directory, see www.microsoft.com.

About Esri

Since 1969, Esri has been helping organizations map and model our world. Esri's GIS software tools and methodologies enable these organizations to effectively analyze and manage their geographic information and make better decisions. They are supported by our experienced and knowledgeable staff and extensive network of business partners and international distributors.

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Esri software is used by hundreds of thousands of organizations that apply GIS to solve problems and make our world a better place to live. We pay close attention to our users to ensure they have the best tools possible to accomplish their missions. A comprehensive suite of training options offered worldwide helps our users fully leverage their GIS applications.

Esri is a socially conscious business, actively supporting organizations involved in education, conservation, sustainable development, and humanitarian affairs.

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