

Release & Config Mgmt : IMAGINE and LPS Command Line Documentation

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Notes About this Document

This document contains information and background useful for those who might wish to use the Windows command line to deploy ERDAS IMAGINE, LPS and their related Update or Service Packs installers. Utilizing the command line to deploy a product is often useful for those who wish to execute silent installations or uninstallations of Windows Installer based installers. General knowledge of this topic, however, is also useful for other deployment related tasks, such as enabling logging during an installation or uninstallation.

This documentation assumes that the user possesses a basic knowledge of Windows command line scripting techniques, and is familiar with both Windows environment variables and the concepts of variables and properties.

Many more options exist for Windows Installer than are referenced here. This document highlights what are perhaps most useful or important parameters, options, and variables needed to deploy our products. For additional information on Windows Installer, we suggest reviewing the Windows Installer online documentation at: [http://msdn2.microsoft.com/en-us/library/cc185688\(VS.85\).aspx](http://msdn2.microsoft.com/en-us/library/cc185688(VS.85).aspx)

Install Using the Setup Executable or .msi?

Many ERDAS installers are based upon Macrovision's InstallShield application (now owned by Acreso), which are used to generate Windows Installer setup programs. The core Windows Installer setup programs is a file with an .msi extension; Often the .MSI file is accompanied by a setup launcher executable, which performs necessary initializations, possibly including requesting local administrator credentials, before running the .msi.

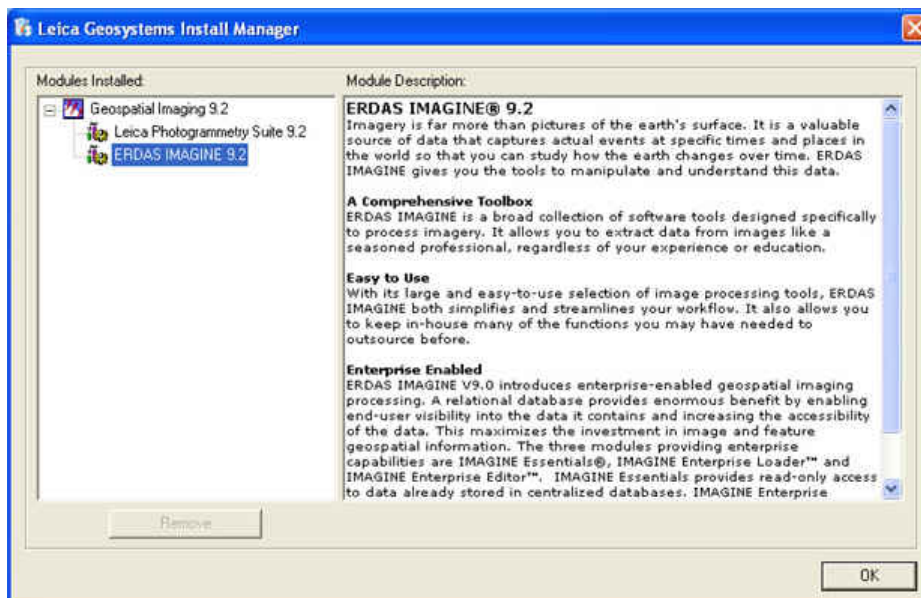
While an .msi file might exist for a given application (ex. ERDAS IMAGINE 9.2.msi), the primary and recommended means for installing ERDAS applications is via the provided setup executable (ex. setup.exe).

Explanation of Application Family and *Install History*

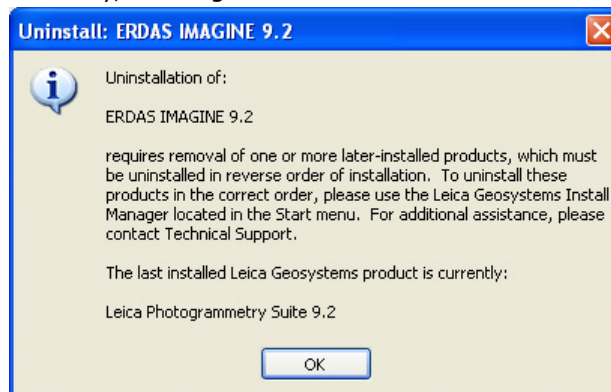
Versions of ERDAS IMAGINE and LPS share a common installation directory and as a result, share what we call the "Application Family" or sometimes "Deployment Family." Applications installed for a given application family must be uninstalled in reverse order of installation (last in, first out) to ensure application consistency. The order of installation, or "installation history," is recorded in the registry and the uninstall order is enforced by custom code in the installers.

