Deploying Managed ArcGIS® 9.2 Setups

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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 a software deployment method, such as Microsoft® Group Policy or System Management Server (SMS), 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 software deployment tools 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® 9.2 setups can be installed on many machines by deploying the .msi file directly. Any software deployment method that supports installation using a .msi file can be used to deploy ArcGIS 9.2 setups. This paper documents the deployment of ArcGIS 9.2 setups using the Active Directory® Group Policy and SMS. The examples consider deployment in a secure lockdown environment as well as by users with administrative control on their machines.

The deployment of software using Group Policy requires an Active Directory environment. An Active Directory environment consists of a domain controller— Windows® 2000 or Windows Server® 2003—to manage the domain and numerous clients: Windows 2000 Professional or Windows XP Professional. 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 installation type, 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.

Software deployed using SMS can be distributed to all Windows operating systems using the software distribution feature. Software deployment with SMS allows distribution of software to computers without having to physically visit the location of the computers. A package is created that contains a program. For ESRI® ArcGIS 9.2, 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, SMS 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, see http://www.microsoft.com/smserver/default.asp.

Software Deployment Using Active Directory and Group Policy

The following ArcGIS 9.2 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.

- ArcGIS Engine Developer Kits.

- 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.

- ArcIMS Web Application Developer Framework for the Microsoft .NET Framework.

- ArcView® Single Use—A user with administrative privileges must register the software.

- ArcEditor™ Single Use—A user with administrative privileges must register the software.

- ArcGIS Desktop Developer Kits.

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 9.2 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 9.2 installation media. Launch instmsi3.exe to install Microsoft Windows Installer.

■ Microsoft Data Access Components (MDAC) 2.5 or higher must be installed on the machine.

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

■ If installing as an administrator, the user logged on must have administrator privileges. Some ArcGIS 9.2 postinstallation setups can only be run with administrator privileges.

■ If installing ArcInfo Workstation using the Workstation .msi file, ArcGIS Desktop must also be installed on this machine. The Workstation .msi file does not update system files.

■ ArcReader stand-alone should not be installed on a machine that has the ArcGIS Desktop ArcReader feature already installed.

■ 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 Windows Installer 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 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 9.2 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 suggest that the product is still installed on the machine. To avoid these issues, uninstall using Group Policy. 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.

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 ArcGIS Engine Java Help, 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 and ArcGIS Engine Software Developer Kit (SDK) for Java 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`.

■ Software deployment using Group Policy requires the use of transforms to customize a setup. The creation of transforms 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.

■ This following known issue applies to an installation from CD media only, not an installation from DVD media. If you are planning on deploying an ArcGIS setup that spans more than one CD (ArcInfo Workstation, ArcGIS Desktop), you must first perform a network installation of that setup on a server to obtain the .msi file. You will then deploy that .msi file to your users. If an ArcGIS setup spans two CDs, you cannot run the setup.msi—located on the CD—without being prompted for CD #2. Installing a network installation enables the .msi file to be deployed without prompting for the source location of CD #2.

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- For ArcGIS Desktop, you can only switch between software product types using the Desktop Administrator, which requires administrative privileges.

- If installing any of the ArcGIS Desktop Developer Kits, ArcGIS Desktop must already be installed on the same machine.

- If installing any of the ArcGIS Engine Developer Kits, either ArcGIS Engine Runtime or ArcGIS Desktop must already be installed on the same machine.

- If installing the ArcGIS Engine Java Help, one of the ArcGIS for Java Platform products (ArcGIS Engine SDK for the Java Platform, ArcGIS Server for the Java Platform, ArcIMS Web ADF for the Java Platform) must already be installed on the same machine.

