



ERDAS IMAGINE

Installation and Configuration Guide

Version 16.6
2019

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ERDAS IMAGINE

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ERDAS IMAGINE

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SECTION 1

Installation and Configuration Guide Contents

This document provides installation and configuration instructions for ERDAS products on supported Microsoft Windows® operating systems.

ERDAS IMAGINE eTraining Links

Would you prefer to watch a video? Many of our workflows are showcased in short, to-the-point eTraining modules on the *Hexagon Geospatial Community* <http://community.hexagongeospatial.com>. We add new videos regularly, so check back often.



Visit our Community and check out the *videos*

<http://community.hexagongeospatial.com/t5/ERDAS-IMAGINE/tkb-p/eTErdasImagine> for ERDAS IMAGINE.



Also on our Community, check out our *Licensing videos*

http://community.hexagongeospatial.com/t5/Licensing/ct-p/KS_Licensing.



Visit our community and check out the *videos*

<http://community.hexagongeospatial.com/t5/IMAGINE-Spatial-Modeler/tkb-p/eTSpatialModeler> for Spatial Modeler.



Raw videos not yet converted to eTraining modules are on the *eTraining Incubator*

<https://www.youtube.com/playlist?list=PL3cpeZTQSqXeBFvr1nD8Z4tSCH13IADiw>.

SECTION 2**Preparation for Installation**

This guide contains important information that is crucial to the successful installation and operation of your software. Read this guide before trying to install or run an ERDAS product.



It is strongly recommended that you have full administrator privileges to install an ERDAS product on a Microsoft Windows operating system.

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System Requirements

As with any advanced software, greater system resources result in greater performance.



System requirements are subject to late changes. See the system requirements in the Release Guide or visit our website at www.hexagongeospatial.com > Products > respective Suite > respective Product > Technical Documents for the latest Release Guide.

ERDAS IMAGINE Installers

The ERDAS IMAGINE 2020 release consists of three separate installers: ERDAS IMAGINE 2020 64-bit, ERDAS IMAGINE 2020 32-bit, and ERDAS ER Mapper 2020.

ERDAS IMAGINE 2020 64-bit contains virtually the entire ERDAS IMAGINE suite as 64-bit applications, ERDAS IMAGINE 2020 32-bit contains virtually the entire ERDAS IMAGINE suite as 32-bit applications, and ERDAS ER Mapper 2020 contains the ERDAS ERMapper functionality (as 32-bit applications).

On modern 64-bit computers, being able to run as a true 64-bit application allows full exploitation of the computer's resources, including addressing more than 4GB of memory. Therefore, we recommend that you install and run ERDAS IMAGINE 2020 64-bit, if possible. Unfortunately, not every program could be ported to 64-bit, usually because there was a dependency on a third-party component which is only made available 32-bit. These occurrences are very limited compared to the number of programs which are included in ERDAS IMAGINE 2020 64-bit. If your workflow is depending on one of these capabilities, ERDAS IMAGINE 2020 32-bit is being provided so that you can continue to use these capabilities.

The functionality which is only available in ERDAS IMAGINE 2020 32-bit is as follows:

- Image Equalizer
- Image Catalog
- StereoSAR DEM
- IMAGIZER
- External Projections
- Surfacing Tool (deprecated in favor of Terrain Prep tool)
- ESRI Grid support
- MultiGen OpenFlight format support
- Oracle Geospatial Raster support
- ArcSDE support
- TerraModel TIN support
- IRS Sensor Model
- MapInfo support
- Geodatabase support

If you wish to use ERDAS ERMapper functionality, install ERDAS ERMapper 2020.



All three installers (ERDAS IMAGINE 2020 64-bit, ERDAS IMAGINE 2020 32-bit and ERDAS ER Mapper 2020) can be installed on a single computer if desired.



Except where noted, the installation process is the same for all three installers. The rest of this Guide will use ERDAS IMAGINE 2020 64-bit for the examples.

Installing Multiple Versions of ERDAS IMAGINE

It is not necessary to uninstall an already-installed version of ERDAS IMAGINE to install ERDAS IMAGINE 2020. Versions of ERDAS IMAGINE can be installed and/or uninstalled on a single computer in any order as long as they are installed in different locations.

ERDAS IMAGINE and GeoMedia Compatibility

ERDAS IMAGINE 2020 can be installed and/or uninstalled in any order, regardless of GeoMedia products installed on the machine.

Temporary File Location

Sometimes processes in an ERDAS product create temporary files. On a system with multiple disk drives, the drive that contains the default directory (**c:\temp**) may not have enough space. Be sure to set the **Temporary File Directory** in the **User Interface and Session** category of the **Preference Editor** to a directory with sufficient disk space (the actual amount you need depends on the size of the files and applications you use).

Some temporary files may not be deleted automatically, causing the temporary directory to become overloaded. If this happens, exit the ERDAS software and delete the files in the temporary directory.

If the **Temporary File Directory** in the **Preference Editor** specifies a nondirectory file or a nonexistent directory, no error message is reported and the **c:\temp** directory is created and used for temporary files.



See "Microsoft Windows System Guide" for information on configuring spool directories.

Temporary File Location Exception

IMAGINE Subpixel Classifier does not use the **Temporary File Directory** preference. Temporary files are stored using the Microsoft Windows operating system environment variable TMP. You will need between 100 MB and 250 MB of free disk space to hold temporary files, depending on the size of the image being processed.

If you wish to change the TMP environment variable, first exit running ERDAS programs. If needed, create a new folder where the temporary files will reside. Navigate to the System control panel.

Under some Microsoft Windows operating systems, select the Advanced tab and then select Environment Variables.

Create or select the TMP User Variable. Modify the value to reflect your desired temporary file location. Select Set and then Apply. Exit the control panel.

Environment Variables

Environment variables \$HOME and \$PERSONAL are used by ERDAS IMAGINE to deposit things such as log files, default layout, and proxies.

If your homespace is on a server that is difficult to access, or is read-only, the ERDAS IMAGINE artifacts cannot be correctly created. This can also cause problems with the software.

If \$HOME is not set in the environment, ERDAS IMAGINE creates its own local value for the environment variable HOME by concatenating the environment variables HOMEDRIVE and HOMEPATH.

If \$PERSONAL is not set in the environment, ERDAS IMAGINE constructs the environment variable PERSONAL by concatenating *.imagine*_{NNNN} to the HOME environment variable. _{NNNN} is the version number of ERDAS IMAGINE.

If your Windows machine does not have values set for HOMEDRIVE and HOMEPATH, or you have trouble accessing these variables, contact your Network Administrator for help changing these settings.

Administrator Privileges

To install an ERDAS product on a Microsoft Windows operating system, it is strongly recommended that you have full administrator privileges.

The Administrator must create a user account for each user, giving each user a username and password for logging into the system. A unique home directory for each

user is highly recommended in order to make use of user-specific preference capabilities.

The first time you run a new installation of an ERDAS product on a Microsoft Windows operating system, you must be logged in as a user with full administrative privileges.



See "Microsoft Windows System Guide" for information on setting up user accounts.

Add-on Modules

IMAGINE Photogrammetry module is integrated into the ERDAS IMAGINE installer. You can use the Photogrammetry options directly in the IMAGINE ribbon Workspace.

The ERDAS installation process may offer optional add-on modules.

Running any of these integrated or add-on modules requires purchasing a license for them.

Local Installation

A local installation copies all necessary files and configures a machine to run an ERDAS product independently. It copies executable files to disk. All of the modules and components reside only on the designated machine; network access is not required.

Existing Installation

You can also incorporate add-on modules into an existing installation of ERDAS software.

In some cases, the module is included in the list of module components you select during installation. For example, you can choose IMAGINE Objective from the components list. If you have selected an add-on module during installation, then you can also incorporate its license file as you do the license file for other ERDAS software.

If you did not choose any add-on modules at the time of installation, you can start the installation process again. This time, select only the modules you wish to install. You can also enter the license file separately.

SECTION 3**Installing ERDAS IMAGINE**

This section contains the steps for completing a local installation of ERDAS IMAGINE on a supported Microsoft Windows operating system.

A local installation is one in which the ERDAS program files are run from the machine on which they are installed.

If you attempt to install ERDAS IMAGINE on a supported Microsoft Windows system without Administrator privileges, a dialog opens instructing you that you are not able to install the software using the current privileges. Log out, then log back in as a user with administrative privileges and then install ERDAS IMAGINE.

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Install ERDAS IMAGINE

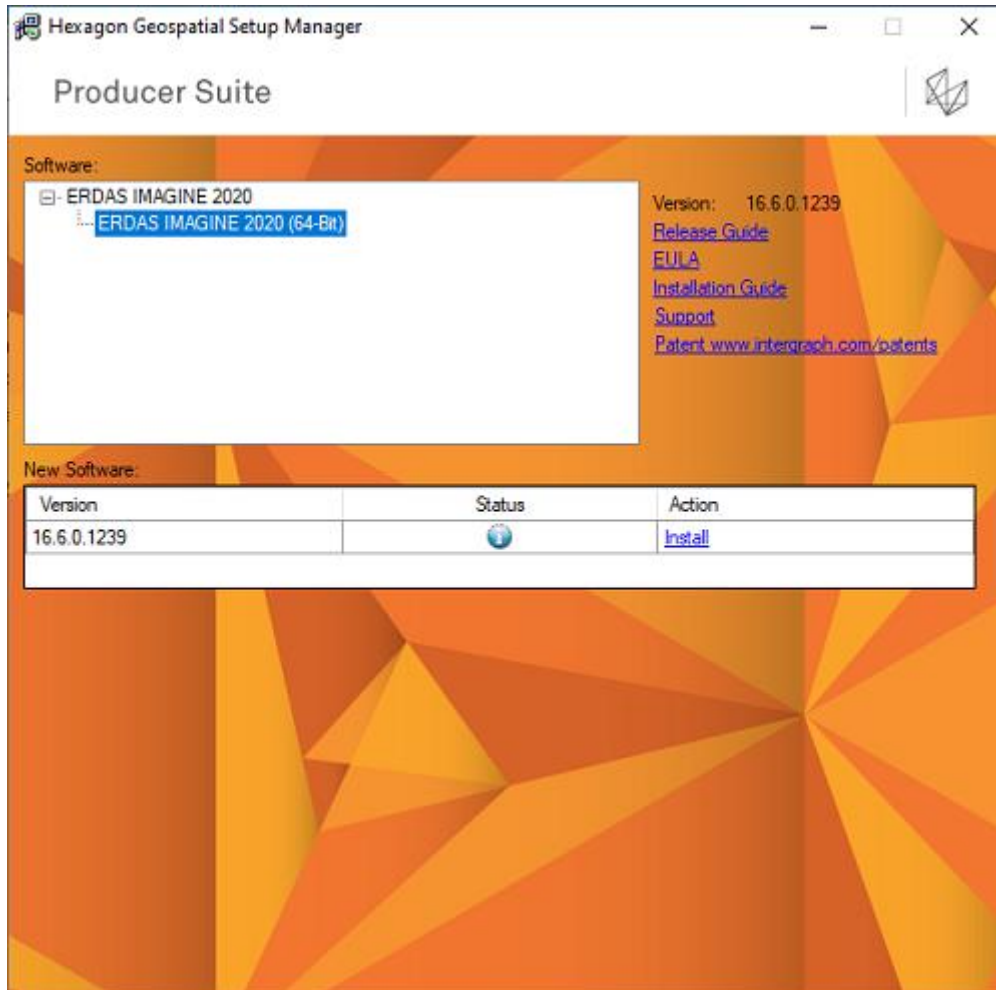
You must be logged in as a user with full administrative privileges to successfully install ERDAS software.



You should close all running applications before installing ERDAS IMAGINE.

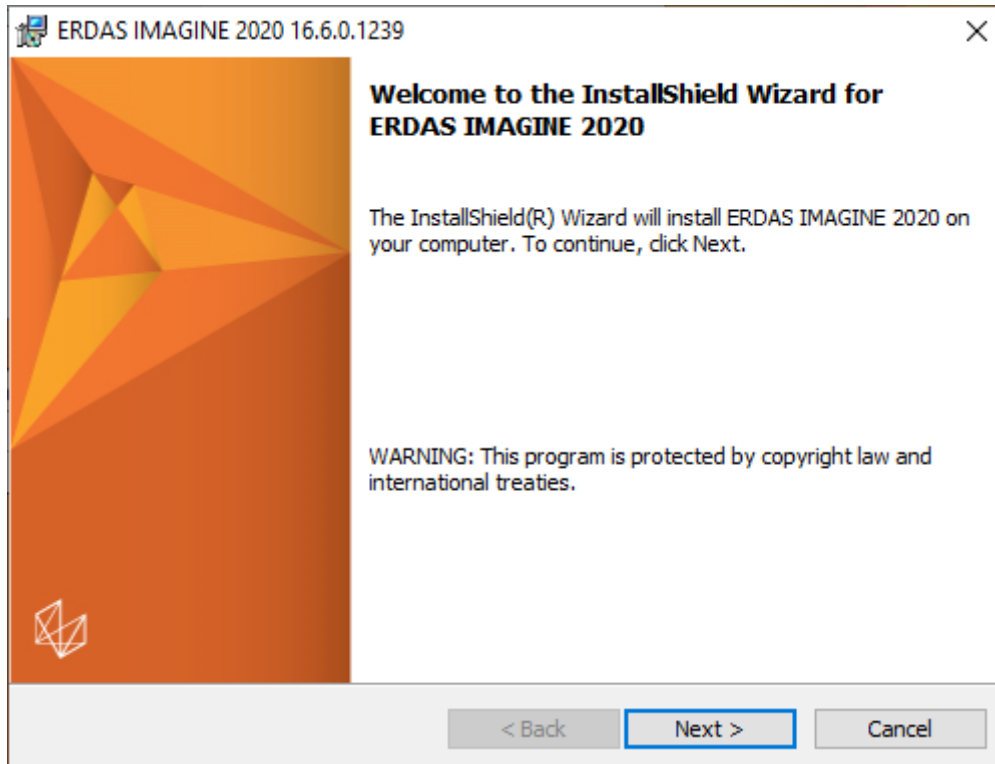
1. Double-click Setup.vbs from the installation folder.
2. If prompted to allow access to the computer by a program published by Intergraph Corporation, click "Yes".

The Hexagon Geospatial Setup Manager dialog opens.



3. Double-click the software name under **Software** to expand the software package list.
4. Click the software package name to open the **New Software** table.
5. Under Action column, click **Install**.

The ERDAS IMAGINE Welcome dialog opens. Click **Next**.



The End-User License Agreement dialog opens. Please read the license agreement in its entirety.

6. If you agree to the terms and conditions set forth in the End-User License Agreement, select the **I accept the terms in the license agreement** radio button. If not, select the I do not accept the terms in the license agreement radio button and click **Cancel** to exit the installation program.
7. If you accept the terms in the License Agreement, click **Next** in the End-User License Agreement dialog.

The Custom Setup dialog opens, showing the ERDAS IMAGINE features that are available to install.

The path to the directory to which ERDAS IMAGINE files will be installed is also shown. Files required to run ERDAS IMAGINE software are installed in this directory.

8. If you would like to change the installation directory, click **Change** button to open the Change Current Destination Folder dialog.

9. Click to select or type the directory in which you would like to install ERDAS IMAGINE software.
10. Click **OK** button to return to the Custom Setup dialog.



For an explanation of the icons, indicating install status, click **Help** button.

11. Click to select the ERDAS IMAGINE software feature you want to install.

To deselect a feature (make sure a feature is not installed), you must:

- Click on the feature icon you want to open the menu options.
- Select **X This feature will not be available**.
- Ensure that **X** is showing next to the feature.

12. Click **Next** button.

The Ready to Install the Program dialog opens.



If any Alert messages display on this dialog, read and pay close attention to any information contained in the message since it may have an effect on the behavior of this version of the software or interaction with other Hexagon Geospatial products.

13. Click **Install** button to begin the actual installation.

A status bar tracks the installation progress. When the process is finished, the InstallShield Wizard Completed dialog opens.

14. Click **Finish** to exit the Wizard.

Various process dialogs open to show the progress of ERDAS IMAGINE configuration tasks. When the tasks are completed, the dialogs close automatically.

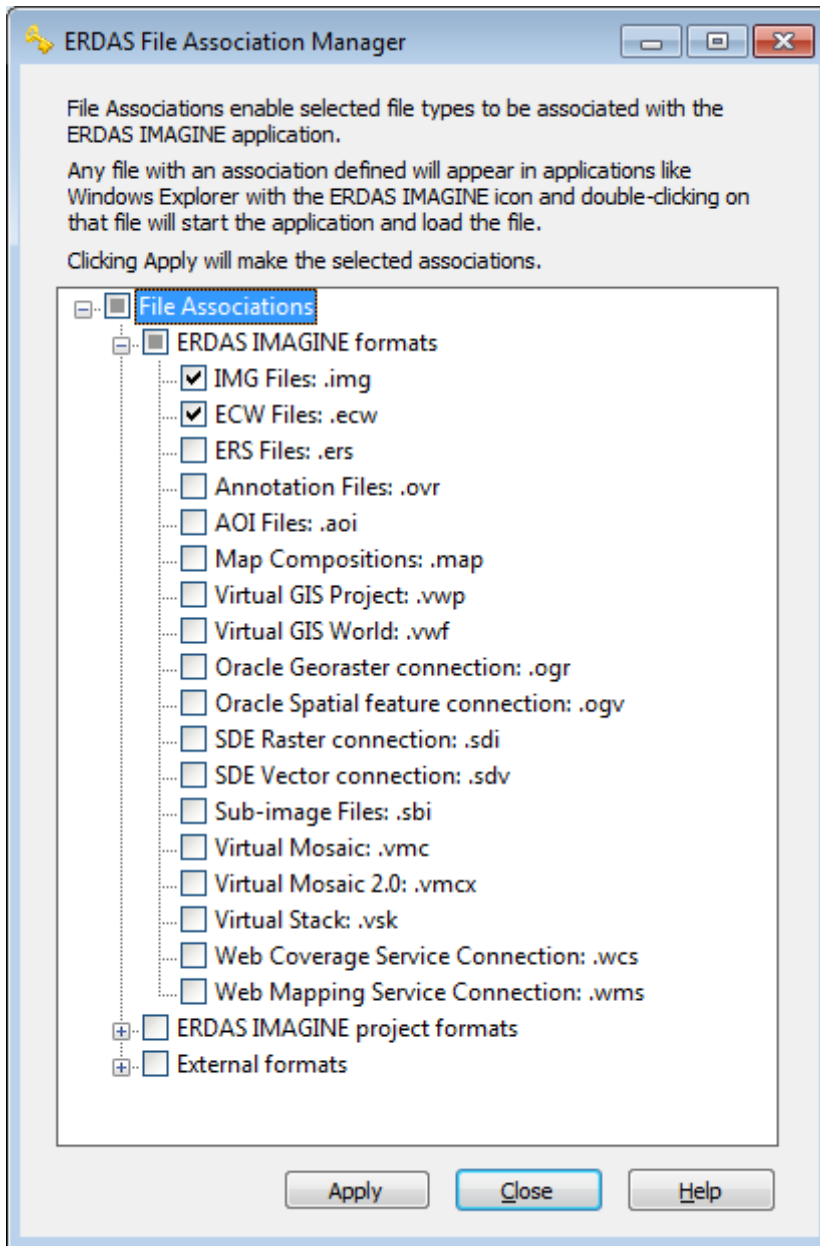


Do not close the Hexagon Geospatial Setup Manager until the installation and configuration of the ERDAS IMAGINE software is complete. When fully complete, a check icon is displayed in the Status field of the New Software table against the version being installed and a check icon in the Configuration table against ERDAS IMAGINE. Generally, for ERDAS IMAGINE, this is not true until after the ERDAS File Association Manager section is completed.

ERDAS File Association Manager

At the end of installation process, the ERDAS File Association Manager dialog opens. You can associate selected file types to be associated with ERDAS IMAGINE application. You can also open this dialog, also known as File Registration Handler, later from within IMAGINE Workspace if needed.

1. Make the file associations, click **Apply** and then click **Close**. The installation is complete.



This is not applicable to the ERDAS ERMapper installer.

Installation Tips

DVD Autorun

If your preference settings deactivate the DVD autorun, you can open the Hexagon Geospatial Setup Manager dialog by selecting **Start > Run** from the Microsoft application bar and entering **<DVD>:\Setup.vbs** in the text box (where <DVD> represents the drive letter of your DVD drive).