The install history can be observed from the Install Manager application installed with both ERDAS IMAGINE and LPS. The Install Manager shortcut is located at: Start Menu | All Programs | Leica Geosystems | Install Manager.

In the example below, "Geospatial Imaging 9.2" is the Application Family. The disabled "Remove" button shown when highlighting ERDAS IMAGINE 9.2, indicates that the Leica Photogrammetry Suite 9.2 was installed after ERDAS IMAGINE 9.2. As a result, LPS must be uninstalled before ERDAS IMAGINE can be removed. Also note that items installed last appear at the top of the installation order in the Install Manager.



It is also possible to use the Windows Control Panel to remove installers within an , but the LIFO uninstallation rules are still enforced. If you attempt to remove something other than the most recent installer within an Application Family, a dialog such as the one below will be displayed.



Multiple Versions Products

Multiple versions of ERDAS IMAGINE can be installed and be successfully operated on the same system. Multiple versions of LPS cannot be installed on the same system due to shared libraries and components that exist across versions.

InstallShield Command Line Options

InstallShield command line options are values that are passed to the InstallShield Setup executable (ex. setup.exe).

/S	Suppresses the Setup.exe initialization window. ex. setup.exe /S
/V	Is used to pass command-line options and values of Windows properties through to Windows Installer. Values must be supplied in quotes. ex. setup.exe /V"/qn"
/V"ISSCRIPTCMDLINE=\"Option1 Option2\""	ISSCRIPTCMDLINE specifies command line parameters that are passed to custom code within the installer. /V (see previous) is required. Backslashes and quotes around ISSCRIPTCMDLINE are required. Backslashes escape the quotes. Ex. Setup.exe /V"ISSCRIPTCMDLINE=\"/nf\""
/B	Is used to instruct the Setup.EXE to cache a local copy of the installation. This can be particularly useful if it is likely that a particular machine will be in an environment where the installation may need to be reinstalled/repared but there will be no access to the original install location. For instance installing a product onto a laptop from a network share where it is desirable for the machine to have the ability to reinstall itself even when not connected to the network. This option will cause a local copy of the .MSI and the .CABs to be stored on the local hard drive so make certain that the machine has enough available free space before attempting to use this item.
/F	This command line forces the Setup.exe to initiate an update sequence on an already installed product. Normally if you have installed a product and then attempt to re-run the Setup.EXE you will be presented with a Maintenance Mode dialog. This dialog allows you to Remove, Modify or Repair the exiting installation. When you see this dialog you are actually not running the MSI as present in the Setup.EXE but are instead running a cached version of the MSI that Windows Installer holds on to for uninstall purposes. Sometimes you may actually want to re-run the the installation such as in a case when the cached .MSI has become corrupt resulting in failed uninstalls. The /F switch will allow you to reinstall the current product forcing the Windows Isnatller to re-cache the MSI thus allowing for a proper removal.

Windows Installer Command Line Options

The following options are passed to Windows Installer and control behavior such as interface levels and logging. While these options can be passed to Windows Installer directly via the msiexec.exe executable, because our installers are launched from a setup executable, these properties are passed into Windows Installer using the /V InstallShield command line option (see above).