- 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.
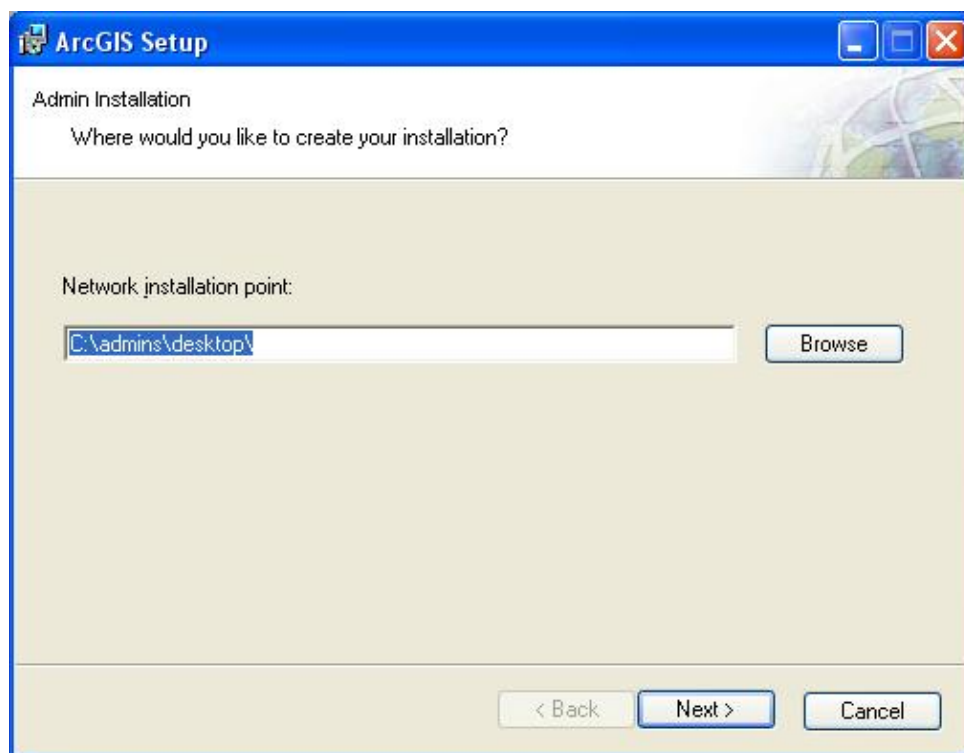
Deploying ArcGIS 9.2 Service Packs Using Active Directory and Group Policy

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\ArcGISDesktop92sp3.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 9.2 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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Software Deployment Using SMS

The ArcGIS 9.2 setups below are supported for deployment using SMS 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.

■ ArcGIS Engine Developer Kits.

■ 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.

■ ArcIMS Web ADF for the Microsoft .NET Framework.

■ ArcView Single Use—A user with administrative privileges must register the software, or a separate package must be created to run the registration executable with administrative rights. See the section Registering ArcView (Single Use) or ArcEditor (Single Use) below for details.

■ ArcEditor Single Use—A user with administrative privileges must register the software, or a separate package must be created to run the registration executable with administrative rights. See the section Registering ArcView (Single Use) or ArcEditor (Single Use) below for details.

■ ArcGIS Desktop Developer Kits.

Registering ArcView (Single Use) or ArcEditor (Single Use)

To perform registration of ArcView/ArcEditor (Single Use) as a user without administrative privileges, create a new SMS package that runs RegisterFixed92.exe using Run with administrative rights. RegisterFixed92.exe should be run from the ArcGIS Installation directory\bin with the following command line: `RegisterFixed92.exe /s /LIF=<location of registration file>\<name of registration file>.esu9`.

For example: `C:\Program Files\ArcGIS\bin\ RegisterFixed92.exe /s /LIF=D:\RegFiles\registration.esu9`

The /s parameter can be used to run this registration tool silently. The registration file (.esu9) cannot be in a location with spaces.

Note: You cannot run RegisterFixed92.exe directly from the command line as a user without administrative rights. If you do not have administrator privileges, you must create an SMS package and deploy the package using Run with administrative rights.

Additional System Requirements

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

■ All ArcGIS products that are not of the same version must be uninstalled before installing ArcGIS 9.2 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 9.2 installation media. Launch instmsi3.exe to install Microsoft Windows Installer.

■ MDAC 2.5 or higher must be installed on the machine.

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

■ If installing ArcInfo Workstation using the Workstation .msi file, ArcGIS Desktop must also be installed on this machine. The Workstation .msi file does not update system files.

■ If installing any of the ArcGIS Desktop Developer Kits, ArcGIS Desktop must already be installed on the same machine.

■ If installing any of the ArcGIS Engine Developer Kits, either ArcGIS Engine Runtime or ArcGIS Desktop must already be installed on the same machine.

■ ArcReader stand-alone should not be installed on a machine that has the ArcGIS Desktop ArcReader feature already installed.

■ To install ArcView concurrent use (from the ArcView Concurrent Use media) using SMS, you must include SOFTWARE_CLASS=Viewer in the command line.

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 to manage the uninstall of the software will uninstall with elevated privileges for all users. To uninstall with SMS, create a new package using the `msiexec /x` uninstall command and specify the package to run with administrative rights.

Known Issues ■ When performing an admin installation of ArcGIS Engine Java Help, 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 and ArcGIS Engine SDK for Java 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.

■ This following known issue applies to an installation from CD media only, not an installation from DVD media. If you are planning on deploying an ArcGIS setup that spans more than one CD (ArcInfo Workstation, ArcGIS Desktop), you must first perform a network installation of that setup on a server to obtain the .msi file. You will then deploy that .msi file to your users. If an ArcGIS setup spans two CDs, you cannot run the setup.msi—located on the CD—without being prompted for CD #2. Installing a network installation enables the .msi file to be deployed without prompting for the source location of CD #2.