Example Data Installation

Installing ERDAS IMAGINE software does not install the Example data referenced by the User Guides. Example data is available from the Hexagon Geospatial website - www.hexagongeospatial.com.


IMAGINE Developers Toolkit

IMAGINE Developers' Toolkit is a stand-alone toolkit for a development environment. It is downloadable from the Hexagon Geospatial website - www.hexagongeospatial.com.

Starting ERDAS IMAGINE for the first time

1. After you install ERDAS IMAGINE, start it from the Microsoft desktop.

If you have not yet completed the licensing option, the Welcome dialog prompts you for your license information.

 For Help topics, How to Generate Licenses, Rehosting, and questions, visit the *Licensing portal in Hexagon Geospatial Community* (https://community.hexagongeospatial.com/t5/Licensing/ct-p/KS_Licensing).

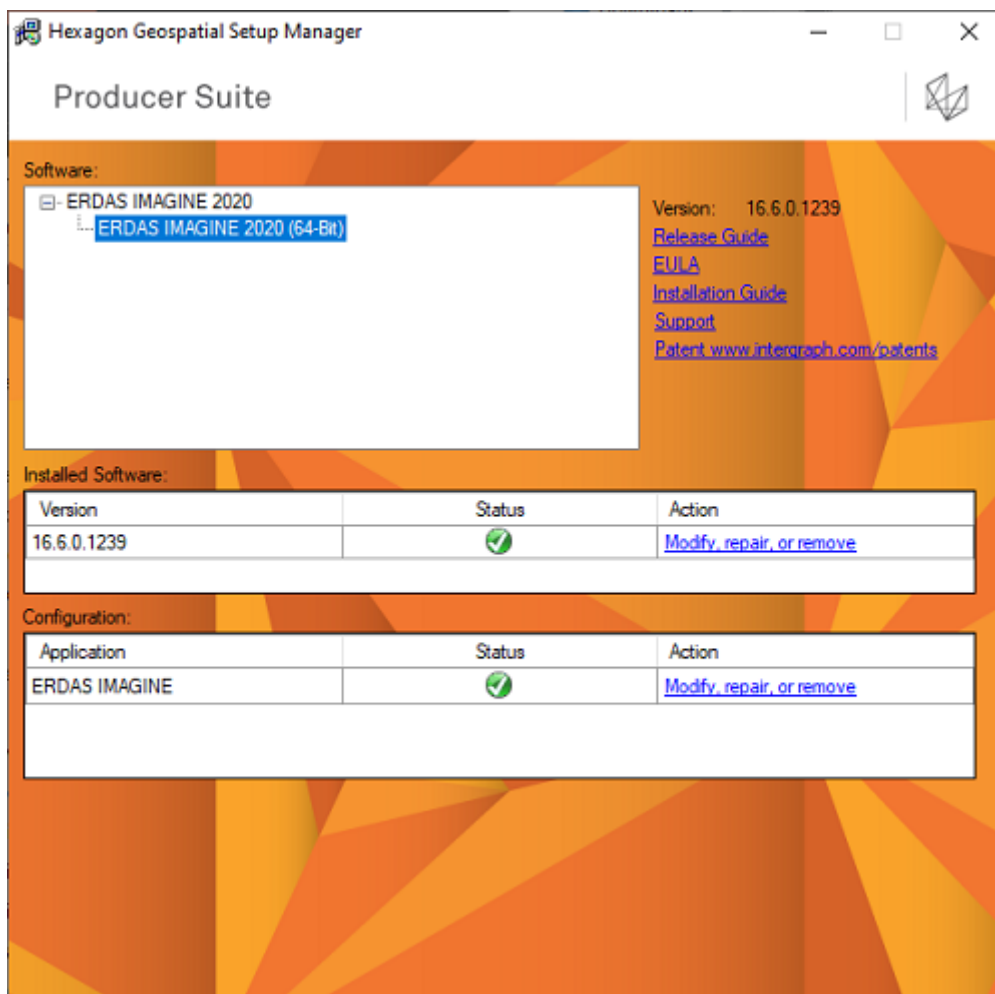
Modify or Repair ERDAS Software

You can modify or repair ERDAS IMAGINE software by using the Hexagon Geospatial Setup Manager dialog.

Check Software Status

1. Open the Hexagon Geospatial Setup Manager dialog by using one of these methods:

- Insert the original installer media
 - Open the original installer
2. Double click the Setup.exe file in the installer.
The Hexagon Geospatial Setup Manager dialog opens.
 3. Click the software name under **Software** to expand the software package list.
 4. Click the software name to open the **Installed Software** and **Configuration** tables.



5. If you want to run a configuration update for ERDAS IMAGINE at this time, then in **Configuration** table, click **Modify, repair, or remove**.

For ERDAS IMAGINE, various process dialogs open to show the progress of ERDAS IMAGINE configuration tasks. When the tasks are completed, the dialogs close automatically.

Modify the Software Install

1. To start the modify process, in **Installed Software** table, click **Modify, repair, or remove**.

The Welcome dialog opens. Click **Next**.

2. To modify, or change which program features are installed, select **Modify**.

The Custom Setup dialog opens.

3. Click to select the ERDAS IMAGINE software features you want to install.

To deselect a module (make sure a feature is not installed), you must:

- Click on the desired feature icon to open the menu options.
- Select **X This feature will not be available**.
- Ensure that **X** is showing next to the feature.

4. Click **Next** button.

The Ready to Install the Program dialog opens.

5. Click **Install** button to begin the actual installation.

A status bar tracks the installation progress. When the process is finished, the InstallShield Wizard Completed dialog opens.

6. Click **Finish** to exit the Wizard.

For ERDAS IMAGINE various process dialogs open to show the progress of ERDAS IMAGINE configuration tasks. When the tasks are completed, the dialogs close automatically. Depending on the product you are installing, the *ERDAS File Association Manager* (on page 21) dialog may open.

Repair the Software Install

1. Follow the steps in Check Software Status section.
2. In Hexagon Geospatial Setup Manager dialog, in **Installed Software** table, click **Modify, repair, or remove**.
3. The Welcome dialog opens. Click **Next**.

4. To repair installation errors in the program, select **Repair**. This option fixes missing or corrupt files, shortcuts, and registry entries.
5. Click **Next**.

After a few moments, the Ready to Repair the Program dialog opens.

Be sure to read any alert messages that this dialog may contain about detection of installation of previous versions of software and functionality.

6. Click **Install** button to begin the actual installation or repair.

A status bar tracks the installation progress. When the process is finished, the InstallShield Wizard Completed dialog opens.

7. Click **Finish** to exit the Wizard.

For ERDAS IMAGINE, various process dialogs open to show the progress of ERDAS IMAGINE configuration tasks. When the tasks are completed, the dialogs close automatically. Depending on the product you are installing, the *ERDAS File Association Manager* (on page 21) dialog may open.

SECTION 4

Installing Geodatabase Support

This section contains the steps for installing support for ArcGIS® Geodatabases in ERDAS IMAGINE.



If you have ArcGIS, ArcMap, or ArcCatalog installed on your system, there is no need to install Geodatabase Support. ERDAS IMAGINE will automatically interact with ArcGIS.



System requirements for ArcGIS interoperability are listed in the current version of ERDAS IMAGINE System Requirements document. Visit our website at www.hexagongeospatial.com > specific Product > Technical Documents for the latest System Requirements.



To learn which ArcGIS geodatabases are compatible with ERDAS IMAGINE, see *ArcGIS Geodatabase Compatibility Table* (on page 29).

ERDAS IMAGINE Geodatabase Support Concept

ERDAS IMAGINE introduces the use of Esri ArcObjects environment to better interact with the latest generation of ArcGIS software and data formats. The use of ArcObjects means that ERDAS IMAGINE is better able to act as an "extension" to ArcGIS, providing advanced image processing and remote sensing capabilities, while transparently interacting with ESRI data formats such as the Geodatabase.

The following is a list of the types of read-only operations that exist within ERDAS IMAGINE and which therefore can now be applied to the data sources accessed in the Geodatabase.

- Display vectors on top of an image
- Include vectors in a map composition
- Display attributes associated with vectors in a table or the Form View
- Apply attribute-based symbolization to features

The following types of edits apply only to Personal Geodatabase.

- Edit features (if the feature source is editable)
- Edit attributes (if the feature source is editable)

- Add/Create columns (if the feature source supports this)

Installing ERDAS IMAGINE Geodatabase Support

Follow these instructions to install ERDAS IMAGINE Geodatabase Support.

If you attempt to install Geodatabase Support on a Microsoft Windows system without Administrator privileges, a dialog opens instructing you that you are not able to install the software using the current privileges. Log out, log back in as a user with administrative privileges and then install Geodatabase Support.

Install ERDAS IMAGINE Geodatabase Support



You must be logged in as a user with full administrative privileges to successfully install ERDAS software.



You should close all running applications before installing ERDAS IMAGINE Geodatabase Support.

1. ArcGIS Engine Runtime is needed for ERDAS IMAGINE Geodatabase Support. The installer will check if ArcGIS Engine Runtime is already installed on the machine. If it is not, you will be presented with a dialog to install it. Otherwise it will skip this step.

Once ArcGIS Engine Runtime is installed, then install ERDAS IMAGINE Geodatabase Support.

2. The Welcome dialog opens. Click **Next**.

The License Agreement dialog opens. Please read the license agreement in its entirety.

3. If you agree to the terms and conditions set forth in the Software License Agreement, select the **I accept the terms in the license agreement** radio button. If not, select the I do not accept the terms in the license agreement radio button and click **Cancel** to exit the installation program.

4. If you accept the terms in the License Agreement, click **Next** in the License Agreement dialog.

The Ready to Install the Program dialog opens.

5. Click **Install** to begin the actual installation.

A status bar tracks the installation progress. When the process is finished, the InstallShield Wizard Completed dialog opens.

- Click **Finish** in the InstallShield Wizard Completed dialog.

ArcGIS Geodatabase Compatibility Table

The following tables illustrates ERDAS IMAGINE software support for ArcGIS Geodatabase versions 9.3-10.7

	Personal GeoDatabase									
	9.3	10	10.1	10.2	10.3	10.4	10.5.1	10.6	10.6.1	10.7
GDB Support	RW	RW	RW	RW	RW	RW	RW	RW	RW	RW
ArcMap 10.0	RW	RW	NA	NA	NA	NA	NA	NA	NA	NA
ArcMap 10.1	RW	RW	RW	NA	NA	NA	NA	NA	NA	NA
ArcMap 10.2	RW	RW	RW	RW	NA	NA	NA	NA	NA	NA
ArcMap 10.3	RW	RW	RW	RW	RW	NA	NA	NA	NA	NA
ArcMap 10.4	RW	RW	RW	RW	RW	RW	NA	NA	NA	NA
ArcMap 10.5.1	RW	RW	RW	RW	RW	RW	RW	NA	NA	Na
ArcMap 10.6	RW	RW	RW	RW	RW	RW	RW	RW	NA	Na
ArcMap 10.6.1	RW	RW	RW	RW	RW	RW	RW	RW	RW	Na
ArcMap 10.7	RW	RW	RW	RW	RW	RW	RW	RW	RW	RW

Table: Personal Geodatabase support in ERDAS IMAGINE

	File Geodatabase									
	9.3	10	10.1	10.2	10.3	10.4	10.5.1	10.6	10.6.1	10.7

GDB Support	R	R	R	R	R	R	R	R	R	R
ArcMap 10.0	R	R	NA	NA	NA	NA	NA	NA	NA	NA
ArcMap 10.1	R	R	R	NA	NA	NA	NA	NA	NA	NA
ArcMap 10.2	R	R	R	R	NA	NA	NA	NA	NA	NA
ArcMap 10.3	R	R	R	R	R	NA	NA	NA	NA	NA
ArcMap 10.4	R	R	R	R	R	R	NA	NA	NA	NA
ArcMap 10.5.1	R	R	R	R	R	R	R	NA	NA	NA
ArcMap 10.6	R	R	R	R	R	R	R	R	NA	NA
ArcMap 10.6.1	R	R	R	R	R	R	R	R	R	NA
ArcMap 10.7	R	R	R	R	R	R	R	R	R	R

Table: File Geodatabase support in ERDAS IMAGINE

Legend

R = Read Only support

RW = Read/Write Support

NA = May work, not supported

SECTION 5

Install and Configure Java Runtime Environment

ERDAS IMAGINE no longer installs Java Runtime Environment (JRE) as part of its installation process. However, the Bayesian classifier in IMAGINE Objective requires a Java Runtime Environment to be available on the machine.



ORACLE Corporation has changed its licensing for Java, including Oracle JRE and ORacle JDK to a paid subscription model for versions released after Java 8u202.

IMAGINE Objective works with any version of JRE. The version to use will depend on the licenses you have. If you have a JAVA SE subscription license, we recommend you use the latest JRE version. If not, you can use the free versions (versions prior to and including JRE 8u202).

Visit Oracle Java SE Licensing FAQ for more information.

Follow these steps to install and configure a Java Runtime Environment for use with IMAGINE Objective.

For use with 32-bit ERDAS IMAGINE

1. Download the installer for 32-bit JRE installer from ORACLE download web page.
2. Double click on the downloaded executable to start the installation.
3. By default, the JRE will be installed to C:\Program Files (x86)\Java\<jre version>
4. After installation completes, follow these steps to add JAVA_HOME environment variable.
 - From the Desktop, right-click the very bottom left corner of the screen to get the Power User Task Menu.
 - From the Power User Task Menu, click Run.
 - In the Run dialog, type sysdm.cpl. This will start the System properties window.
 - In the System Properties window, click on the Advanced tab, then click the Environment Variables button near the bottom of that tab.
 - In the "System variables" section of the Environment Variables window, click the New button.
 - In the New System Variable window, set

- Variable name to JAVA_HOME
 - Variable value to the top folder where JRE is installed.(this is the folder mentioned in Step 2)
 - Close the Advanced System Settings dialog
5. Java Runtime Environment is now installed and configured for use with IMAGINE Objective.

For use with 64-bit ERDAS IMAGINE

1. Download the installer for 64-bit JRE installer from ORACLE download web page.
2. Double click on the downloaded executable to start the installation.
 - By default, the JRE will be installed to C:\Program Files\Java\<jre version>
1. After installation completes, follow these steps to add JAVA_HOME environment variable.
 - From the Desktop, right-click the very bottom left corner of the screen to get the Power User Task Menu.
 - From the Power User Task Menu, click Run.
 - In the Run dialog, type **sysdm.cpl**. This will start the System properties window..
 - In the System Properties window, click on the Advanced tab, then click the Environment Variables button near the bottom of that tab.
 - In the "System variables" section of the Environment Variables window, click the New button.
 - In the New System Variable window, set
 - Variable name to JAVA_HOME
 - Variable value to the top folder where JRE is installed. (this is the folder mentioned in Step 2)
 - Close the Advanced System Settings dialog
1. Java Runtime Environment is now installed and configured for use with IMAGINE Objective.

For use with both 32-bit and 64-bit ERDAS IMAGINE

Download the installer for 32-bit and 64-bit JRE installers from ORACLE download web page.

Select a folder for installing the 32-bit and 64-bit JREs and create the following sub folders under it

- Win32Release - this will be the install folder for the 32-bit JRE
- X64URelease - this will be the install folder for the 64-bit JRE

Double click on the downloaded executables to start the installation.

- For the 32-bit installer, install to <JAVA_HOME>/Win32Release, where <JAVA_HOME> is the folder selected in step 2.
- For the 64-bit installer, install to <JAVA_HOME>/X64URelease, where <JAVA_HOME> is the folder selected in step 2.

After installation completes, follow these steps to add JAVA_HOME environment variable.

- From the Desktop, right-click the very bottom left corner of the screen to get the Power User Task Menu.
- From the Power User Task Menu, click Run.
- In the Run dialog, type **sysdm.cpl**. This will start the System properties window.
- In the System Properties window, click on the Advanced tab, then click the Environment Variables button near the bottom of that tab.
- In the "System variables" section of the Environment Variables window, click the New button.
- In the New System Variable window, set
 - Variable name to JAVA_HOME
 - Variable value to the top folder where JRE is installed.
- Close the Advanced System Settings dialog

Java Runtime Environment is now installed and configured for use with IMAGINE Objective.

SECTION 6

Installing Oracle Data Access Components

Follow these instructions to install and configure Oracle Client for accessing features through Oracle Feature Proxy (*.OFF) in the Viewer and SME.



You must be logged in as a user with full administrative privileges



You should close all running applications before installing Oracle Client.

1. Download the installers for 32-bit and 64-bit Oracle client from ORACLE download web page using the following links
32-bit installer
 - Go to <http://www.oracle.com/technetwork/database/windows/downloads/utilsoft-087491.html>
 - Download the ODAC XCopy version `ODAC121024Xcopy_32bit.zip`64-bit installer
 - Go to <http://www.oracle.com/technetwork/database/windows/downloads/index-090165.html>
 - Download the ODAC XCopy_X64 version `ODAC121024Xcopy_x64.zip`
2. Unzip both installers to a temporary location
3. Start command prompt as administrator and do the following
32-bit installer
 - Change directory to the folder where the 32-bit installer is unzipped.
 - Run the following command: `install basic c:\oracle\32 IMAGINE false`
 - Run the following command: `install odp.net4 c:\oracle\32 IMAGINE true`
 - Run the following command: `install odp.net2 c:\oracle\32 IMAGINE true`

64-bit installer

- Change directory to the folder where the 64-bit installer is unzipped.
- Run the following command: `install basic c:\oracle\64 IMAGINE false`
- Run the following command: `install odp.net4 c:\oracle\64 IMAGINE true`
- Run the following command: `install odp.net2 c:\oracle\64 IMAGINE true`

IMAGINE features access through Oracle Feature Proxy (*.ofp) has been tested with Oracle Database 12c. Other versions may be compatible but have not been tested.

Installing Microsoft® System CLR Types for Microsoft SQL Server

Follow these instructions to install Microsoft® System CLR Types for Microsoft SQL Server (2008 R2 and 2014 versions) for accessing features through SQL Feature Proxy (*.SFP) in the Viewer and SME.



You must be logged in as a user with full administrative privileges



You should close all running applications before installing Microsoft® System CLR Types for Microsoft SQL Server 2008 R2 and .2014

To download the installers for Microsoft® System CLR Types for Microsoft SQL Server 2014 (both 32-bit and 64-bit versions) , visit from Microsoft download web page using the following link: <https://www.microsoft.com/en-us/download/details.aspx?id=42295>

On the download page, click the Download link, which will give you an option to select the options you want to download

Select and download the 32-bit and 64-bit version of the installers.

- The installers are listed as **ENU\x64\SQLSysClrTypes.msi** and **ENU\x86\SQLSysClrTypes.msi**

Start the installation by double clicking the msi package.

Follow the instructions in the setup wizard to install. Do this for both the 32-bit and 64-bit installers.

To Download and install the Microsoft® System CLR Types for Microsoft SQL Server 2008 R2 (both 32-bit and 64-bit versions)

Download the installers

- 32-bit version - <http://go.microsoft.com/fwlink/?LinkID=188391&clid=0x409>
- 64-bit version - <http://go.microsoft.com/fwlink/?LinkID=188392&clid=0x409>

Start the installation by double clicking the msi package.

Follow the instructions in the setup wizard to install. Do this for both the 32-bit and 64-bit installers.

SECTION 7

Uninstalling ERDAS IMAGINE

Using the Hexagon Geospatial Setup Manager dialog to uninstall software is recommended because the dialog guides you to:

Remove any existing updates

Remove the software



You can use Microsoft Windows Control Panel to Uninstall or change a program option as well. If you use Microsoft Uninstall, then it will remove the ERDAS IMAGINE [version] and any installed updates/patches for ERDAS IMAGINE at one time unless you "View Installed Updates" from which updates can be individually uninstalled without removing the entire installation of ERDAS IMAGINE.

If you use MS Control Panel, rather than Hexagon Geospatial Setup Manager, to remove updates you may encounter a warning message asking you to run the Configuration Wizard the next time you start ERDAS IMAGINE. If this dialog persists despite selecting the Yes option to run it, use the "Run as Administrator" option one time for the wizard to complete the configuration of ERDAS IMAGINE. To do this, right-click on the ERDAS IMAGINE entry in the Start menu and select the Run as Administrator option.