/x Package ProductCode	Uninstalls a product. The Package Code is Windows Installer convention and is a GUID value (a unique identifier) that is built into a given installer. Ex. msiexec /x {FCA6E3C0-3CA1-4985-B58B-D27AF658B02B}
/l [vx*] Path to outputfile	Enables logging to an output file. Note that the directory specified in the path to the file must exist or the installer will fail to launch. v - Verbose output. x - Extra debugging information. "*" - Wildcard, log all information except for the v and x options. To include the v and x options, specify "/l*vx". Ex. setup.exe /V"/l* "C:\my temp dir \logfile.txt\" In this example, the "C:\my temp dir" directory must be present before launching the setup.
/q[n b r f]	Sets the user interface level. <ul style="list-style-type: none"> • q , qn - No UI* • qb - Basic UI. - Standard Windows Installer dialogs are displayed to indicate installation progress. Use qb! to hide the Cancel button. • qr - Reduced UI. - Only non modal dialogs are displayed (progress bar, status dialogs etc. no user interaction is required) • qf - Full UI - Default setting if not specified Ex. setup.exe /V"/qn"

Windows Installer Properties

Windows Properties can be passed on the command line to change install behavior. When launching the install from the InstallShield setup executable, these values must be provided using the /V option.

Feature Codes: Many properties reference a list of feature codes (ADDLOCAL, etc.) that can be used to install or remove portions of an application. The full list of available feature codes for both ERDAS IMAGINE and LPS are listed in sections that follow. When using a feature code to install a particular feature, only the files and shortcuts directly associated in the installer with that feature will be installed, subfeatures are not installed. For example, the "imhelp" feature will install Start Menu shortcuts for documentation, but the "imhess" subfeature of "imhelp" will not.

The list of available Windows Installer properties is greater than shown here. We have highlighted what we feel are the most pertinent properties when installing and uninstalling from the command line.

ADDLOCAL	The value of the ADDLOCAL property is a list of features that are delimited by commas, and are to be installed locally. The default value is: ADDLOCAL=ALL which installs all features.
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REMOVE	The REMOVE property is a list of features delimited by commas that are to be removed. Note that if you use REMOVE=ALL on the command line, the installer removes all features
REINSTALL	The value of the REINSTALL property is a list of features delimited by commas that are to be reinstalled. The features listed must be present in the Feature column of the Feature table. To reinstall all features use REINSTALL=ALL on the command line. Note that even if REINSTALL is set to ALL, only those features that were already installed previously are reinstalled.
INSTALLDIR	INSTALLDIR is actually an InstallShield convention, however, it is managed like a Windows Installer property. The value of INSTALLDIR overrides the default application installation directory that is built into the installer. Paths with spaces must be quoted. Backslashes are required to escape quotes when quoted paths are used. Ex. Setup.exe /V"INSTALLDIR="C:\Program Files\Leica Geosystems\Geospatial Imaging 9.2\""

Administrative Installations

Administrative installations are a natively supported install mode of all Windows Installer packages. An administrative installation allows a system administrator, or software deployment engineer, to prepare a vendor provided installation for deployment via a software deployment infrastructure such as Active Directory Group Policy, SMS, or the like. Please note that an Administrative installation does not actually install the product on a machine, but rather prepares a product for installation on other machines in an enterprise. This functionality is accessed from the the install when using the /A option and can be coupled with the TARGETDIR property to specify the location of the extracted install contents.

Examples:

- Setup.exe /A
- Setup.exe /A /V"TARGETDIR=\\INSTALLSERVER\Repository\ERDAS IMAGINE\"
- Setup.exe /A /V"TARGETDIR=\\INSTALLSERVER\Repository\ERDAS IMAGINE\ /qb"

An administrative installation creates a modified .MSI file and a folder path of uncompressed installation files at the location specified. This has 2 main benefits:

1. Only files needed by the install get copied to the machine (for instance if not all features are installed)
2. Enterprise wide configuration settings can be prestaged in the extracted configuration files since they are extracted and available

Advertised Installation

Advertised installations are a feature of Windows Installer sometimes referred to as Install-On-Demand. This functionality is available when running an installation with the /J command line option, or by using Active Directory to assign an application to a user. In order for this functionality to work, all potential access points such as file associations, shortcuts, MIME types, etc. in an installer must be configured in what is referred to as Advertised mode.

ERDAS currently does not support the use of Advertised installation functionality as a deployment option for its products.

Transforms

Transforms (.MST files) are a method provided by Microsoft for making changes to an installation package at runtime. Transforms are applied on the command line using the TRANSFORMS property.