■ For ArcGIS Desktop, you can only switch between software product types using the Desktop Administrator, which requires administrative privileges.

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 9.2.

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=	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.
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:\Python24.

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
ArcReader
Miscellaneous features
TabletPC_Support
Python
.NET_Support
Extensions
Ext_3D_Analyst
ArcScan
DataInterop
GeostatisticalAnalyst
Maplex
ArcMap_Publishing_Extension
NetworkAnalyst
Schematics
SpatialAnalyst
Survey_Analyst
TrackingAnalyst
Styles and templates
ArcInfoTemplates
Civic_Business
Civic_CADD_GIS_Center

Styles and templates (continued)
Civic_CADD_GIS_Center_SDS200
Civic_Civic
Civic_CrimeAnalysis
Civic_Dimension
Civic_Hazmat
Civic_Ordnance_Survey
Civic_PublicSigns
Civic_RealEstate
Civic_Survey
Civic_Transportation
Civic_Utilities
Civic_Water_WasteWater
Natural_Caves
Natural_Conservation
Natural_Environmental
Natural_Forestry
Natural_Geology24K
Natural_Mining
Natural_Petroleum
Natural_Petroleum_UK
Natural_SoilEuro
Natural_Weather
TemplateConservationLandscape
TemplateLandscapeClassic
TemplateLandscapeModernInset
TemplateGeneral

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Styles and templates (continued)
TemplateIndustry
TemplateLandscapeModern
TemplateLetterLandscape
TemplateLetterPortrait
TemplateMilitaryPortrait
TemplatePortraitClassic
TemplatePortraitModern
TemplatePortraitModernInset
TemplateUSA
TemplateUtility
TemplateWorld

ArcView (Single Use) or ArcEditor (Single Use)

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

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcView or ArcEditor 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:\Python24.

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
ArcReader
Miscellaneous features
TabletPC_Support
.NET_Support
Python
Extensions
Ext_3D_Analyst
ArcScan
DataInterop
GeostatisticalAnalyst
Maplex
ArcMap_Publishing_Extension
NetworkAnalyst
Schematics
SpatialAnalyst
Survey_Analyst
TrackingAnalyst
Styles and templates
ArcInfoTemplates
Civic_Business
Civic_CADD_GIS_Center

Styles and templates (continued)
Civic_CADD_GIS_Center_SDS200
Civic_Civic
Civic_CrimeAnalysis
Civic_Dimension
Civic_Hazmat
Civic_Ordnance_Survey
Civic_PublicSigns
Civic_RealEstate
Civic_Survey
Civic_Transportation
Civic_Utilities
Civic_Water_WasteWater
Natural_Caves
Natural_Conservation
Natural_Environmental
Natural_Forestry
Natural_Geology24K
Natural_Mining
Natural_Petroleum
Natural_Petroleum_UK
Natural_SoilEuro
Natural_Weather
TemplateConservationLandscape
TemplateLandscapeClassic
TemplateLandscapeModernInset
TemplateGeneral

Styles and templates (continued)
TemplateIndustry
TemplateLandscapeModern
TemplateLetterLandscape
TemplateLetterPortrait
TemplateMilitaryPortrait
TemplatePortraitClassic
TemplatePortraitModern
TemplatePortraitModernInset
TemplateUSA
TemplateUtility
TemplateWorld

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.

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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
CoreArcInfo
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

DataConverters (continued)

Data_Converter_DXF

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
Application_Server
ArcMap_Server
ArcMap_Server_Sample
Author
ColdFusion_Applications
ColdFusion_Connector
CSW_Connector
Designer
Developer_Solutions
Docs
HTML_and_Java_Viewers
OAI_CLIENT

ADDLOCAL feature (continued)
OAI_CONNECTOR
Samples
SDE_Administrator
Servlet_Connector
Samples
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:\Python24.

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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
Server_object_container
Server_object_manager
Python
Application_Developer_Framework

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.

Parameter	Value	Case Sensitive	Required	Description
INSTALLDIR			No	ArcGIS Server .NET ADF 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:\Python24.