Open Hexagon Geospatial Setup Manager dialog

1. Open the Hexagon Geospatial Setup Manager dialog by using one of these methods:

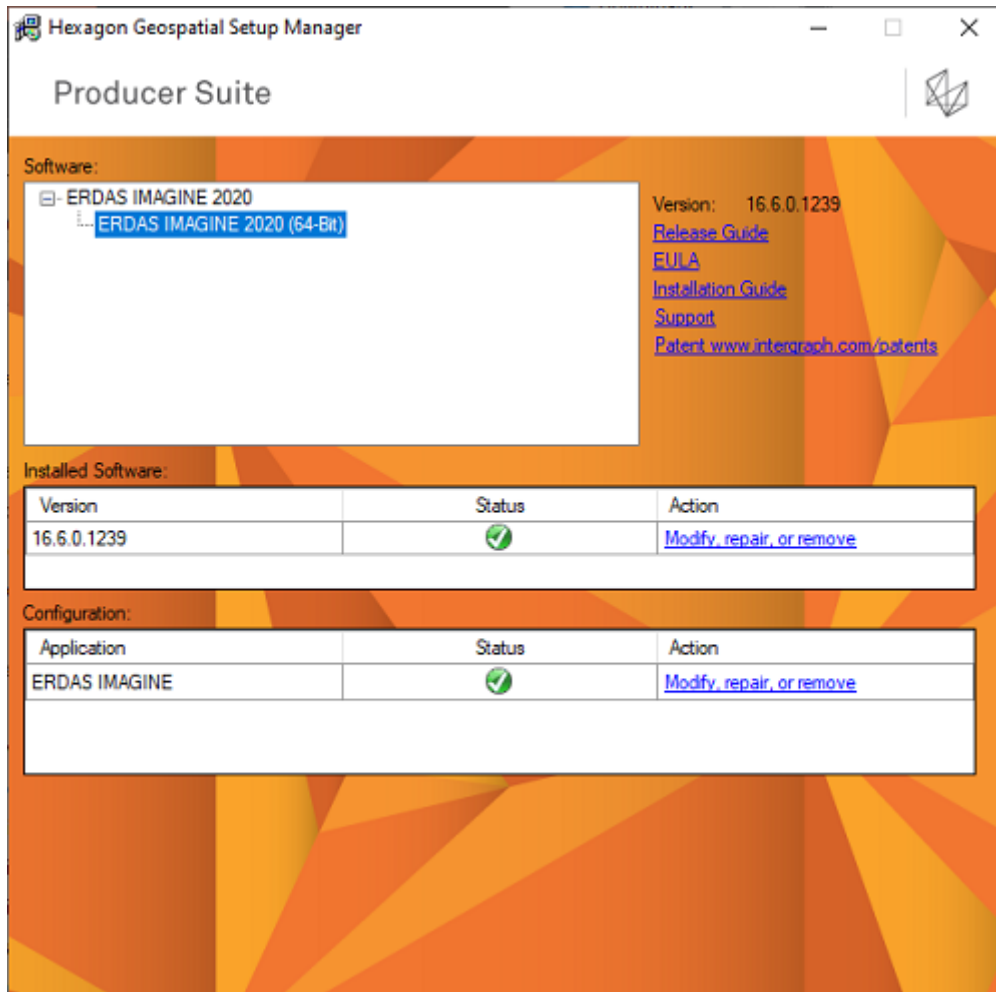
- Insert the original installer media
- Open the original installer

2. Double click the Setup.exe file in the installer.

The Hexagon Geospatial Setup Manager dialog opens.

3. Click the software name under **Software** to expand the software package list.

- Click the software name to open the **Installed Software** and **Configuration** tables.



Remove Configuration

Removing the configuration of ERDAS IMAGINE is not implemented.

Remove the Program

- In Hexagon Geospatial Setup Manager dialog **Installed Software** table, click **Modify, repair, or remove**.
- The Welcome dialog opens. Click **Next**.
- To remove the program, select **Remove**. Click **Next**.

The Remove the Program dialog opens.

4. Click **Remove** to begin the actual uninstall process.

A status bar tracks the uninstall progress. When the process is finished, the InstallShield Wizard Completed dialog opens.

5. Click **Finish** to exit the Wizard.

SECTION 8

Install ERDAS IMAGINE in Silent Mode

This document contains information and background useful for those who want to use the Windows command line to deploy ERDAS IMAGINE and its related Update or Service Packs installers. The command line lets you set up a Batch (or Silent) deployment process, which can be repeated on several different workstations.



To enable logging during an installation or uninstallation, there are some guidelines to follow, as noted in *Troubleshoot Installation using Logs* (on page 100).

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.

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Installing and Configuring ERDAS IMAGINE

Basic Parameters for Hexagon Geospatial Setup Manager

To invoke the Hexagon Geospatial Setup Manager, which is Setup.exe in the root directory of your media, use the following syntax format for all commands:

```
setup.exe /s {SoftwareProductName} {Operation}  
[OptionalArguments]
```

where {SoftwareProductName} is one of the Installable Software Products under SoftwareProductName identified in **Installable Application Names Table**.

where {Operation} and [OptionalArguments] are explained in the **Operation and Optional Arguments Parameters Table**.

Installable Application Names Table

These are the valid names for installable ERDAS IMAGINE products. These names can be found in the ProductInfo.xml file for that Product.

Name as it appears in Hexagon Geospatial Setup Manager dialog	SubfolderName under Repository folder in Media/DVD	SoftwareProductName	ConfigurableApplication Name
ERDAS IMAGINE 2020 (64-Bit)	IMAGINE x64	ERDASImagine2020 x64	IMAGINE
ERDAS IMAGINE 2020 (32-Bit)	IMAGINE x86	ERDASImagine2020 x86	IMAGINE
ERDAS ER Mapper 2020	ERMapper	ERDASERMapper	ERMapper



The examples below are for installing ERDAS IMAGINE 2020 (64-bit). If installing a different product, replace the parameters with the appropriate values from the table above.

Operation and Optional Arguments Parameters Table

Operation	Description	Optional Arguments
/n[i r s x]	Install/modify/upgrade, repair, status of install, remove software	Parameters to be passed to ERDAS IMAGINE product setup, for example: ACCEPT_EULA=1
/c[s]	Configure software or return status of configuration. ConfigurableApplicationName name is required when /c is used.	Parameters to be passed to the configuration wizard (varies per product). ERDAS IMAGINE has no parameters to be passed.

/u[s]	Launches customer authored complementary software setup within the script <i>Repository\SubfolderName\ComplementarySoftwareSetup.wsf</i>	Parameters to be passed to complementary software setup.
-------	---	--

Installing ERDAS IMAGINE – Silent Mode

There are a variety of scripting languages you can use to set up unattended installation. All the examples here demonstrate the batch script commands an administrator would need to install, configure, or modify ERDAS IMAGINE.

These batch script commands should be run from the root directory of the DVD or extracted zip file that contains the installation.

To install and configure ERDAS IMAGINE you need to invoke the Hexagon Geospatial Setup Manager two times.

To install

```
setup.exe /s ERDASImagine2020x64 /ni ADDLOCAL=ALL ACCEPT_EULA=1
```

Where `ERDASImagine2020x64` is `SoftwareProductName` as indicated in **Installable Application Names Table**.



The `ADDLOCAL=ALL` causes all optional features of ERDAS IMAGINE to be installed. If you omit this, only the default core software is installed. See ERDAS IMAGINE 2020 Installer Features Table to see the features that will be installed.

To configure

```
setup.exe /s ERDASImagine2020x64 /c IMAGINE
```

Where `ERDASImagine2020x64` is `SoftwareProductName` and `IMAGINE` is `ConfigurableApplicationName` as indicated in **Installable Application Names Table**.

It is necessary to run configuration for ERDAS IMAGINE, however there are no user-specific parameters.

Complete Set of Parameters for Hexagon Geospatial Setup Manager

Parameters that are available for Hexagon Geospatial Setup Manager are listed in the following tables.

Option	Parameters (SoftwareProductName)	Description
/s	ERDASImagine2020x64	Specifies silent mode

Option	Parameters		Description
/n	[i r s x]		Installs/modifies/upgrades, repairs, returns installation status, or uninstalls the specified product. The /n option requires the /s option above.
	Or		
	[i]	i	Used to install new software, modify a current installation, or upgrade a previous installation. ERDAS IMAGINE does not support upgrade (remove) of a previous installation workflow. ERDAS IMAGINE will install side-by-side without removing a previous version. It is a default parameter. Windows Installer public property values can be appended at the end of this parameter. Spaces are not allowed between property name, =, and property value. When a property value contains spaces, you must enclose that property value with three backslashes and a double quotation mark (\\"). Example: INSTALLDIR=\\\\"c:\Test Installations\\\"
	PROPERTY=VALUE	r	Repairs existing software installation in silent mode. Optional.
		s	Returns installation status. Optional. See Examine Installation Status section. Valid exit code values

		<p>are as follows:</p> <ul style="list-style-type: none"> ● 0 – Not installed. ● 1 – Installed version is up-to-date. ● 2 – Installed version is lower (only applies to patches). ● 3 – Installed version is higher (only applies to patches). ● -1 – Unable to find installation status.
	x	Uninstalls software in silent mode. Optional.
ERDAS IMAGINE products public properties		<p>The following are the public properties:</p> <p>INSTALLDIR – Destination folder for the installation.</p> <p>ACCEPT_EULA – End user license agreement flag.</p> <ul style="list-style-type: none"> ● 0 - The EULA is not accepted. This is the default value. ● 1 - The user has read and accepted the EULA. The software does not install until the value is 1.
Windows Installer public properties		<p>Some commonly used standard Windows Installer public properties are as follows:</p> <p>ADDLOCAL – Installs a list of selectable features delimited by commas, or ALL. Features are listed in ERDAS IMAGINE Installer Features table. Feature names are case sensitive.</p> <p>REMOVE – Uninstalls a list of selectable features delimited by commas, or ALL. Features are listed in ERDAS IMAGINE Installer Features table. Feature names are case sensitive.</p>

Option	Parameters		Description
/c	[s] ConfigurableApplicationName		<p>Launches an installed configurable application's configuration program or returns configuration status. Requires the /s option above.</p> <p>Valid ConfigurableApplicationName values (case sensitive) are as indicated in Installable Application Names Table.</p> <p>A configuration program can support configuration, repair, upgrade, and removal including silent or batch mode support based on its requirements.</p> <p>Each configuration program defines its own parameter list. A configuration program can take parameters using command line arguments or a file (for example, an <i>.xml</i>, <i>.config</i> or any other file type). The file name and location can be an input command line argument.</p>
		s	<p>Returns configuration status. Valid exit code values are as follows:</p> <ul style="list-style-type: none"> • 0 – Not configured. • 1 – Configured. • -1 – Unable to find configuration status.

Option	Parameters		Description
/u	[s] OR [<ParameterList>]		<p>Launches customer authored complementary software setup within the script <i>Repository\SubfolderName\ComplementarySoftwareSetup.wsf</i> or returns the complementary setup install status. Requires the /s option above.</p> <p>A complementary software setup program can support installation, repair, upgrade, and removal including silent/batch mode support based on its requirements. See</p>

		<p>Complementary Software Setup for more information. A complementary software setup program defines its own parameter list. A complementary software setup program can take parameters using command line arguments or a file (for example, <i>.xml</i>, <i>.config</i> or any other file type). The file name and location can be an input command line argument.</p> <p>When a property value contains spaces, you must enclose that property value with three backslashes and a double quotation mark (\\").</p> <p>Example:</p> <pre>INSTALLDIR=\\\\"c:\Test Installations\\\"</pre>
	s	<p>Returns complementary software setup status. Valid exit code values are as follows:</p> <p>0 – Not configured.</p> <p>1 – Configured.</p> <p>-1 – Unable to find complementary software install status.</p>

Examine Installation Status

When you want to examine the installation status using `/ns`, this operation completes using 1 of 5 exit status values as listed in **Complete Set of Parameters for Hexagon Geospatial Setup Manager** Tables. The method to examine the exit status varies depending upon the prompt you use to run `Setup.exe`. For instance, in `Command.com`, the value is hidden in the `ERRORLEVEL` environment variable, and it is lost unless you actually wrap up the command in a `BAT` or `CMD` file. Otherwise, the `Command Prompt` will run the program in background and quietly drop the value, leaving `ERRORLEVEL` at whatever it was before.

Here is a recommended `BAT/CMD` file to examine the exit status code using `Command Prompt`:

```
@echo off
echo Checking status of ERDAS IMAGINE 2020, 64-bit installation
```

```
Setup.exe /S ERDASImagine2020x64 /ns  
echo Install status is %ERRORLEVEL%
```

Installing and Configuring ERDAS IMAGINE using Batch Script

ERDAS IMAGINE can be installed in silent mode using batch scripting language. Note that ERDAS IMAGINE has only one ConfigurableApplicationName value (as noted in **Complete Set of Parameters for Hexagon Geospatial Setup Manager** table). Other products may have two or more of these values. These ConfigurableApplicationName values can be found in the ProductInfo.xml file for that Product. In the following example, assume that the command line is the root level of the DVD image.

Example Batch Script

To perform a silent install of ERDAS IMAGINE by using a batch (.bat) file, create a new file named InstallNConfigureImagine.bat and store it under C:\Temp folder.

Copy the following code into InstallNConfigureImagine.bat file:

```
@ECHO OFF  
NET USE T: %1%  
T:  
setup.exe /s ERDASImagine2020x64 /ns  
IF %ERRORLEVEL% EQU 0 GOTO Install  
ECHO Install status: %ERRORLEVEL% Expecting 0.  
GOTO EOF  
  
:Install  
ECHO Installing...  
setup.exe /s ERDASImagine2020x64 /ni ADDLOCAL=ALL ACCEPT_EULA=1  
setup.exe /s ERDASImagine2020x64 /ns  
IF %ERRORLEVEL% EQU 1 GOTO Configure  
ECHO Install status: %ERRORLEVEL% Expecting 1.  
GOTO EOF
```

```
:Configure
ECHO Configuring...
setup.exe /s ERDASImagine2020x64 /c IMAGINE
setup.exe /s ERDASImagine2020x64 /cs IMAGINE
IF %ERRORLEVEL% EQU 1 GOTO EOF
ECHO Configure status: %ERRORLEVEL% Expecting 1.
GOTO EOF

:EOF
C:
NET USE T: /DELETE /Y
EXIT /B 0
```

Run the Batch Script

C:\Temp\InstallNConfigureImagine.bat FileShareName

Where FileShareName is the file share name that contains the ERDAS IMAGINE DVD image.

Open a command prompt window (using **Run as administrator**) and type the following:

```
C:\Temp\InstallNConfigureImagine.bat
\\YourIMAGINEDVDFileShare\FolderName
```



The folder (FolderName) must contain Hexagon Geospatial Setup Manager which is Setup.exe

Command Prompt Outputs after executing InstallNConfigureImagine.bat

After installing ERDAS IMAGINE on a clean machine, the command prompt output notifies you that:

The command completed successfully.

Installing...

Configuring...

T: was deleted successfully.

After installing ERDAS IMAGINE on a machine where ERDAS IMAGINE already exists, the command prompt output notifies you that:

The command completed successfully.

Install status: 1 Expecting 0.

T: was deleted successfully.

Additional Examples

You can modify the basic silent install syntax to perform additional installer functions such as removing or repairing software.

Remove Software

To completely uninstall ERDAS IMAGINE

```
setup.exe /s ERDASImagine2020x64 /nx
```

Override the Default Installation Location

To install ERDAS IMAGINE at the 'C:\Test Installations' folder

```
setup.exe /s ERDASImagine2020x64 /ni ACCEPT_EULA=1  
INSTALLDIR=\\\\"c:\Test Installations\\""
```

Get Install Status

To get the install status of ERDAS IMAGINE

Pseudo code only; syntax depends on the scripting language.

```
RetVal = setup.exe /s ERDASImagine2020x64 /ns
```

Upgrade an Existing Installation

To upgrade an existing installation of ERDAS IMAGINE to ERDAS IMAGINE 2020



ERDAS IMAGINE 2020 can co-exist with previous versions of ERDAS IMAGINE, so running this command will not remove older version(s) of ERDAS IMAGINE.

```
setup.exe /s ERDASImagine2020x64 /ni ACCEPT_EULA=1
```

Update an Existing Installation

To update an existing installation of ERDAS IMAGINE 2020 (Minor Release, Service Pack, or Maintenance Release)

```
setup.exe /s ERDASImagine2020x64 /ni
```

Uninstall a Removable Update

To uninstall a removable update (Minor Release, Service Pack, or Maintenance Release) of ERDAS IMAGINE 2020

```
setup.exe /s ERDASImagine2020x64 /ni MSIPATCHREMOVE=UpdateID
```

The UpdateID is listed in */etc/UpdateInfo.txt*.

Example:

```
setup.exe /s ERDASImagine2020x64 /ni  
MSIPATCHREMOVE={A3900182-5FD4-42C8-B8D2-A7EA9186B346}
```



Make sure you select the UpdateID (GUID) of the update patch, instead of the GUID of the product. In the statement, include the curly brackets along with the GUID value.



Make sure you run the Config or Edit command (see below, Configure or Edit) again after removing the Service Pack.

Repair an Existing Installation

To repair an existing installation of ERDAS IMAGINE 2020

```
setup.exe /s ERDASImagine2020x64 /nr
```

Configure or Edit

To configure or edit SoftwareProductName.

```
setup.exe /s {SoftwareProductName} /c  
{ConfigurableApplicationName}
```

where {SoftwareProductName} and {ConfigurableApplicationName} are specified in **Installable Application Names Table**.

ERDAS IMAGINE requires that you run configuration, but the process is automatic and requires no additional parameters

Get Configuration Status

To get the configuration status of SoftwareProductName.

Pseudo code only; syntax depends on the scripting language.

```
RetVal = setup.exe /s {SoftwareProductName} /cs
{ConfigurableApplicationName}
```

Remove Configuration

To remove SoftwareProductName configuration.



This operation is not supported for ERDAS IMAGINE.

```
setup.exe /s {SoftwareProductName} /c
{ConfigurableApplicationName}
```

Product-specific Configuration Parameters

There are no configuration parameters used in ERDAS IMAGINE.

ERDAS IMAGINE Installer Features

Feature codes can be employed to install specific portions of the application. They are used in conjunction with the ADDLOCAL and REMOVE parameters listed in **Complete Set of Parameters for Hexagon Geospatial Setup Manager** table.

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

imagineadditions		Installs additional features for ERDAS IMAGINE	
ermapper	imagineadditions	Installs files necessary for ERDAS ER Mapper, ER Mapper Help, and ER Mapper Example Data files	No
imhelp	imagineadditions	Installs files for IMAGINE Help	No

Complementary Software

This information applies if you have received complementary software along with your distribution of ERDAS IMAGINE 2020.

Install

To install the complementary software

```
Setup.exe /s ERDASImagine2020x64 /ui
```

Get Setup Status

To get the complementary software setup status of ERDAS IMAGINE 2020

Pseudo code only; syntax depends on the scripting language.

```
RetVal = Setup.exe /s ERDASImagine2020x64 /us
```

Uninstall Setup

To uninstall the complementary software setup of ERDAS IMAGINE 2020

When the complementary software setup has /x as the parameter specifying remove.

```
Setup.exe /s ERDASImagine2020x64 /u /x
```

SECTION 9**Virtualize the ERDAS IMAGINE Application**

Application Virtualization is a mechanism to separate a software application from the operating system on which it is being accessed or executed. A virtualized application is generally not installed in the traditional sense although it may be executed as if it were. From an Information Technology standpoint this has many advantages, not least the ability to install (and maintain and update) an application once, but deploy it to many computers or users.