- Setup.EXE /V"TRANSFORMS=C:\MYFILE.MST"
- msiexec.exe /I C:\MYINSTALL.MSI TRANSFORMS="C:\MYFILE.MST"

Transforms can be created in several different ways. First, an MSI can be directly opened in a MSI editing tool and the raw database changes stored off into a .MST file. Second, one can use a repackaging tool that allows a package deployment engineer to step through the normal installation dialogs recording the output on each dialog and storing the results in a .MST file. Finally, a vendor may provide a product specific tool for creating an .MST (Microsoft has done this in the past for Microsoft Office to ease unattended deployment).

ERDAS currently does not support the creation and/or usage of .MSTs as a deployment option for its products.

Environment Variables


The ERDAS IMAGINE and LPS installers will call portions of application code during setup. Environment variables can be set, either on the command line or in scripts using the "SET" DOS command, that affects the behavior of the product when called by the installer.

Environment Variable	Effect
HOME_NOT_ACCESSIBLE_ALREADY_COMPLAINED	When installing in an environment where the user's \$HOMEDRIVE/\$HOMEPATH drive is unwritable, this variable prevents the appearance of a dialog during install that indicates the directory is unwritable. The dialog requires a user to press the "OK" button to continue, which will interrupt an unattended installation. For ERDAS IMAGINE 9.2 and higher, this can work around warning messages related to the "C:\Users" folder. Example: SET HOME_NOT_ACCESSIBLE_ALREADY_COMPLAINED=1

Common Installer Command Line Options

Starting in version 9.2, the following command line options are common to the following installers:

- ERDAS IMAGINE
- LPS
- Update installers that install into an Application Family.

FR (Force Remove)	<div data-bbox="874 1720 1390 1921" style="background-color: #ffe6e6; padding: 5px;"> Note: This option is only intended to assist with the blanket removal of applications from the system. Once used, all applications that were installed the Application Family must be removed or application consistency cannot be guaranteed.</div> <p>The FR value is a custom created Windows Installer property that can be passed in on the command line. The default value is blank.</p>
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	<p>Supplying any value for FR will enable the property. If supplied during uninstallation, it allows the LIFO uninstallation requirement to be disregarded. Some uninstall custom actions, which configure the application for use, are not executed when an FR value is provided.</p>
	<p>ex. <code>msiexec.exe /x {FCA6E3C0-3CA1-4985-B58B-D27AF658B02B} FR=1</code></p>

FR is not an option for Geospatial Imaging 9.1 and before. You must remove all installed applications in the 9.1 Application Family in LIFO order, or adjust certain registry keys in order to remove things out-of-order. Once you remove anything out-of-order, you must remove everything in the Application Family, and start over if necessary.

ERDAS IMAGINE Product GUID

The Product GUID is required for unattended uninstalls of the product.

Version	Product GUID
ERDAS IMAGINE 9.2	{FCA6E3C0-3CA1-4985-B58B-D27AF658B02B}
ERDAS IMAGINE 9.3	{AFB497C5-1B86-4C49-B05D-403EA7BEA3E4}

ERDAS IMAGINE 9.3 Feature Codes

Feature codes can be employed to install specific portions of the application. They are used in conjunction with the ADDLOCAL, REMOVE, and REINSTALL [Windows Installer Properties](#) described above. For Feature Codes from previous versions, please see the Appendices.

Feature ID	Subfeature Of	Description:	Required	New In	Removed In
Shortcuts_And_Registry		Installs the registry entries and shortcuts	Yes		
imagine		Installs files necessary for ERDAS IMAGINE	Yes		
imess	imagine	Installs files for IMAGINE Essentials (requires Java Runtime)	Yes		
imadvan	imagine	Installs files for IMAGINE Advantage	No		
improf	imagine	Installs files for IMAGINE Professional	No		