Parameter	Value	Case Sensitive	Required	Description
ESRI_RESTART_IIS=	FALSE	Yes	No	This property, when set to TRUE, automatically restarts Internet Information Server (IIS). By default, this property is set to FALSE. FALSE specifies that IIS is not automatically started for you. For ESRI_RESTART_IIS=FALSE to work, ESRI_ASPNET_REGISTER must be set to FALSE.
ESRI_ASPNET_REGISTER=	TRUE	Yes	No	This property, when set to TRUE, will automatically register ASP.NET 2.0 with Microsoft IIS. By default, this property is set to TRUE.
ESRI_WEBAPPS_INSTANCE=	<Instance Name>	Yes	No	The field <Instance name> can be replaced by the name of the ArcGIS Server instance you want to create. If this command line parameter is not specified, the default instance name is 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
Server_object_container
Server_object_manager
Python
VS_NET_Integration
Mobile_ADF
Runtime
Web_ADF
Web_Applications
Software_Developer_Kit
VB_EXPRESS
VCS_Express
WEB_Express

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
Web_Application_Developer_Framework
Java_Connector

ArcIMS Web ADF for the Microsoft .NET Framework

The following are the command line switches to execute the ArcIMS Web ADF for the Microsoft .NET Framework .msi file directly. Use these 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.
ESRI_RESTART_IIS=	FALSE	Yes	No	This property, when set to TRUE, automatically restarts IIS. By default, this property is set to FALSE. FALSE specifies that IIS is not automatically restarted for you. For ESRI_RESTART_IIS=FALSE to work, ESRI_ASPNET_REGISTER must be set to FALSE. Registering ASPNET automatically restarts IIS regardless of the value of ESRI_RESTART_IIS.
ESRI_ASPNET_REGISTER=	TRUE	Yes	No	This property, when set to TRUE, automatically registers ASP.NET 2.0 with IIS. By default, this property is set to TRUE.

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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
Runtime
Software_Developer_Kit
Web_ADF
VB_EXPRESS
VCS_Express
WEB_Express
VS_.NET_Integration

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:\Python24.

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.

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Deploying ArcGIS 9.2 Service Packs Using SMS

Service packs are released as .msp files. There are two methods of deploying .msp files using SMS. Select one of these methods to deploy ArcGIS service packs:
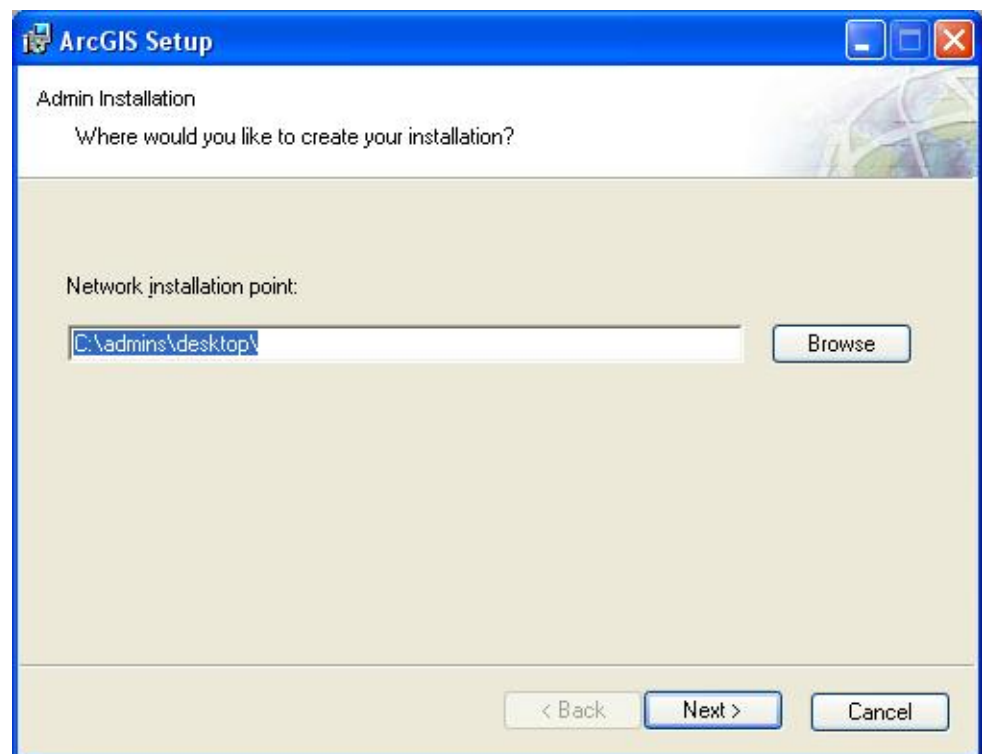
1. Apply the service pack .msp file to an admin installation, and deploy the patched .msi file.

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\ArcGISDesktop92sp3.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 9.2 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 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. 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.

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

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

Summary

Successful 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 software deployment method. This technical paper does not attempt to introduce you to, or educate you on, the usage of SMS or Group Policy. An in-depth understanding of your chosen deployment method is required. For more information on Windows Installer, transform files, .msp files, SMS, Group Policy, or Active Directory, see www.microsoft.com.