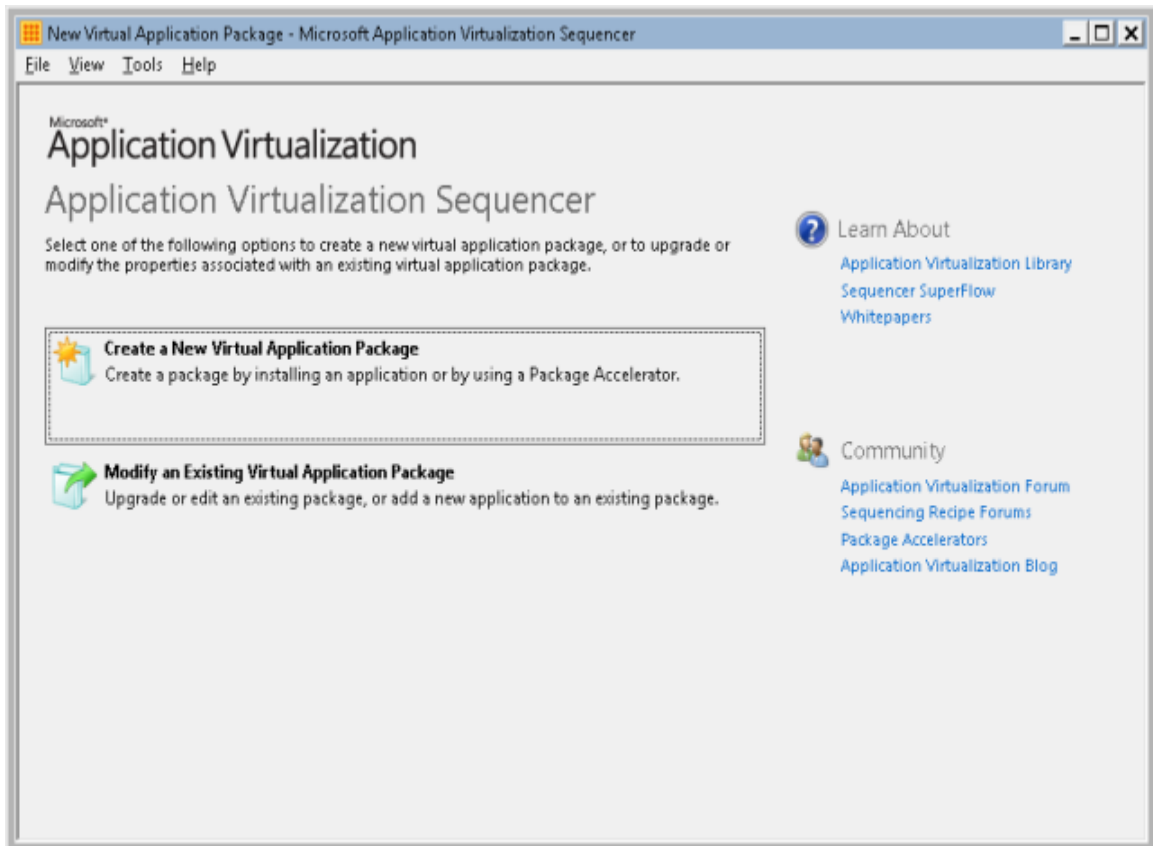
ERDAS IMAGINE has been tested against several such technologies: Microsoft® Application Virtualization and Citrix XenApp®. While ERDAS IMAGINE 2020 is Supported with Microsoft Application Virtualization, it is considered Viable with XenApp Session Virtualization. See the Release Notes or visit our website at www.hexagongeospatial.com > Products > respective Suite > respective Product > Technical Documents for tested versions of these products.

Creating an ERDAS IMAGINE Virtual Application Package

This topic contains the steps and recommendations to create an executable package of ERDAS IMAGINE using Microsoft Application Virtualization Sequencer.

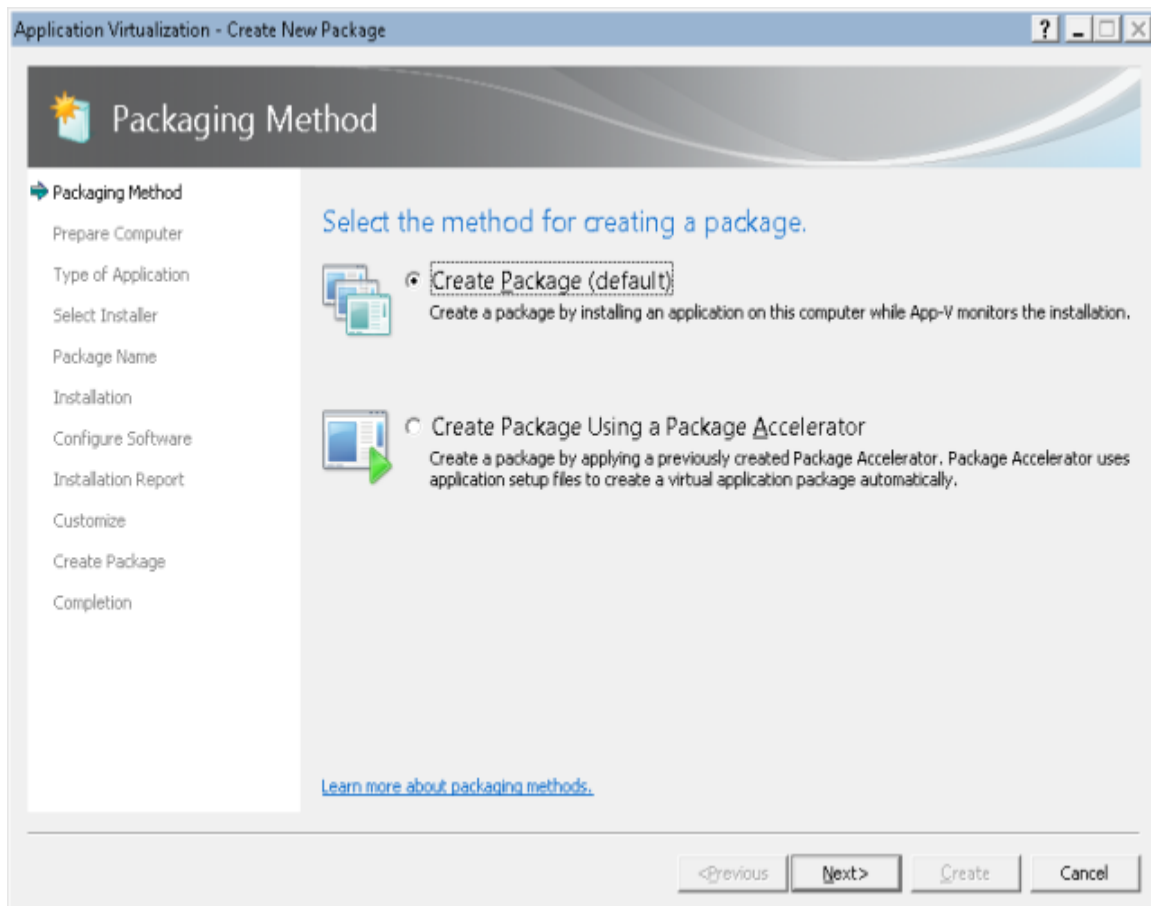
Start Microsoft Application Virtualization Sequencer

1. Launch the Microsoft Application Virtualization Sequencer.



Select a Packaging Method

1. Select the **Create a New Virtual Application Package** option to open the Packaging Method dialog.



Prepare Computer

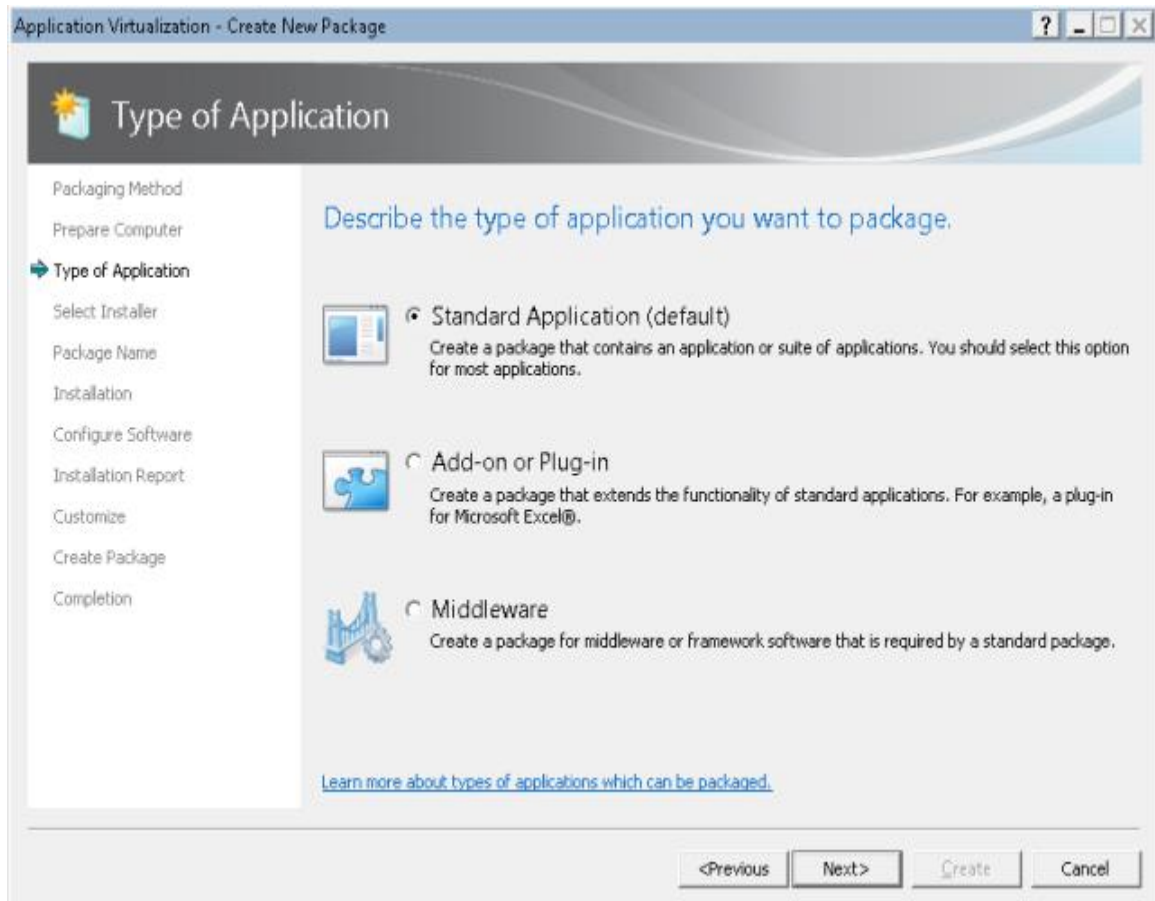
1. With the default option selected, click **Next** button to open the Prepare Computer dialog.

If there are any warnings, follow the resolution and perform to remove the warnings.

Describe the Type of Application

1. Click **Next** button to open the Type of Application dialog.

2. Select the default option.

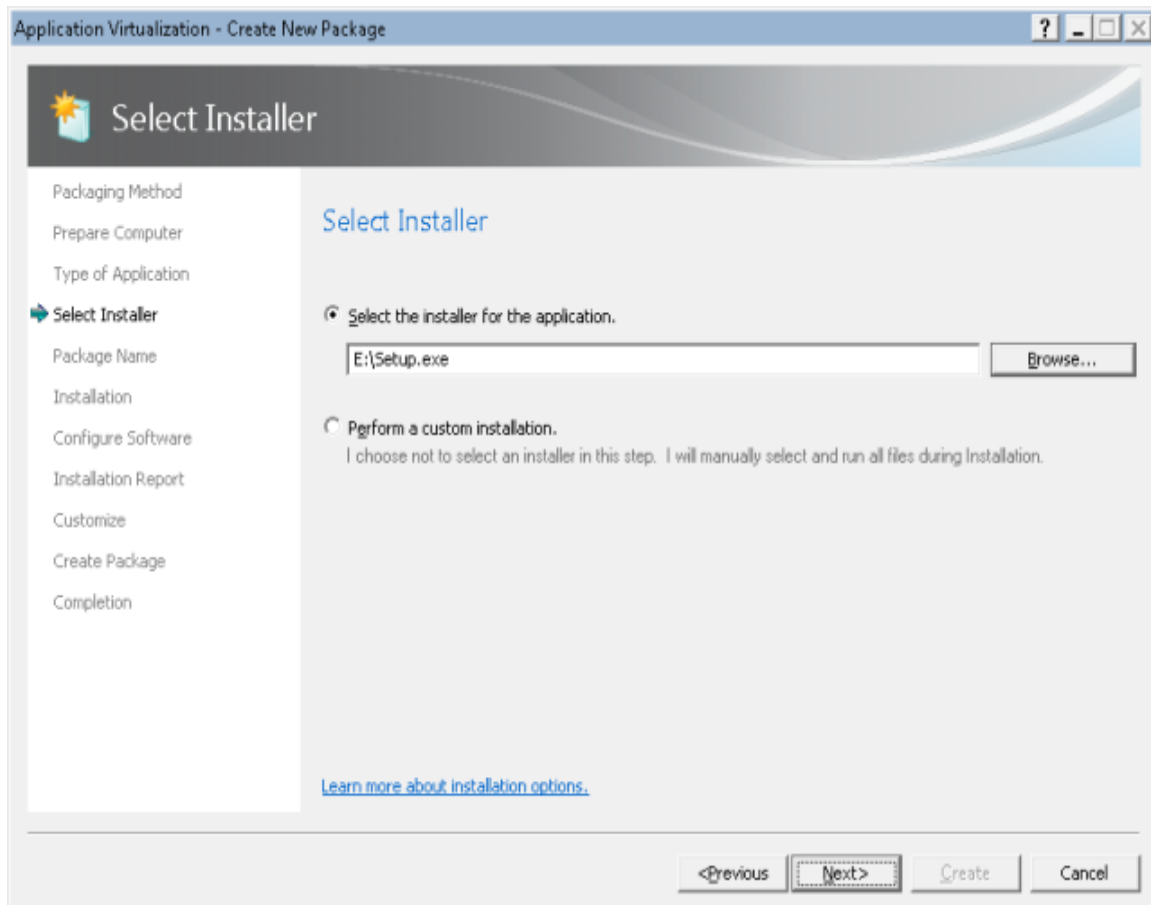


Select the Installer for the Application

1. Click **Next** button to open the Select Installer dialog.



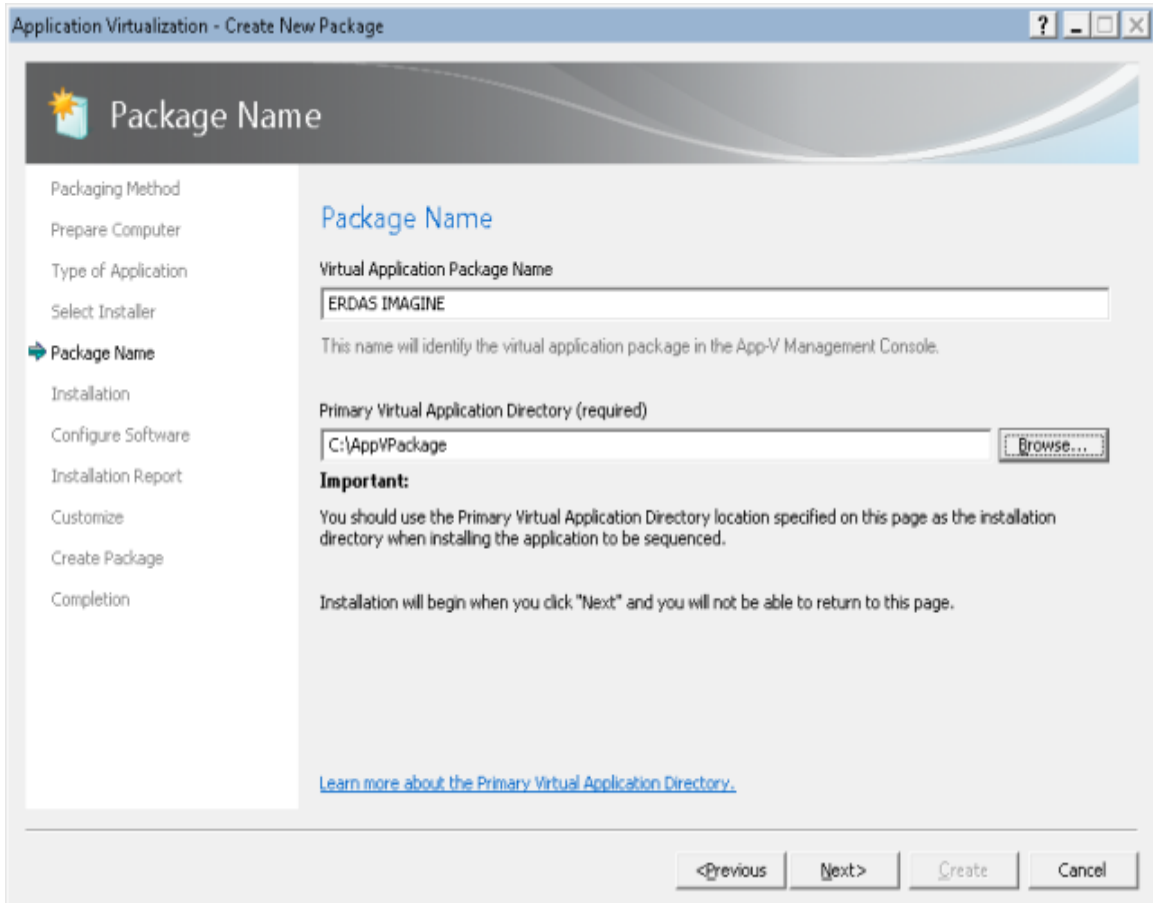
Specifying the "Setup.exe" of the Hexagon Geospatial Setup Manager is recommended because it provides control over the configuration after installation of ERDAS IMAGINE.



Specify the Package Name and Location

1. Click the **Next** button to open the Package Name dialog.

2. Enter the package name and select the directory.



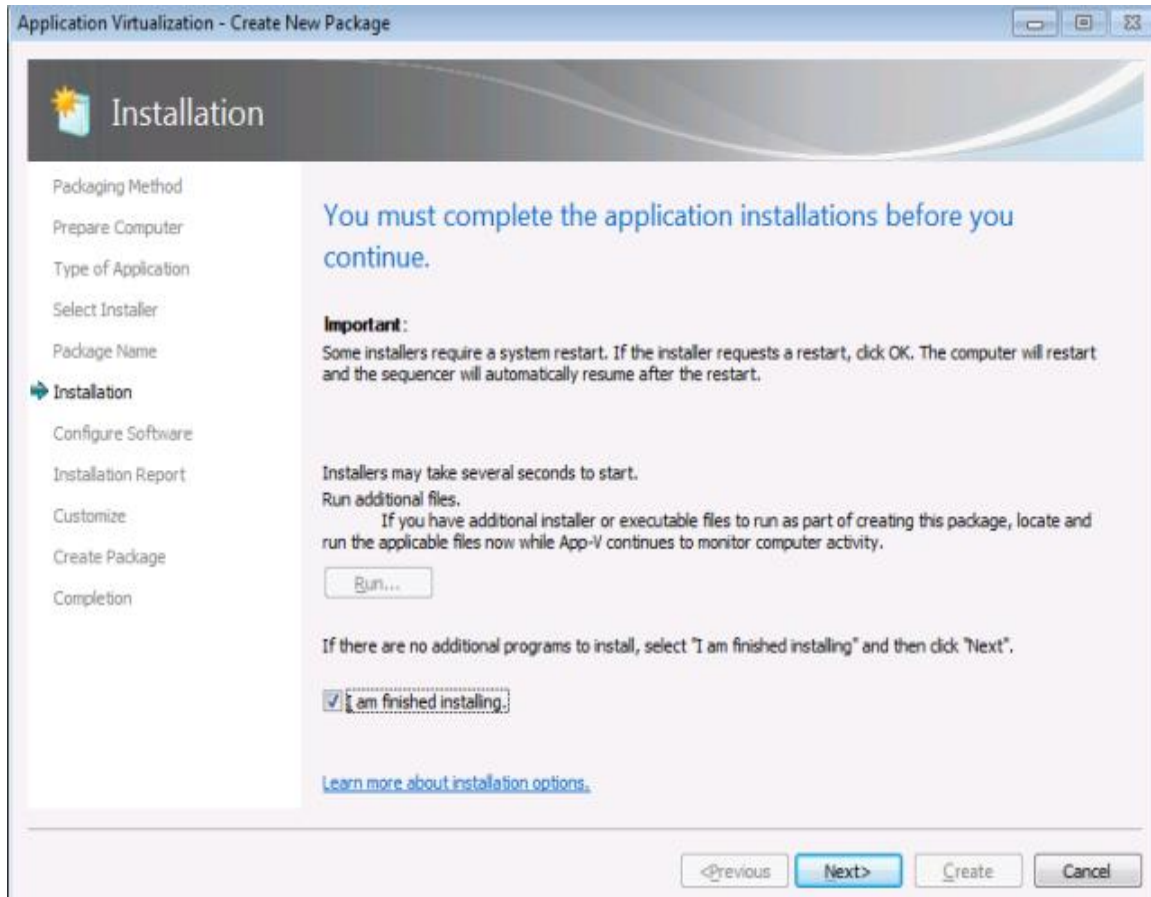
The screenshot shows a wizard window titled "Application Virtualization - Create New Package". The "Package Name" step is active, indicated by a blue arrow in the left-hand navigation pane. The main area contains the following fields and text:

- Package Name** (Section Header)
- Virtual Application Package Name**: A text box containing "ERDAS IMAGINE". Below it, a note states: "This name will identify the virtual application package in the App-V Management Console."
- Primary Virtual Application Directory (required)**: A text box containing "C:\AppVPackage" and a "Browse..." button.
- Important:** A section with the text: "You should use the Primary Virtual Application Directory location specified on this page as the installation directory when installing the application to be sequenced." Below this, it says: "Installation will begin when you click 'Next' and you will not be able to return to this page."
- A link: [Learn more about the Primary Virtual Application Directory.](#)
- Navigation buttons at the bottom: "<Previous", "Next>", "Create", and "Cancel".