imautosync	imagine	Installs files for IMAGINE AutoSync	No		
imhifi	imagine	Installs files for Leica Stereo Analyst (for ERDAS IMAGINE)	No		
ccd	imagine	Installs files for IMAGINE Coherence Change Detection	No	9.3	
imifsdem	imagine	Installs files for IMAGINE InSAR	No		
imimagizer	imagine	Installs files for IMAGIZER Data Prep	No		
imnitf21	imagine	Installs files for IMAGINE NITF 2.1	No		
imobj	imagine	Installs files for IMAGINE Objective (requires Java Runtime)	No	9.3	
imordr	imagine	Installs files for IMAGINE OrthoRadar	No		
imradar	imagine	Installs files for IMAGINE Radar Interpreter	No		
imrdrdem	imagine	Installs files for IMAGINE StereoSAR DEM	No		
invect	imagine	Installs files for IMAGINE Vector	No		
imvirtual	imagine	Installs files for IMAGINE VirtualGIS	No		
imhelp	imagine	Installs files for IMAGINE Help (requires Java Runtime)	No		
imiee	imagine	Installs files for IMAGINE Enterprise	No	9.1	

		Editor (requires Java Runtime)			
imorload	imagine	Installs files for Georaster Loader for Oracle	No	9.1	
imorvload	imagine	Vector Feature Loader for Oracle (requires Java Runtime)	No	9.1	
imdelta	imagine	Installs files for IMAGINE DeltaCue	No	9.2	
javasup	imagine	Used by various application components. Not required if Java is already installed.	No	9.2	
borrowing		A utility for checking out FLEXnet floating licenses.	No	9.3	
safenet		SafeNet Driver	No	9.3	
flexid		FlexID Dongle Driver	No	9.3	
licensing		Files Related to ERDAS-Net Licensing	No	9.3	
helpsupp	imhelp	Help Support Files	No	9.2	
imhadv	imhelp	IMAGINE Advantage Help Files	No	9.2	
imhauto	imhelp	IMAGINE AutoSync Help Files	No	9.2	
imhdelta	imhelp	IMAGINE DeltaCue Help Files	No	9.2	
imhhifi	imhelp	Leica Stereo Analyst Help Files	No	9.2	
imhess	imhelp	IMAGINE Essentials Help Files	No	9.2	

imhiee	imhelp	IMAGINE Enterprise Editor Help Files	No	9.2	
himag	imhelp	IMAGINE IMAGIZER Help Files	No	9.2	
imhntf	imhelp	IMAGINE NITF Help Files	No	9.2	
imifsar	imhelp	IMAGINE InSAR Help Files	No	9.2	9.3
imhifsar	imhelp	IMAGINE InSAR Help Files	No	9.3	
imhordar	imhelp	IMAGINE OrthoRadar Help Files	No	9.2	
imhprof	imhelp	IMAGINE Professional Help Files	No	9.2	
imhshapp	imhelp	IMAGINE Shared Applications Help Files	No	9.2	
imhstdem	imhelp	IMAGINE Stereo SarDEM Help Files	No	9.2	
imhvect	imhelp	IMAGINE Vector Help Files	No	9.2	
imhvirt	imhelp	IMAGINE Virtual GIS Help Files	No	9.2	
imhobj	imhelp	IMAGINE Objective Help Files	No	9.3	
ccdhelp	imhelp	IMAGINE Coherence Change Detection Help Files	No	9.3	

- The imhelp feature includes Start Menu shortcuts that launch application help documentation. These shortcuts are not included in another feature, therefore imhelp should be specified when installing help files from the command line.
- The javasupp feature is not a required feature, however, it is required to properly build indexes that display help documentation if another install of Java is not available on the system. If no other version of Java exists on the system and help is also being installed,

the javasupp option should also be installed. See [Java Versions in IMAGINE and LPS](#) for the version of java delivered with the products.

LPS Product GUID

The Product GUID is required for unattended uninstalls of the product.

Version	Product GUID
Leica Photogrammetry Suite 9.2	{A1DA375D-E833-4F22-8AE8-D97D5CC90494}
LPS 9.3	{B148E6B8-3D1C-4EAC-80F3-1952E14568AF}

LPS and .NET Framework version 2.0

Version 2.0 of the .NET Framework is a required LPS component that can be installed using the LPS installer. The .NET framework can NOT be installed by the LPS installer when the LPS installer is run in silent mode. When run in silent mode, if the LPS installer determines that the .NET 2.0 Framework does not exist on the target computer, the LPS installer will exit. A message is logged to the installer log to inform the user that installs of the .NET framework are not supported when LPS installer is run silently.

If for any reason the .NET Framework cannot be installed by the LPS installer, the "/nf" command line option can be supplied to bypass the installer's check for the Framework's presence. The .NET Framework should then be installed manually prior to launching the LPS installer.

LPS Command Line Options

Feature ID	Description
/nf	/nf is a custom installer option that disables the installer's check for the 2.0 .NET Framework and allows the install to proceed when the framework does not exist on the target computer. The option is passed to the installer's setup.exe file via the ISSCRIPTCMDLINE method described above. ex. setup.exe /V"ISSCRIPTCMDLINE=\\\"/nf\\\""

LPS 9.3 Feature Codes

Feature codes can be employed to install specific portions of the application. They are used in conjunction with the ADDLOCAL, REMOVE, and REINSTALL [Windows Installer Properties](#) described above. For Feature Codes from previous versions, please see the Appendices.

Feature ID	Subfeature Of	Description	Required	New In	Removed In
impls		Required Leica Photogrammetry Suite installation files	Yes		

arcgis	impls	Installs files for ArcGIS support	No		
imhifi		Installs files necessary for Leica Stereo Analyst	No		
imie		Installs files necessary for ImageEqualizer	No		
imhelp		Installs files necessary for LPS Online Help (requires Java Runtime)	Yes		
helpsupp	imhelp	Help Support Files	No	9.2	
imhshapp	imhelp	IMAGINE Shared Applications Help Files	No	9.2	
imhess	imhelp	IMAGINE Essentials Help Files	No	9.2	
imhadv	imhelp	IMAGINE Advantage Help Files	No	9.2	
imhnitf	imhelp	IMAGINE NITF Help Files	No	9.2	
lpshelp	imhelp	LPS Help Files	No	9.2	
javasupp		Used by various application components. Not required if Java is already installed.	No	9.2	
borrowing		A utility for checking out FLEXnet floating licenses.		9.3	
safenet		SafeNet Driver		9.3	
flexid		FlexID Dongle Driver		9.3	
licensing		Files Related to ERDAS-Net Licensing		9.3	

- The imhelp feature includes Start Menu shortcuts that launch application help documentation. These shortcuts are not included in another feature, therefore imhelp should be specified when installing help files from the command line.
- The javasupp feature is not a required feature, however, it is required to properly build indexes that display help documentation if another install of Java is not available on the system. If no other version of Java exists on the system and help is also being installed, the javasupp option should also be installed. See [Java Versions in IMAGINE and LPS](#) for the version of java delivered with the products.

Java Versions in IMAGINE and LPS

Application Version	Java Version
9.2	JRE Standard Edition 1.6.0_02
9.3	JRE Standard Edition 1.6.0_06

Appendix 1: Additional Command Line Examples:

Note: Examples using "setup.exe" assume that setup is being launched from the directory containing setup.exe.

Ex. 1: Verbose Logging of an Uninstall.

```
msiexec.exe /x {ProductGUID} /lvx* "C:\temp folder\uninstall2345.txt"
```

Ex. 2: Installs IMAGINE Essentials, IMAGINE Advantage, IMAGINE Professional and IMAGINE VirtualGIS into the C:\IMAGINE_9.2 directory.

```
setup.exe /S /V"/qr INSTALLDIR=C:\IMAGINE_9.2  
ADDLOCAL=Shortcuts_And_Registry,imagine,imess,imadvan,improf,imvirtual"
```

Ex. 3. Basic logging of an Update or Service Pack (in this example the IMAGINE-LPS 9.3.1 Update) install. Not Silent.

```
C08111.exe /V"/I* C:\Temp\install12345.log"
```