Install

1. Click **Next** button to open the Installation dialog.
2. The Hexagon Geospatial Setup Manager should open. Run the installation from the Hexagon Geospatial Setup Manager as instructed in other sections of this Installation Guide.

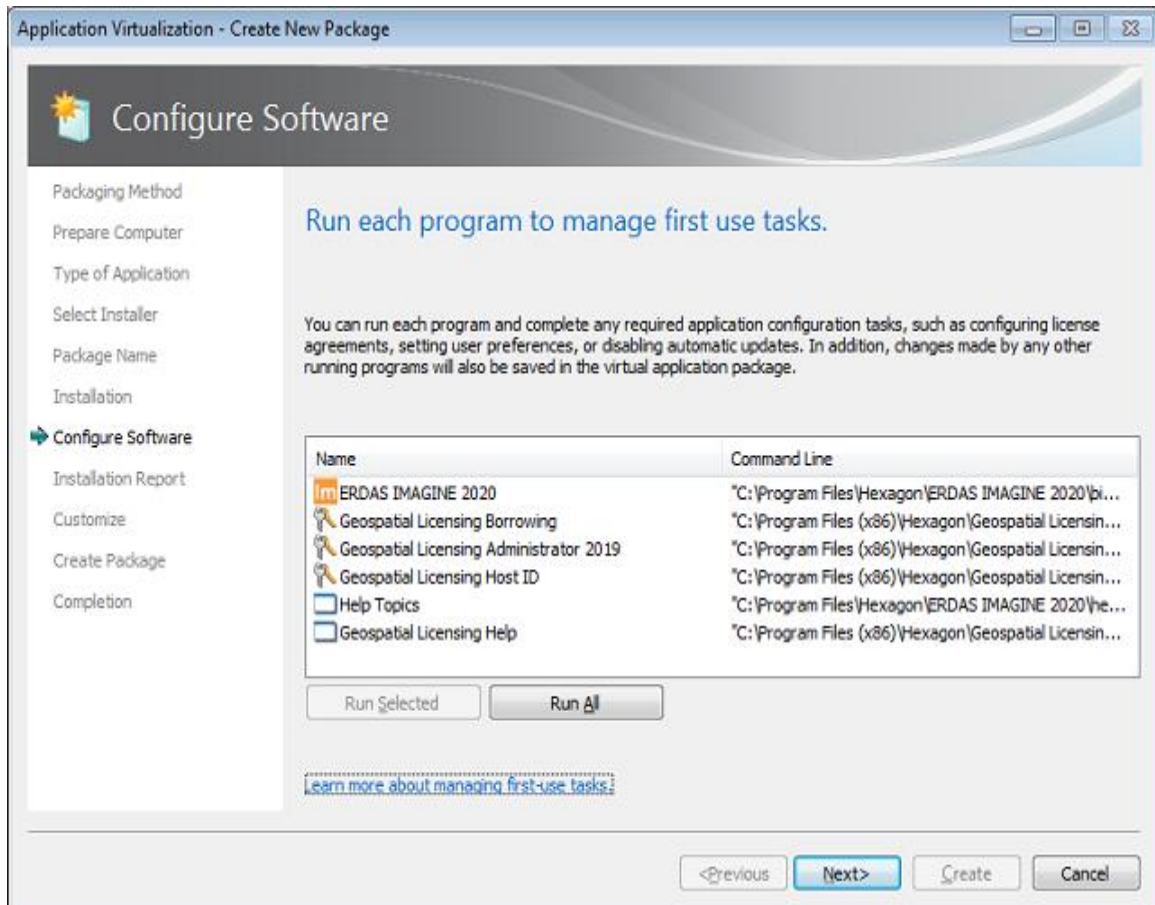
3. After the installation is complete, check the checkbox for **I am finished installing**.



Configure Software

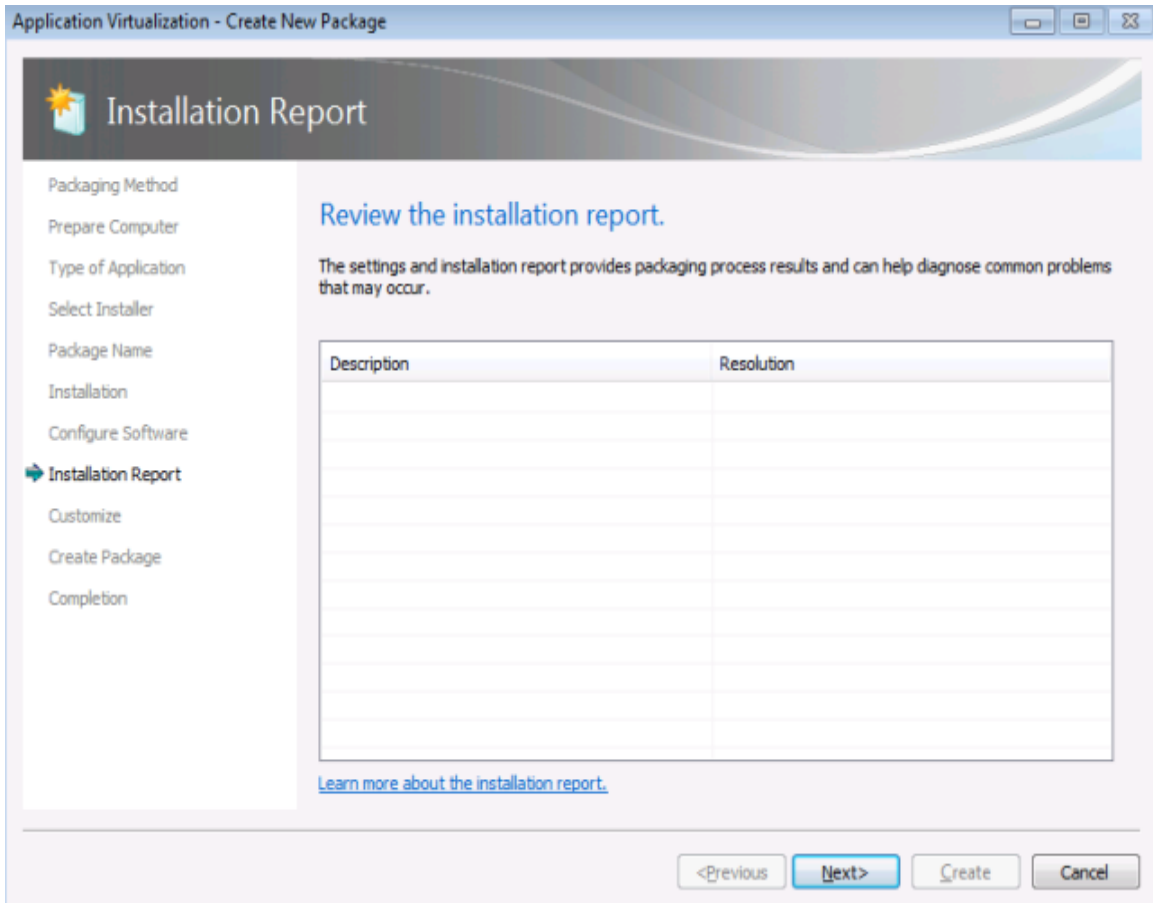
1. Click **Next** button to open Configure Software dialog.

2. If Intergraph Licensing is also a part of the package that is being created, from the Configure Software dialog, click the **Run Selected** button after selecting the tool to launch it. Configure the license and close the tool. Run ERDAS IMAGINE to see if the license has been configured correctly.



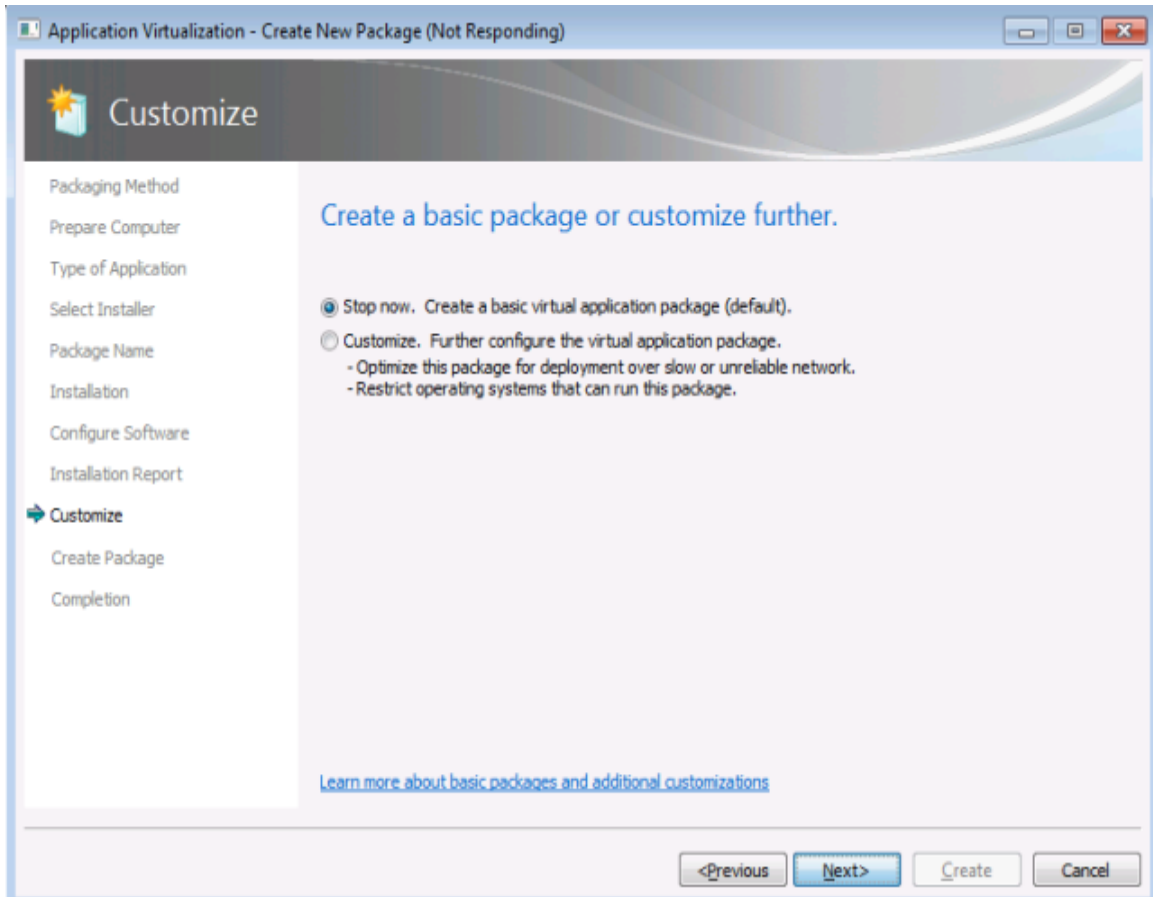
Review Installation Report

1. Click **Next** button to open the Installation Report dialog.

***Create a Basic Package or Customize***

1. Click **Next** button to open the Customize dialog.

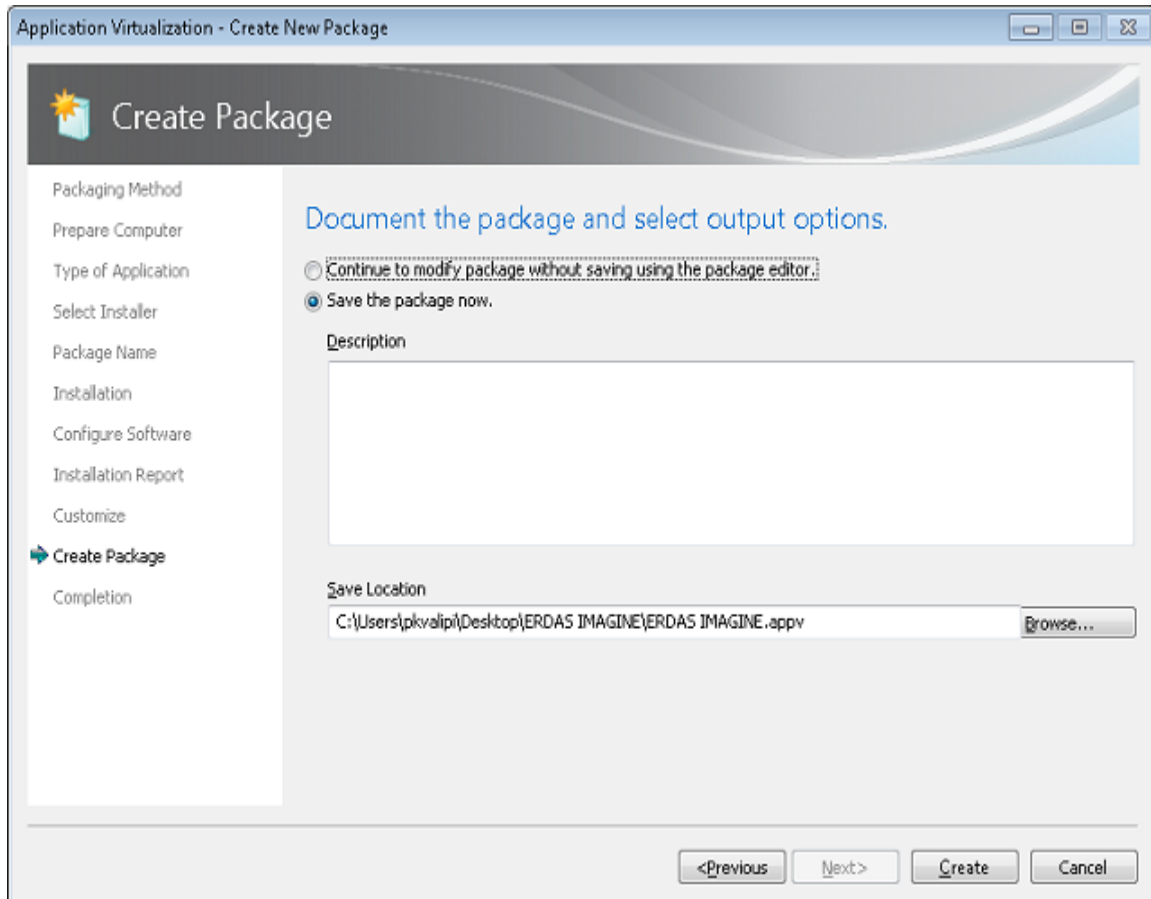
2. If there is no customize like streaming, select the target Operating System needed then click **Next** button. If any customization is needed then click the **Customize** button and configure as appropriate.



Create and Save the Package

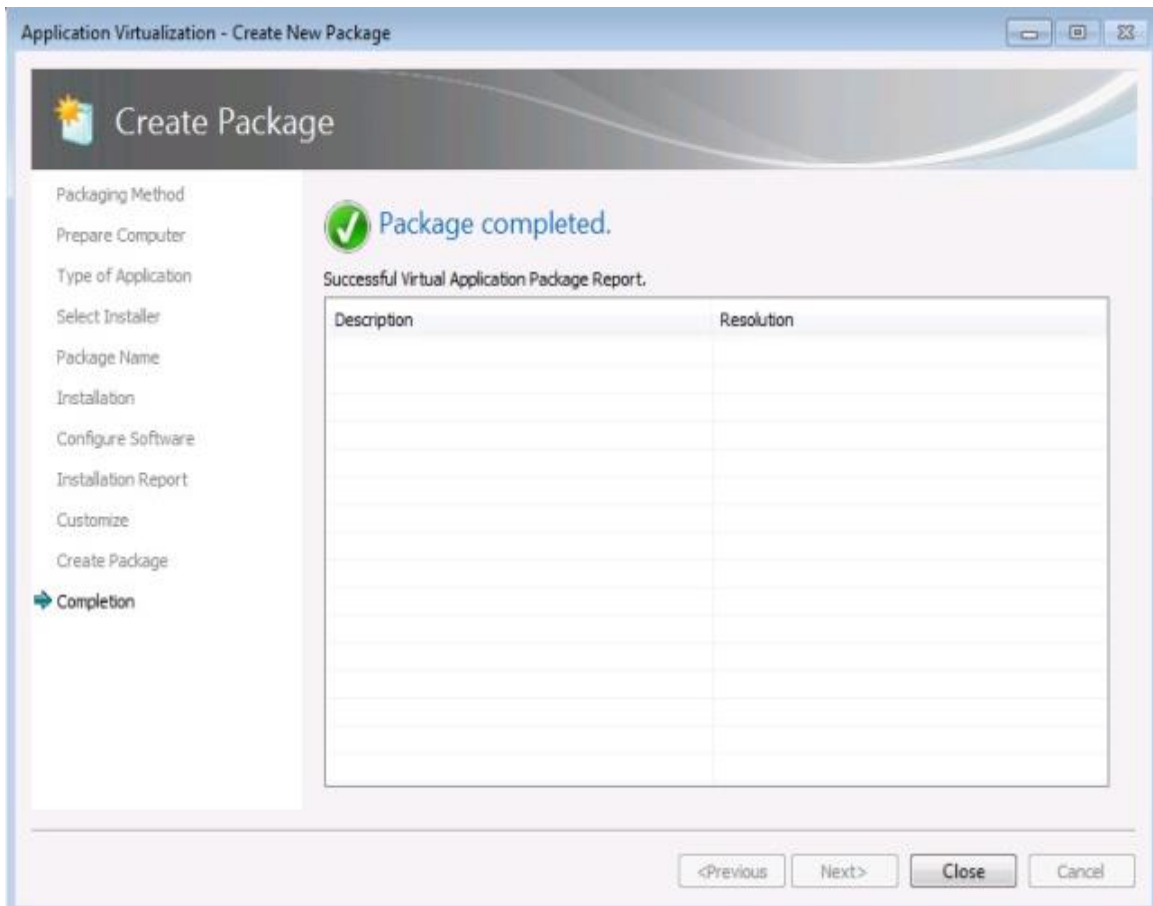
1. Once complete, click **Next** button to open the Create Package dialog.

2. Click the **Create** button to start the creation of the package.



Package Creation Completed

1. When creation of the package is completed, the package is ready for consumption.



Sharing ERDAS IMAGINE using XenApp for Session Virtualization

Once ERDAS IMAGINE is shared using XenApp for Session Virtualization, the following recommendations are made:

- While accessing ERDAS IMAGINE from the client, Hexagon Geospatial recommends that you do not access data from anywhere other than on the server where ERDAS IMAGINE is installed.

SECTION 10

Install HTCondor for Hexagon Geospatial 2020

HTCondor is a free, open-source distributed processing engine, and it is the product of the HTCondor Research Project at the University of Wisconsin-Madison (UW-Madison). HTCondor's unique mechanisms effectively harness wasted CPU power from otherwise idle desktop workstations and dedicated Processing nodes. It is ideally suited for the High Throughput Computing (HTC) that ImageStation and ERDAS IMAGINE require.

An HTCondor cluster (pool) includes a Pool Manager, Submitting machines, and Processing nodes. HTCondor for Hexagon Geospatial installs and configures HTCondor for use with ImageStation and ERDAS IMAGINE. The installer also performs the appropriate configuration for each of these machines.

This document describes the setup and operation of an example HTCondor cluster for use with ImageStation and ERDAS IMAGINE. This is one example of many possibilities; any specific configuration is outside the scope of this document.

An HTCondor installation requires IT expertise to identify appropriate hardware, set up, and configuration. Use HTCondor only if you have the necessary IT expertise. Hexagon Geospatial does not support HTCondor issues beyond direct interaction with its software.

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Install HTCondor for Hexagon Geospatial	69
Configure HTCondor for Hexagon Geospatial	71
Post Install Steps.....	83
Command Line Installation and Configuration.....	84
HTCondor Manual Documentation	87
Submit and Monitor Jobs.....	88
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System Requirements

An HTCondor cluster (pool) consists of a Pool Manager, one or more Submitting machines, and one or more Processing nodes. The Pool Manager is the central machine for the cluster and needs to be a stable machine. Workstations that satisfy the system specification of the target applications can be used as Submitting machines. Processing nodes should be dedicated machines in order to maximize speed.

Pool Manager

- Windows Server 2012, Windows Server 2016, or Windows Server 2019

Submitting machine

- No additional requirement over and above what is required by ImageStation and/or ERDAS IMAGINE.

Processing node

- No additional requirement over and above what is required by ImageStation and/or ERDAS IMAGINE.

Data Storage

- Separate RAID (one for input, one for output), though not required will help improve performance.

Network

- A reliable LAN with speed of 1Gb or better

Pre Installation Steps

Before installing HTCondor, perform the following tests to ensure that the machines are configured properly.

On All Machines

- Start the command prompt and at the command prompt enter `ipconfig`.
- Note the IP address (or IPv4 address) that is reported.

Pool Manager

- From the Pool Manager, ping the Submitting machine and the Processing nodes by their DNS name
- Confirm that the reported IP address matches with the IP address the machines reported

Submitting machine

- From the Submitting machine, ping the Pool Manager by its DNS name
- Confirm that the IP address matches with the IP address the machines reported

Processing Nodes

- Ping the Pool Manager by its DNS name
- Ping the Submitting machine by its DNS name
- Confirm that the IP address matches with the IP address the machines reported

Data locations

- Input data has to be on a network drive and accessible by the Submitting and Processing nodes. Confirm this by browsing to the input data locations from the Submitting and Processing nodes.
- Verify Submitting and Processing nodes have write access to the output data folders.
- If mapped drives are going to be used, ensure the mapped drives are accessible from all the machines in the Condor pool.

Install Applications

For use with ImageStation

Various ImageStation applications support distributed processing using HTCondor:

- ImageStation Automatic Elevations (ISAE)
- ImageStation Automatic Elevations Extended (ISAE-Ext)
- ImageStation Image Formatter (ISIF)

The appropriate ImageStation applications must be installed on the Submitting and Processing nodes to process jobs. Before installing HTCondor for Hexagon Geospatial, install the ImageStation applications on the machines.

See the ImageStation Installation Guide for information on how to install each product.

For use with ERDAS IMAGINE

ERDAS IMAGINE supports a concept of shared installation, where the full ERDAS IMAGINE software will be installed on a single central machine and will be shared with other machines. On the other machines, a network version of ERDAS IMAGINE will be installed. The Network installer establishes a link to the full ERDAS IMAGINE install.

A Microsoft Windows server machine is recommended to be used as the central machine to allow multiple machines have access to it without concurrency access limit. Since Condor Pool Manager is a Windows server machine, it can also serve as the central machine for installing the full ERDAS IMAGINE.

Before installing HTCondor for Hexagon Geospatial, install ERDAS IMAGINE on the Pool Manager. It has to be installed on a shared drive that can be accessed from all machines in the pool.

If you are also planning to use Leica Geosystems XPro SGM software with IMAGINE, then note that this also supports the concept of a shared installation. It should also be installed on a shared drive accessible from all machines in the pool.

Install ERDAS IMAGINE

Create a mapped drive: ERDAS IMAGINE has to be installed on a mapped drive that can be accessed by the Submitting and Processing nodes.

Typical install location:

- 64-bit ERDAS IMAGINE: <Mapped drive>:\Program Files\Hexagon\ERDAS IMAGINE <version number>

- 32-bit ERDAS IMAGINE:<Mapped drive>:\Hexagon\ERDAS IMAGINE <version number>

<version number> is the version of the version of ERDAS IMAGINE that is being installed, such as *ERDAS IMAGINE 2020*

Leica Geosystems XPro SGM is installed automatically on the same drive as ERDAS IMAGINE. This should be a mapped drive that can be accessed by the Submitting and Processing nodes.

Typical install location: <Mapped drive>:\Program Files\Leica Geosystems\XPro SGM <version number>

<version number> is the version of XPro SGM that is being installed, such as *XPro SGM 6.4*



See [ERDAS IMAGINE Installation and Configuration Guide](#) for steps on how to install ERDAS IMAGINE.

Install HTCondor for Hexagon Geospatial

Now you are ready to install HTCondor for Hexagon Geospatial. Installation of the software follows the same procedure for all of the HTCondor pool, regardless of the intended role of the machine.

Configuration of HTCondor for Hexagon Geospatial is done as a secondary step on each machine, using the HTCondor Configuration Wizard to define the roles of the machine and other settings related to those roles. Immediately after executing the HTCondor for Hexagon Geospatial installer, using the Configuration Wizard on a machine is recommended.



If you are installing HTCondor for Hexagon Geospatial from the Hexagon Geospatial Setup Manager, then the HTCondor Configuration Wizard will start automatically on completion of the installation.

Because the Pool Manager is the most important part of the Condor pool, you must install and configure that first. Afterwards, install and configure the Submitting machine and Processing nodes.

Follow these steps to install HTCondor for Hexagon Geospatial:

1. Login to the machine as a user with Administrative privileges.

2. If Geospatial License Administrator tool is not installed, install the tool and specify the license source.



Go to download.hexagongeospatial.com to get Geospatial Licensing Administrator, and see its install guide for information on how to install the tool and specify license sources. Also visit *Licensing portal in Hexagon Geospatial Community* (https://community.hexagongeospatial.com/t5/Licensing/ct-p/KS_Licensing).

3. Start the HTCondor for Hexagon Geospatial Installation Wizard. HTCondor for Hexagon Geospatial requires Condor 8.4.x and if it not already installed on the machine, the installer will first install Condor 8.4.0.
4. Click the **Install** button. The installer will check if Condor is already installed and if it finds the machine has the minimum required version of Condor, it will inform you and skip this step. Otherwise Condor 8.4.0 will be installed.
5. If you are presented with the message HTCondor for Hexagon Geospatial will use your current version of Condor 8.4.0, close the message dialog.

The Welcome dialog opens.

6. Click **Next** in the Welcome dialog.
7. The License Agreement dialog opens. Read the contents of the Intergraph Desktop software license and Limited Warranty Agreement.
8. If you agree to the terms and conditions set forth in the Software License Agreement, select the **I accept the terms in the license agreement** radio button and click **Next**.

The Destination Folder dialog opens to specify the name of the directory in which the HTCondor files will be installed.

9. If you accept the default install directory, click **Next** button, otherwise click **Change** button if you want to change the installation directory.

On clicking the **Next** button, the Custom Setup dialog opens.

10. Choose the options to install.
 - **Installation for ImageStation applications only:** If you are installing and configuring HTCondor only for use with ImageStation applications, ERDAS IMAGINE Network installation is not required. Deselect ERDAS IMAGINE Network installation option, click the Next button and then go to step 12.
 - **Installation for ERDAS IMAGINE:** If you are installing and configuring HTCondor for use with ERDAS IMAGINE, the ERDAS IMAGINE Network

Installation is required. Select the option and click the Next button. The ERDAS IMAGINE Network installation Folder Locations dialog opens.



If you are installing on a machine that will serve only as a pool manager and not as a submitting machine or processing node, then you do not need to install the ERDAS IMAGINE Network installation.

11. Enter the following path and location information.

ERDAS IMAGINE Software Location: Enter or browse to the shared installation location of ERDAS IMAGINE software.

Leica Geosystems XPro SGM Software Location: Enter or browse to the shared installation location of the Leica Geosystems XPro SGM software.

Shared Output Data Location: Enter or browse to the shared location for the Output data.



Note that if a software component is installed locally, then the text field and browse button will be disabled for that component. The text field will indicate the local install location. For the XPro SGM application, this location may not display correctly, but this is not a problem and does not impact the functionality of the product.

Click **Next** button to open the Ready to Install the Program dialog.

12. Click **Install** button to begin the installation. When the installation is finished, the InstallShield Wizard Completed dialog opens.

13. Click **Finish** to complete the installation process. You have now finished installing HTCondor for Hexagon Geospatial.

Configure HTCondor for Hexagon Geospatial

The HTCondor for Hexagon Geospatial installer deploys the HTCondor Configuration Wizard, a separate program that allows you to configure your installation for use with ImageStation or ERDAS IMAGINE applications. The Configuration Wizard should be used immediately following installation of HTCondor for Hexagon Geospatial to define a machine's role within the pool, and can be used any time thereafter to modify that role or perform other operations such as adding the credentials of users who will submit jobs to the pool.



Use of the HTCondor Configuration Wizard is not mandatory if you are an advanced user and you want to manage the HTCondor configuration yourself. However, note that successful execution of ImageStation and ERDAS IMAGINE jobs within the pool does require some specific configuration, as described in the section Manual Configuration of HTCondor later in this installation Guide.

Configure the Pool Manager

To use the HTCondor Configuration Wizard to configure a Pool Manager:

1. Following installation of the HTCondor for Hexagon Geospatial software, start the Configuration Wizard by selecting from the Windows Start Menu:

Start > All Programs > HTCondor for Hexagon Geospatial 2020 > HTCondor for Hexagon Geospatial Configuration

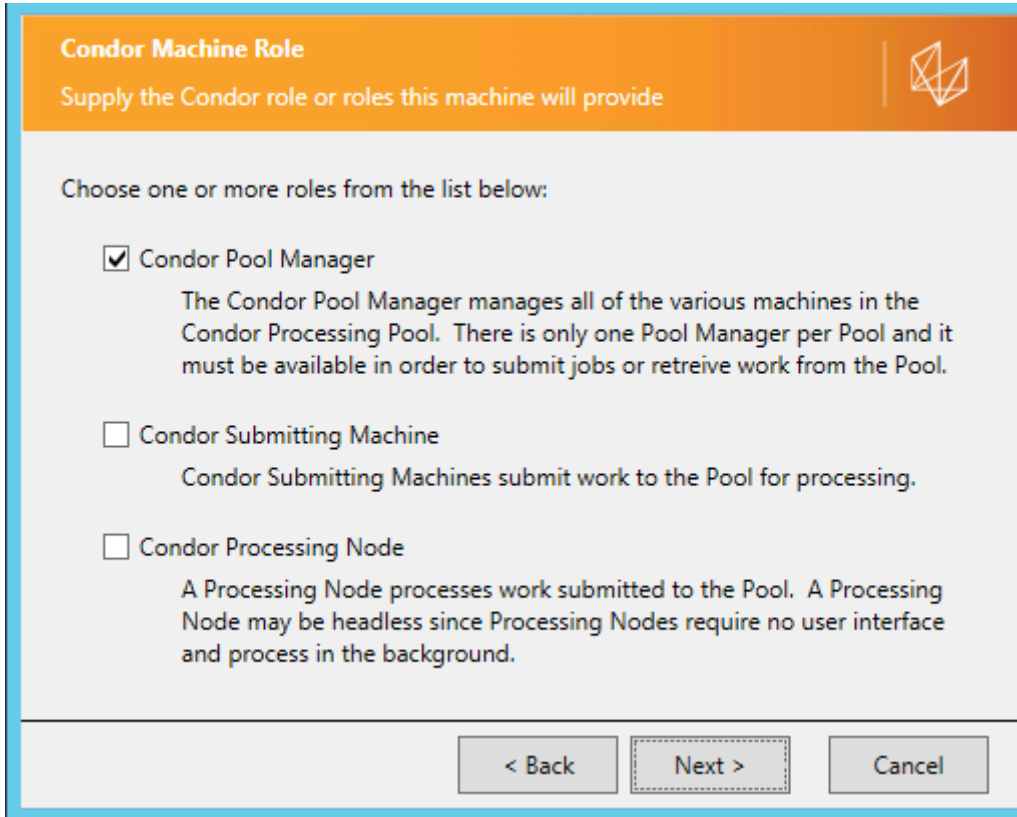


If you are using the Hexagon Geospatial Setup Manager to install the HTCondor for Hexagon Geospatial software, then the HTCondor Configuration Wizard will start automatically.

The configuration Wizard Welcome dialog opens.

2. Click Next on the Welcome dialog.

The Condor Machine Role dialog opens:



Condor Machine Role
Supply the Condor role or roles this machine will provide

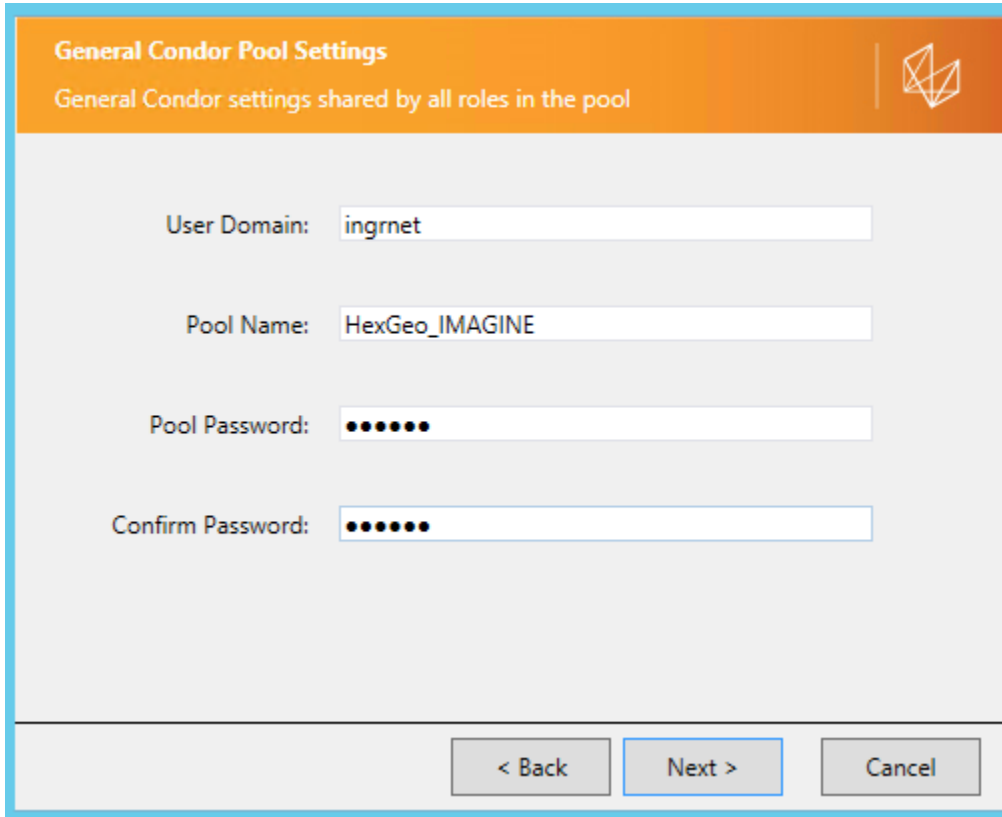
Choose one or more roles from the list below:

- Condor Pool Manager**
The Condor Pool Manager manages all of the various machines in the Condor Processing Pool. There is only one Pool Manager per Pool and it must be available in order to submit jobs or retrieve work from the Pool.
- Condor Submitting Machine**
Condor Submitting Machines submit work to the Pool for processing.
- Condor Processing Node**
A Processing Node processes work submitted to the Pool. A Processing Node may be headless since Processing Nodes require no user interface and process in the background.

< Back Next > Cancel

3. Select the role of the machine in the HTCondor pool. Since you are installing the Pool Manager, select Condor Pool Manager and click **Next** button.

The General Condor Pool Settings dialog opens.



General Condor Pool Settings
General Condor settings shared by all roles in the pool

User Domain: ingrnet

Pool Name: HexGeo_IMAGINE

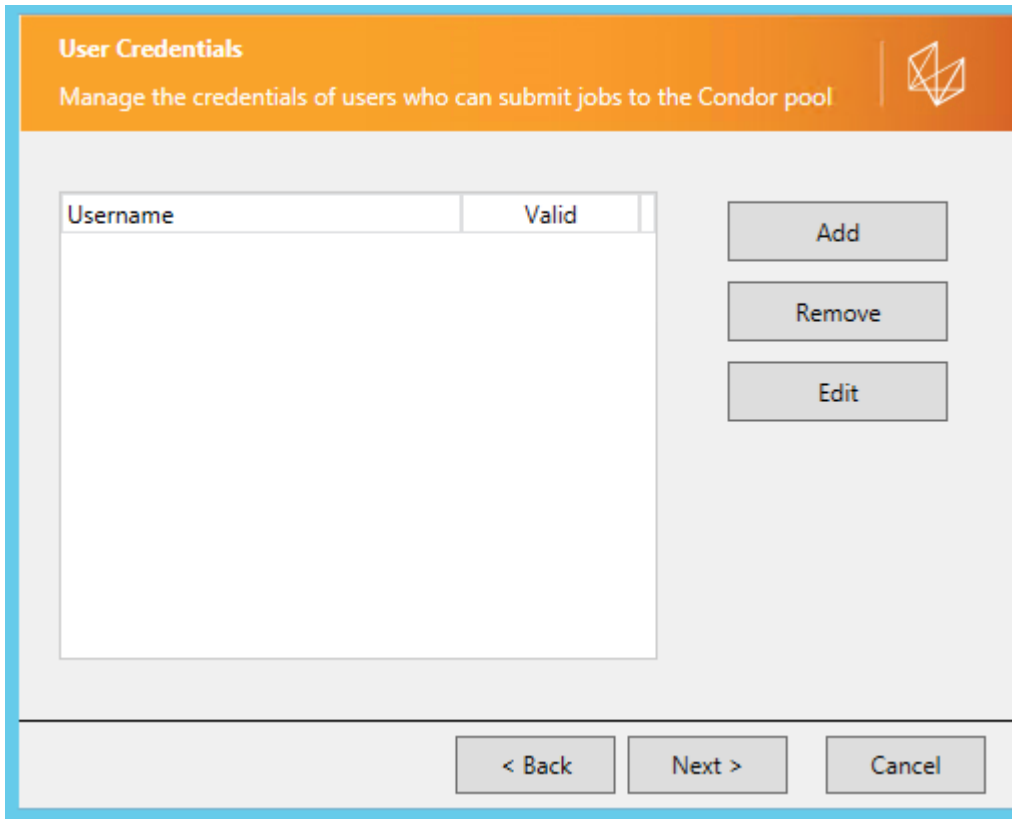
Pool Password: ●●●●●●

Confirm Password: ●●●●●●

< Back Next > Cancel

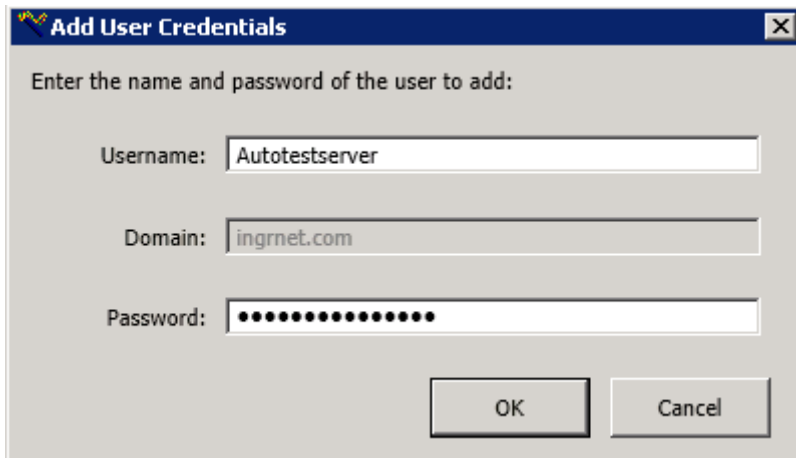
4. Enter the following information.
 - **User Domain** The installer finds and displays the local domain name.
 - **Pool Name** A name for the Condor Pool.
 - **Pool Password** Select and enter a password for the pool. The password cannot contain spaces. Then retype the password to confirm.
5. Make a note of the password as you will need to use the same password for the Processing node and Submitting machine installations.

6. Click **Next** button to open the User Credential dialog.



7. Use the User Credentials to add, remove or edit the credentials of users who will be submitting jobs to the pool. The dialog displays the list of currently stored credentials along with an indication of their current validity.
8. Click the **Add** button on the User Credentials to add the credentials of a new user.

The Add User Credentials dialog opens.