Appendix 2: IMAGINE 9.2 Feature Codes

Feature ID	Subfeature Of	Description:	Required
Shortcuts_And_Registry		Installs the registry entries and shortcuts	Yes
imagine		Installs files necessary for ERDAS IMAGINE	Yes

imess	imagine	Installs files for IMAGINE Essentials (requires Java Runtime)	Yes
imadvan	imagine	Installs files for IMAGINE Advantage	No
improf	imagine	Installs files for IMAGINE Professional	No
imautosync	imagine	Installs files for IMAGINE AutoSync	No
imhifi	imagine	Installs files for Leica Stereo Analyst (for ERDAS IMAGINE)	No
imifsdem	imagine	Installs files for IMAGINE InSAR	No
imimagizer	imagine	Installs files for IMAGIZER Data Prep	No
imnitf21	imagine	Installs files for IMAGINE NITF 2.1	No
imordr	imagine	Installs files for IMAGINE OrthoRadar	No
imradar	imagine	Installs files for IMAGINE Radar Interpreter	No
imrdrdem	imagine	Installs files for IMAGINE StereoSAR DEM	No
imvect	imagine	Installs files for IMAGINE Vector	No
imvirtual	imagine	Installs files for IMAGINE VirtualGIS	No
imhelp	imagine	Installs files for IMAGINE Help (requires Java Runtime)	No
imiee	imagine	Installs files for IMAGINE Enterprise Editor (requires Java Runtime)	No
imorload	imagine	Installs files for Georaster Loader for Oracle	No
imorvload	imagine	Vector Feature Loader for Oracle (requires Java Runtime)	No
imdelta	imagine	Installs files for IMAGINE DeltaCue	No

javasup	imagine	Used by various application components. Not required if Java is already installed.	No
helpsupp	imhelp	Help Support Files	No
imhadv	imhelp	IMAGINE Advantage Help Files	No
imhauto	imhelp	IMAGINE AutoSync Help Files	No
imhdelta	imhelp	IMAGINE DeltaCue Help Files	No
imhhifi	imhelp	Leica Stereo Analyst Help Files	No
imhess	imhelp	IMAGINE Essentials Help Files	No
imhiee	imhelp	IMAGINE Enterprise Editor Help Files	No
imhimag	imhelp	IMAGINE IMAGIZER Help Files	No
imhnitf	imhelp	IMAGINE NITF Help Files	No
imifsar	imhelp	IMAGINE InSAR Help Files	No
imhordar	imhelp	IMAGINE OrthoRadar Help Files	No
imhprof	imhelp	IMAGINE Professional Help Files	No
imhshapp	imhelp	IMAGINE Shared Applications Help Files	No
imhstdem	imhelp	IMAGINE Stereo SarDEM Help Files	No
imhvect	imhelp	IMAGINE Vector Help Files	No
imhvirt	imhelp	IMAGINE Virtual GIS Help Files	No

Appendix 3: IMAGINE 9.1 Feature Codes

Feature ID	Subfeature Of	Description:	Required
Shortcuts_And_Registry		Installs the registry entries and shortcuts	Yes

imagine		Installs files necessary for ERDAS IMAGINE	Yes
imess	imagine	Installs files for IMAGINE Essentials (requires Java Runtime)	Yes
imadvan	imagine	Installs files for IMAGINE Advantage	No
improf	imagine	Installs files for IMAGINE Professional	No
imautosync	imagine	Installs files for IMAGINE AutoSync	No
imhifi	imagine	Installs files for Leica Stereo Analyst (for ERDAS IMAGINE)	No
imifsdem	imagine	Installs files for IMAGINE InSAR	No
imimagizer	imagine	Installs files for IMAGIZER Data Prep	No
imnitf21	imagine	Installs files for IMAGINE NITF 2.1	No
imordr	imagine	Installs files for IMAGINE OrthoRadar	No
imradar	imagine	Installs files for IMAGINE Radar Interpreter	No
imrdrdem	imagine	Installs files for IMAGINE StereoSAR DEM	No
imvect	imagine	Installs files for IMAGINE Vector	No
imvirtual	imagine	Installs files for IMAGINE VirtualGIS	No
imhelp	imagine	Installs files for IMAGINE Help (requires Java Runtime)	No
imiee	imagine	Installs files for IMAGINE Enterprise Editor (requires Java Runtime)	No
imorload	imagine	Installs files for Georaster Loader for Oracle	No
imorvload	imagine	Vector Feature Loader for Oracle (requires Java Runtime)	No

Appendix 4: LPS 9.2 Feature Codes

Appendix 5: LPS 9.1 Feature Codes