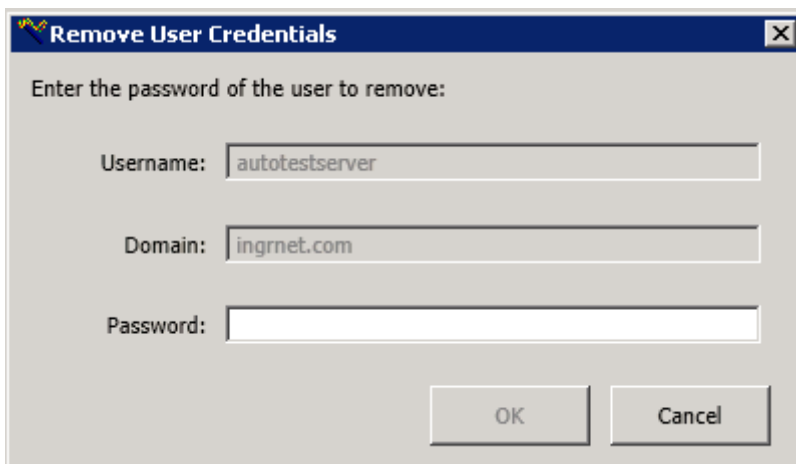
Enter the name and password of the user whose credentials you want to add. Click **OK** to accept the credentials and add them to the list on the User Credentials dialog.



The password will be validated on the specified domain on clicking **OK**.

9. Click the **Remove** button on the User Credentials dialog to remove the credentials of a user.

The Remove User Credentials dialog opens.



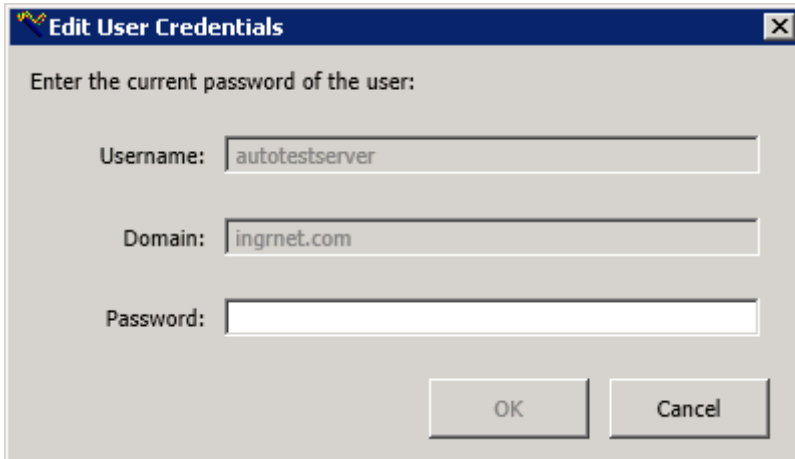
Enter the password of the user whose credentials you want to remove. Click **OK** to remove the credentials from the list on the User Credentials dialog.



The password will be validated on the specified domain on clicking **OK**.

10. Click the **Edit** button on the User Credentials dialog to edit the credentials of a user.

The Edit User Credentials dialog opens.



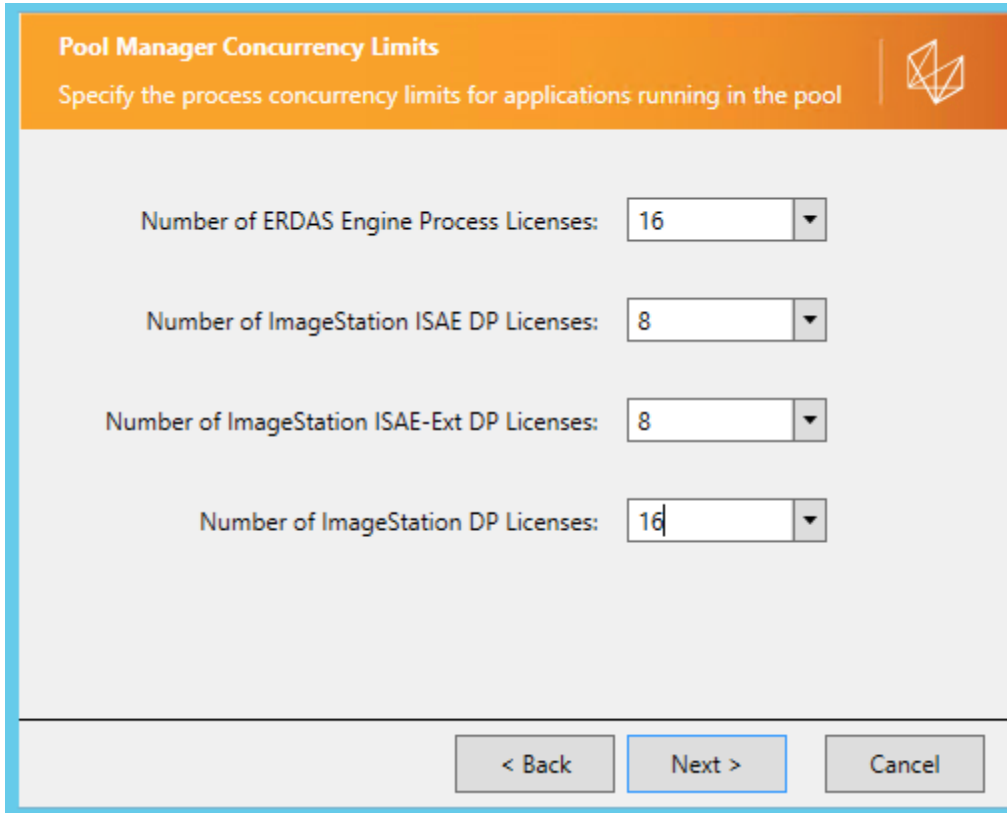
Edit the password of the user whose credentials you want to update. Click **OK** to update the credentials in the list on the User Credentials dialog.



The password will be validated on the specified domain on clicking **OK**.

11. Click the **Next** button on the User Credentials dialog.

The Pool Manager Concurrency Limits dialog opens:



Pool Manager Concurrency Limits
Specify the process concurrency limits for applications running in the pool

Number of ERDAS Engine Process Licenses: 16

Number of ImageStation ISAE DP Licenses: 8

Number of ImageStation ISAE-Ext DP Licenses: 8

Number of ImageStation DP Licenses: 16

< Back Next > Cancel

12. Enter the following information.

Number of IMAGINE Processing Engine Licenses Number of concurrent processes to be run. This value should be at most equal to number of ERDAS Engine licenses you have.

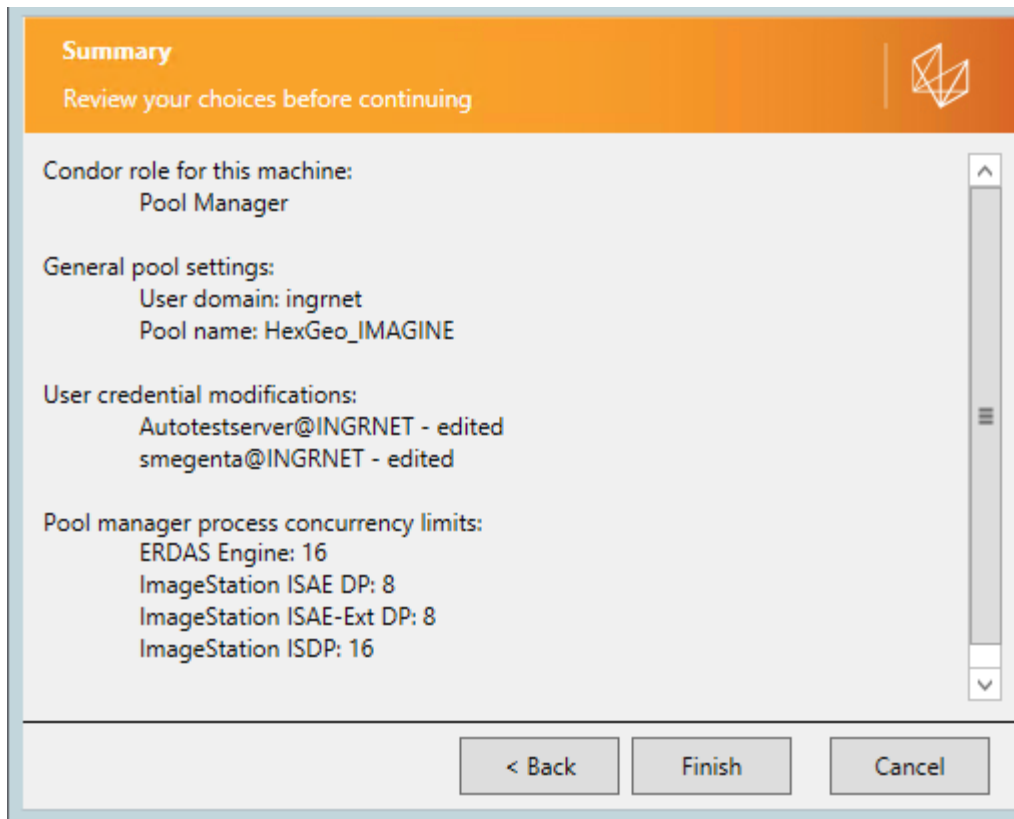
Number of ImageStation ISAE-DP Licenses Number of concurrent processes to be run. This value should not be greater than the number of ISAE-DP licenses you have.

Number of ImageStation ISAE-Ext DP Licenses Number of concurrent processes to be run. This value should not be greater than the number of ISAE-Ext DP licenses you have.

Number of ImageStation DP Licenses Number of concurrent processes to be run. This value should not be greater than the number of ImageStation DP licenses you have.

13. Click **Next** button to open the Summary dialog.

14. Click **Finish** button to complete the configuration. When the configuration is finished, the Finished dialog opens.
15. Click **Close** button to complete the configuration process. You have now finished configuring HTCondor for Hexagon Geospatial on the Pool Manager.



Configure Submitting Machines and Processing Nodes

To use the HTCondor Configuration Wizard to configure a Submitting Machine or Processing Node, proceed as follows:

1. Following installation of the HTCondor for Hexagon Geospatial software, start the Configuration Wizard by selecting from the Windows Start Menu:

Start > All Programs > HTCondor for Hexagon Geospatial 2020 > HTCondor for Hexagon Geospatial Configuration

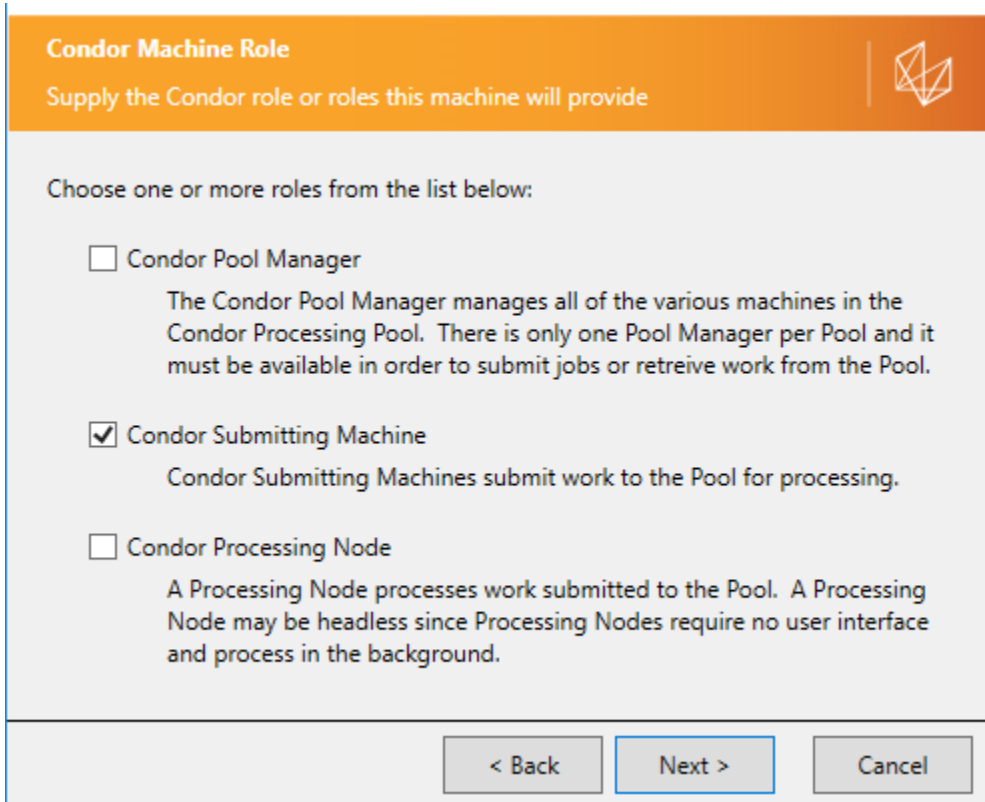


If you are using the Hexagon Geospatial Setup Manager to install the HTCondor for Hexagon Geospatial software, then the HTCondor Configuration Wizard will start automatically.

The configuration Wizard Welcome dialog opens.

2. Click **Next** on the Welcome dialog.

The Condor Machine Role dialog opens:



Condor Machine Role

Supply the Condor role or roles this machine will provide

Choose one or more roles from the list below:

Condor Pool Manager
The Condor Pool Manager manages all of the various machines in the Condor Processing Pool. There is only one Pool Manager per Pool and it must be available in order to submit jobs or retrieve work from the Pool.

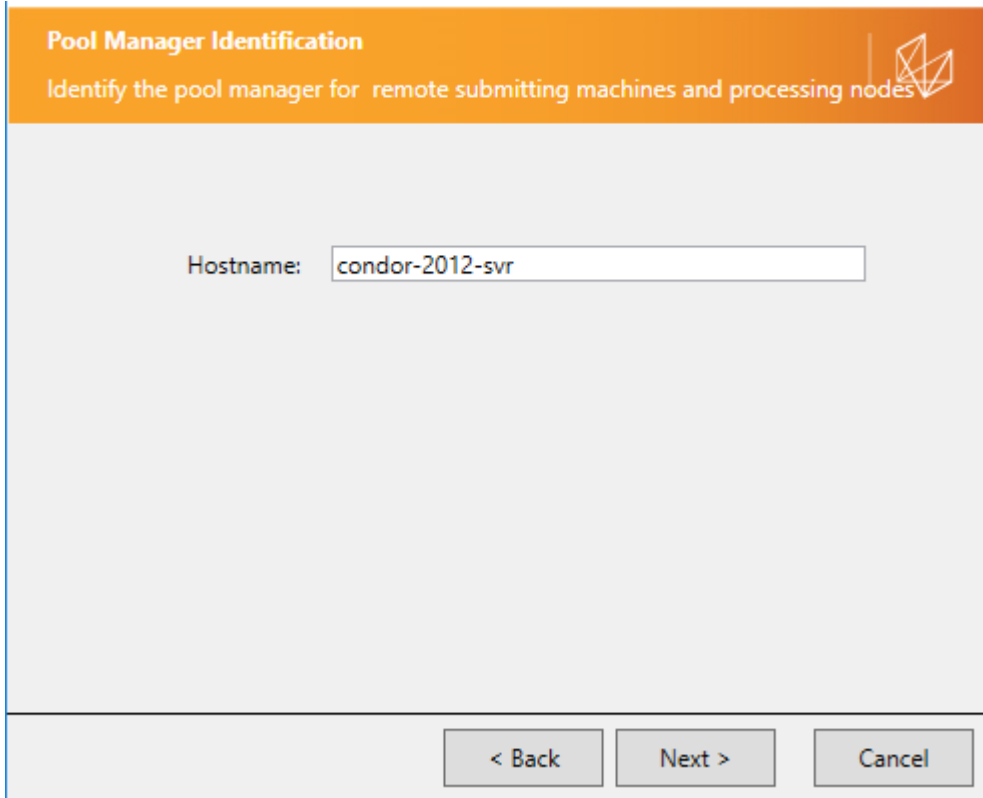
Condor Submitting Machine
Condor Submitting Machines submit work to the Pool for processing.

Condor Processing Node
A Processing Node processes work submitted to the Pool. A Processing Node may be headless since Processing Nodes require no user interface and process in the background.

< Back Next > Cancel

3. For each installation, select which role the machine will be assigned, that is **Condor Submitting Machine** or **Condor Processing Node**.

4. Click **Next** button. The Pool Manager Identification dialog opens.



Pool Manager Identification
Identify the pool manager for remote submitting machines and processing nodes

Hostname:

< Back Next > Cancel

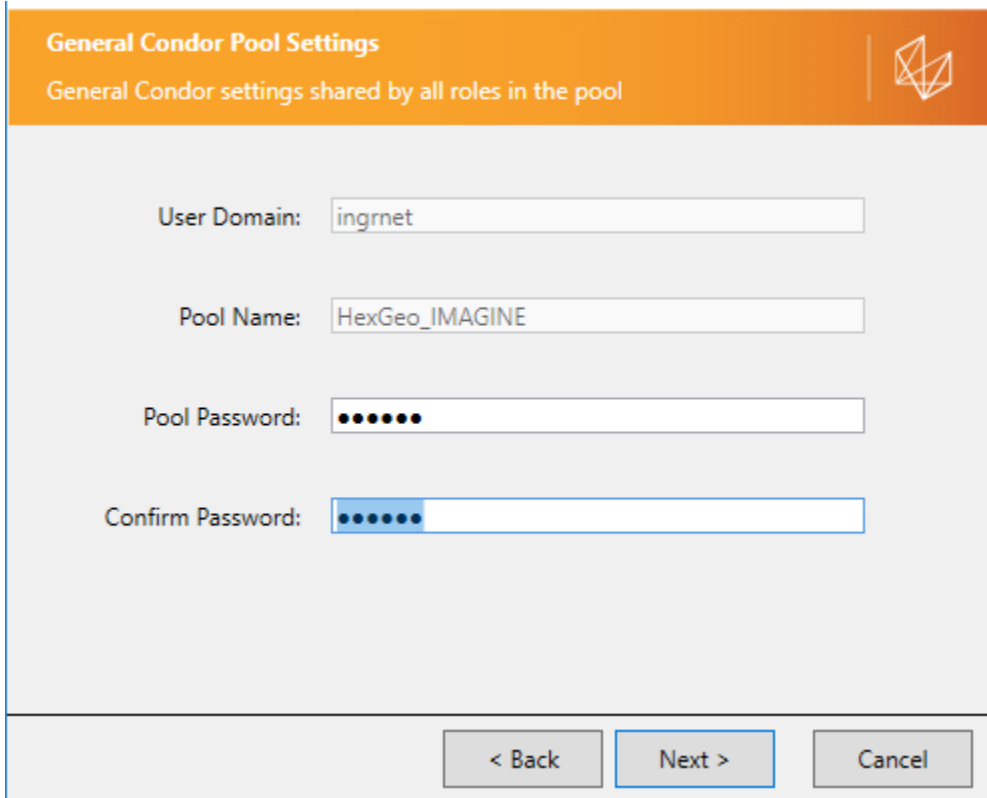
5. Enter the following information:

Hostname Machine name of the Pool Manager



The wizard will verify that the specified machine is a currently running Condor pool manager. For this reason, you must install and configure the pool manager prior to using the Configuration Wizard to add any submitting machines or processing nodes to that manager's pool

6. Click **Next** button. The General Condor Options dialog opens.



General Condor Pool Settings
General Condor settings shared by all roles in the pool

User Domain:

Pool Name:

Pool Password:

Confirm Password:

< Back Next > Cancel

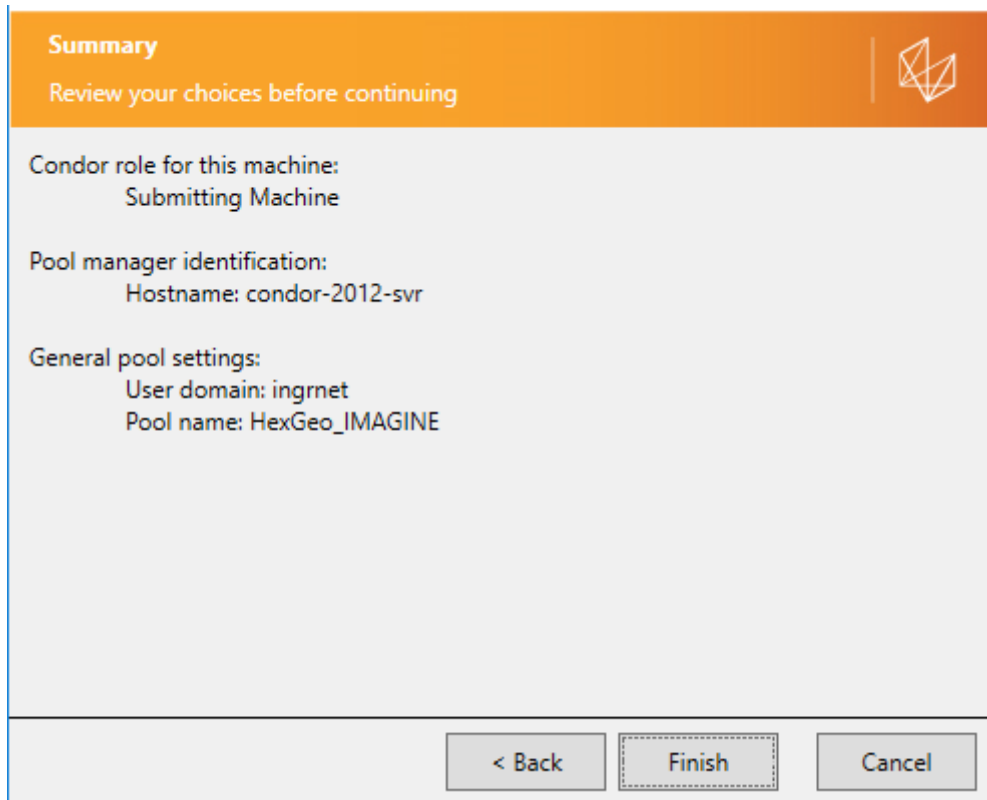
7. Enter the following information:

Pool Password Enter and confirm the same password you entered for the Pool Manager.



The **User Domain** and **Pool Name** fields are pre-populated with the values extracted from the Pool Manager specified on the previous dialog, Pool Manager Identification. These values cannot be changed, other than by selecting a different Pool Manager.

8. Click **Next** button to open the Summary dialog.



9. Click **Finish** to complete the configuration. When the configuration is finished, the Finished dialog opens.
10. Click **Close** to complete the installation process. You have not finished configuring HTCondor for Hexagon Geospatial on the Submitting Machine or Processing Node.
11. Repeat the configuring Submitting Machines and processing Nodes steps for each machine.

Post Install Steps

ImageStation Applications

1. On the Submitting and Processing nodes machines, start ISAE, ISAE-Ext, and/or ISIF application.

2. Verify the installation has succeeded and the machines have access to licenses.



This simply verifies that the machine can access licenses. To verify that you have a license for a specific application, start and run the application.

ERDAS IMAGINE

1. On the Submitting and Processing nodes machines, start IMAGINE, as well as the applications that will be running processes using HTCondor.
2. Verify the installations have succeeded and the machines have access to licenses.



This simply verifies that the machine can get IMAGINE licenses. To verify that you have license for a specific application, start and run the application.

Check Condor Status

1. Log on to the Submitting machine.
2. Open the command line tool and type: `condor_status`

The command lists the Processing nodes in the pool. The Machines configured as Processing nodes should be listed.

Command Line Installation and Configuration

As an alternative to the interactive mode installation and configuration described in the preceding sections, HTCondor for Hexagon Geospatial can also be installed and configured in an autonomous manner from the command line. This capability can be particularly useful in quickly adding multiple processing nodes to a pool by creating a batch file that can be executed on each machine in turn.

Installing HTCondor from the Command Line

The HTCondor software from the University of Wisconsin-Madison can be installed from the command line using the built-in Windows executable `msiexec.exe`:

```
msiexec.exe /i
"%PATH_TO_INSTALLER%\condor-8.4.0-341253-Windows-x86.msi"
/passive /norestart INSTALLDIR=C:\Condor
MSIRESTARTMANAGERCONTROL=Disable
```

This command executes the installer for Condor version 8.4.0, which is the version deployed by HTCondor for Hexagon Geospatial if no version of Condor is already installed on a system.

The PATH_TO_INSTALLER variable indicates the location of the installer.

Installing HTCondor for Hexagon Geospatial from the Command Line

HTCondor for Hexagon Geospatial can also be installed from the command using the built-in Windows executable msiexec.exe. In the case of HTCondor for Hexagon Geospatial, it is necessary to specify which features of the product should be installed, depending on whether ImageStation or ERDAS IMAGINE jobs will be processed in the pool.

The command line to install HTCondor for Hexagon Geospatial for ImageStation applications only is:

```
msiexec.exe /i "%PATH_TO_INSTALLER%\HTCondor for Hexagon Geospatial  
2020.msi" /passive /norestart ADDLOCAL=Configuration
```

In this example, only the Configuration feature of the product will be installed. This includes the Configuration Wizard as well as some other files and data.

The command line to install HTCondor for Hexagon Geospatial for ImageStation and ERDAS IMAGINE applications is:

```
msiexec.exe /i "%PATH_TO_INSTALLER%\HTCondor for Hexagon Geospatial  
2020.msi"  
  
/passive /norestart IMAGINELOC="Q:\Hexagon Geospatial\ERDAS IMAGINE  
2020\  
  
XPROSGMLOCATION="Q:\Leica Geosystems\XPro SGM\  
  
PERSONALSHARE="Q:\Output\  
"
```

In this example, all features of the product will be installed, which includes the ERDAS IMAGINE Network Installation feature. The paths to the various components of the ERDAS IMAGINE product must be specified using the IMAGINELOC, XPROSGMLOCATION and PERSONALSHARE parameters and will be specific to your installation.

The commands above execute the installer for HTCondor for Hexagon Geospatial 2020, which is meant as an example only. For other versions of HTCondor for Hexagon Geospatial, the filename will be different.

The PATH_TO_INSTALLER variable indicates the location of the installer.

Configuring HTCondor for Hexagon Geospatial from the Command Line

The HTCondor for Hexagon Geospatial Configuration Wizard can also be used to configure a machine from the command line, making use of its "batch mode".

The syntax for starting the Configuration Wizard from the command line is:

```
start ConfigurationWizard.exe --batch <additional parameters>
```

The additional parameters that can be added to the command line to configure a HTCCondor machine are as follows:

Parameter	Valid values	Description
nodetype	Any combination of: manager, submitter, processor	The role of the machine within the pool. The list should be comma-separated.
manager	A machine name	The name of the pool manager machine when configuring a submitting machine or processing node.
domain	An accounting domain	The name of the accounting domain. If the 'manager' parameter is specified, this value is not needed as it will be queried automatically from the pool manager.
poolname	A string value	The name of the Condor pool. If the 'manager' parameter is specified, this value is not needed as it will be queried automatically from the pool manager.
password	A string value	The pool password.

Note that all command line parameters must be preceded by a double-dash.

For example, the following command line configures a machine as a Pool Manager and a Submitting Machine:

```
start CondorConfigurationWizard.exe --batch
--nodetype=manager,submitter
--domain=HTCONDOR --poolname=MyPool --password=abc
```

In this example, the 'manager' parameter is not required since the name of the current machine will be extracted automatically when configuring a Pool Manager.

The following command line configures a Processing Node:

```
start CondorConfigurationWizard.exe --batch --nodetype=processor
--manager=atcontroller --password=abc
```

In this example, the 'domain' and 'poolname' parameters are not required since the values will be extracted automatically from the machine specified by the 'manager' parameter.

Example Processing Node Installation and Configuration

The above command lines can be sequenced together in a Windows batch file to create a utility that will autonomously install and configure a Condor Processing Node. Such a batch file can be used on multiple machines, in turn, to make all those machines members of the same pool.

Such a batch file might look something like this:

```
set PATH_TO_INSTALLER=\\MyServer\Software\Intergraph-HTCondor
```

```
msiexec.exe /i  
"%PATH_TO_INSTALLER%\condor-8.4.0-341253-Windows-x86.msi"  
/passive  
/norestart INSTALLDIR=C:\Condor MSIRESTARTMANAGERCONTROL=Disable
```

```
msiexec.exe /i "%PATH_TO_INSTALLER%\HTCondor for Hexagon Geospatial  
2020.msi"  
/passive /norestart ADDLOCAL=Configuration
```

```
start CondorConfigurationWizard.exe --batch --nodetype=processor  
--manager=MyManager --password=abc
```

In this example, all paths would need to be adjusted to match your specific locations of the source installation packages.

HTCondor Manual Documentation

An HTCondor Manual that provides extensive documentation for both users and system administrators is available at the following website:

<http://research.cs.wisc.edu/htcondor/manual>

Submit and Monitor Jobs

Submitting Jobs

For ImageStation applications ISAE, ISAE-Ext, and ISIF, click the Submit Distributed button to submit jobs to HTCondor.

For IMAGINE, use HTCondor as follows:

1. Click the **Batch** button from any process that contains a Batch option.
2. From the Batch Command Editor, click **Submit** button. In the Submit dialog, choose the **Start Distributed Processing** option.



Refer to the Batch Command Editor On-Line Help for instructions.

In-Progress Job Status

After you have submitted jobs to HTCondor, you can check the status of the jobs.

1. Log on to the Submitting machine.
2. Open the command line tool and type:

```
condor_q
```

- Lists all the processes submitted to the pool from all the active Pool Managers.
- "Run" (R) indicates that a job is currently being processed.
- "Idle" (I) indicates that the job is waiting and will be sent to a machine as soon as one is available.
- "Held" (H) indicates a potential problem. Use `condor_q -analyze` for more information

```
condor_q -run
```

- Lists only the currently running processes

```
condor_status
```

- Shows the status of the machines in the pool

ERDAS IMAGINE reports operation progress status to the active Process List dialog, where operation progress can be tracked.

0% Status

If the progress bar reads 0% and does not start, remember that the machine speed, network bandwidth, disk read/write speed, and job size affect the speed of starting a job. It can take several minutes for a job to start.

If the job never starts, use `condor_Status` to check the status of the machines. Also, use `condor_q` to make sure the jobs are not held.

Remove Jobs from the Queue

Use the `condor_rm -all` command to remove all jobs from the queue.

Manual Configuration of HTCondor

HTCondor for Hexagon Geospatial deploys the HTCondor Configuration Wizard in order to allow the machines of an HTCondor pool to be configured correctly for running ImageStation or ERDAS IMAGINE applications. Use of the Configuration Wizard is not mandatory however, and you may opt to manage the HTCondor configuration yourself, for example, if your pool is also configured for running other applications.

Hexagon Geospatial applications do however require some specific configuration values to be present in order to run successfully in an HTCondor pool. If you opt not to have the installer create those values, then you must set them manually instead by manually editing the HTCondor configuration files.

Manual Configuration of the Pool Manager

Setting up the Credential Daemon

ImageStation and ERDAS IMAGINE applications use the Condor credential daemon to manage user authentication on the Processing nodes. The credential daemon is not enabled by default in a Condor installation, and hence must be configured manually. Typically, the daemon will be set up to run on the Pool Manager machine.

If your Condor pool is not currently configured to use the credential daemon:

1. Locate the sample credential daemon configuration file within the Condor installation:
`etc/condor_config.local.credd`
2. Using a text editor, copy the content of the sample file to the local Condor configuration file, which is named `condor_config.local`.
3. Restart Condor using the `condor_restart` command.

4. Open Windows Task Manager and verify that the `condor_credd` process is now running.
5. Create the Pool password using the command:

```
condor_store_cred -c add
```
6. The command will prompt you to enter the password.



The same password will later need to be entered on all other machines within the pool.

7. For all users who will have the ability to submit jobs, add their credentials using the command:

```
condor_store_cred add -u <username>@<domain>
```
8. The command will prompt you to enter each user's password.
9. Run the `condor_reconfig` command to force Condor to re-evaluate its configuration.

Setting the Application Concurrency Limits

ImageStation and ERDAS IMAGINE employ concurrency limits on the Pool Manager to ensure that Condor will not attempt to run more jobs than the number of licenses you have purchased.

To set the concurrency limits:

1. Locate and open for edit the local Condor configuration file, which is named `condor_config.local`.
2. Depending on which application is employed, select one of the following:
 - If you will use the Condor pool to process IMAGINE batch jobs or the eATE application, add the following variable definition:

```
ERDASENGINE_LIMIT = n
```

Where `n` should be set to the number of ERDAS Engine licenses that you have or wish to make available.

- If you will use the Condor pool to process ImageStation Automatic Elevations (ISAE) jobs, add the variable definition:

```
ISAE_DP_CONCURRENCY_LIMIT = n
```

Where `n` should be set to the number of ISAE DP licenses that you have or wish to make available.

- If you will use the Condor pool to process ImageStation Automatic Elevations Extended (ISAE-Ext) jobs, add the variable definition:

```
ISAE_EXT_CONCURRENCY_LIMIT = n
```

Where *n* should be set to the number of ISAE-Ext DP licenses that you have or wish to make available.

- If you will use the Condor pool to process ImageStation Utility jobs, such as ISIF, add the variable definition:

```
ISDP_CONCURRENCY_LIMIT = n
```

Where *n* should be set to the number of ImageStation DP licenses that you have or want to make available.

3. Save your edits to `condor_config.local`.
4. Restart Condor using the `condor_restart` command.



If you are unsure how many licenses you have available, check the Geospatial License Administrator.

Manual Configuration of the Submitting Node

Enable Access to the Credential Daemon

The Submitting node must be able to access the credential daemon on the Pool Manager in order to be able to submit ImageStation and IMAGINE jobs to the Condor pool.

To enable this access:

1. Locate and open for edit the local Condor configuration file, which is named `condor_config.local`.
2. Add the following variable definitions:

```
CREDD_HOST = <pool manager hostname>.$(UID_DOMAIN)
```

```
CREDD_CACHE_LOCALLY = True
```

```
SEC_CLIENT_AUTHENTICATION_METHODS = NTSSPI, PASSWORD
```

```
SEC_CONFIG_NEGOTIATION = REQUIRED
```

```
SEC_CONFIG_AUTHENTICATION = REQUIRED
```

```
SEC_CONFIG_ENCRYPTION = REQUIRED
```

```
SEC_CONFIG_INTEGRITY = REQUIRED
```

Where `<pool manager hostname>` should be replaced with the name of your Pool Manager machine.

3. Save your edits to `condor_config.local`.
4. Restart Condor using the `condor_restart` command.
5. Add the Pool password using the command:
`condor_store_cred -c add`
6. The command will prompt you to enter the password.



This must be the same password as was used on the Pool Manager machine.

7. Run the `condor_reconfig` command to force Condor to re-evaluate its configuration.



Detailed information regarding the credential daemon is available in section **6.2.5 The `condor_credd` Daemon** of *HTCondor Manual Documentation* (on page 87).

Manual Configuration of a Processing Node

Enable Access to the Credential Daemon

All Processing nodes must be able to access the credential daemon on the Pool Manager in order to be able to process ImageStation and IMAGINE jobs.

To enable this access:

1. Locate and open for edit the local Condor configuration file, which is named `condor_config.local`.
2. Add the following variable definitions:

```
CREDD_HOST = <pool manager hostname>.${UID_DOMAIN}
CREDD_CACHE_LOCALLY = True
SEC_CLIENT_AUTHENTICATION_METHODS = NTSSPI, PASSWORD
SEC_CONFIG_NEGOTIATION = REQUIRED
SEC_CONFIG_AUTHENTICATION = REQUIRED
SEC_CONFIG_ENCRYPTION = REQUIRED
SEC_CONFIG_INTEGRITY = REQUIRED
```

Where `<pool manager hostname>` should be replaced with the name of your Pool Manager machine.

3. Save your edits to `condor_config.local`.
4. Restart Condor using the `condor_restart` command.
5. Add the Pool password using the command:
`condor_store_cred -c add`
6. The command will prompt you to enter the password.



This must be the same password as was used on the Pool Manager machine.

7. Run the `condor_reconfig` command to force Condor to re-evaluate its configuration.



Detailed information regarding credential daemon is available in section **6.2.5 The condor_credd Daemon** of the *HTCondor Manual Documentation* (on page 87).

Setting Other Processing Node Variables

Various other configuration variables are required or are optional on the Processing nodes of the pool.

To set these variables:

1. Locate and open for edit the local Condor configuration file, which is named `condor_config.local`.
2. All Processing nodes must be configured to allow jobs to execute using the credentials of the user submitting the job. To do this, add the following variable:

```
STARTER_ALLOW_RUNAS_OWNER = True
```



This variable is mandatory.

3. Processing nodes having multiple CPUs may be configured to allow only a subset of those CPUs to be available for running Condor jobs. If you wish to limit the number of available CPUs, add the following variable:

```
NUM_CPUS = n
```

Where `n` should be less than or equal to the number of physical CPU cores in the machine.



If this variable is not set, all CPU cores will be available.

4. Save your edits to `condor_config.local`.
5. Locate and open for edit the global Condor configuration file, which is named `condor_config`.
6. Locate and change the values of the following variables in order to allow ImageStation and IMAGINE jobs to always start execution immediately and to not allow them to be suspended:

```
START = True
SUSPEND = False
PREEMPT = False
```



These settings are mandatory; ImageStation and IMAGINE jobs do not support being suspended.

7. Save your edits to `condor_config`.
8. Run the `condor_reconfig` command to force Condor to re-evaluate its configuration.

Add a Condor User Account

Follow these steps to give others permissions to use Condor pool.

1. Log on to the Pool Manager machine.
2. Open the command line tool and type:

```
condor_store_cred add -u username@domain -p password
```

Where:

`username` = new user

`password` = password for the new user

Look for the message "Operation Successful".

Troubleshooting

Cannot submit jobs

The `Condor_submit` command will fail if the credentials of the user attempting to submit a job have not been stored in the credential daemon on the Pool Manager. In this case, job submittal in IMAGINE or ImageStation applications will simply fail.

To resolve, submit the job manually using `Condor_submit` manually on the command prompt to see what additional information it reports about the error.

If it indicates a lack of stored credentials, store the user's credentials on the Pool Manager using the `Condor_store_cred add` command.

Jobs fail immediately

If jobs fail quickly after they are sent to a Processing node, it may be caused by the lack of a license for processing the job. Verify that you have enough licenses to run the specified number of jobs in parallel.

To change the number of concurrent jobs, edit the Pool Manager machine's `Condor_config.ingr` file with these values:

`ERDASENGINE_LIMIT` – specifies the maximum number of concurrent ERDAS IMAGINE jobs

`ISAE_DP_CONCURRENCY_LIMIT` – specifies the maximum number of ISAE jobs

`ISAE_EXT_CONCURRENCY_LIMIT` – specifies the maximum number of ISAE-Ext jobs

`ISDP_EXT_CONCURRENCY_LIMIT` – specifies the maximum number of ISIF jobs

These should be fewer than the number of licenses you have purchased. Edit the entries appropriately and run `Condor_reconfig` in the command prompt.

If licensing is not the issue, it may be that there is a problem with the input data. Verify that the input data can be accessed from the Processing node.

Jobs are not sent to some Processing nodes

If you notice that jobs are not sent to some Processing nodes, run the following command on the Pool Manager:

```
Condor_status -f "%s\t" Name -f "%s\n"
ifThenElse(isUndefined(LocalCredd), \"UNDEF\", LocalCredd)
```

This will produce output something like:

```
Condor-LM2.ingrnet.com    Condor-lm1.ingrnet
```

Condor-LM3.ingrnet.com	Condor-lm1.ingrnet
Condor-LM4.ingrnet.com	UNDEF
Condor-LM4.ingrnet.com	UNDEF

- If the second column contains the name of the Pool Manager, then the Processing node is communicating correctly with the credential daemon.
- If the second column contains 'UNDEF', then the Processing node is not communicating correctly, and jobs will not submit to this node.

To resolve this, there are various things to try:

1. On the Pool Manager, run `Condor_restart -all` to restart Condor on all nodes in the pool. The restart may take several minutes to complete on all machines.
2. If that does not work, run `Condor_restart` directly on the Processing node or nodes that report UNDEF. Again, the restart may take several minutes to complete.
3. If that does not work, re-enter the pool password on the Processing node or nodes that report UNDEF; that is, run `Condor_store_cred -c add`, followed by `Condor_reconfig`.
4. If that does not work, re-enter the pool password on all machines in the pool.



Detailed information regarding credential daemon is available in section **6.2.5 The Condor_cred Daemon** of the *HTCondor Manual Documentation* (on page 87).

Jobs are submitted to machines that do not have the appropriate software installed

If a Condor job is submitted to a processing node that does not have the appropriate software installed, then it is possible that the job will hang on that machine and remain in the running (R) state from the point of view of the Condor Pool Manager.

For ImageStation applications, a mechanism is in place by which a processing node advertises to the Condor pool what software is installed on a processing node. This mechanism ensures that jobs do not get submitted to a node that does not have the appropriate software. However, the correct functioning of this mechanism requires that software is installed in a specific order, namely that Condor for Hexagon Geospatial is installed after installation of all other applications.

If an ImageStation application is installed or uninstalled following the installation of Condor for Hexagon Geospatial, then it is important to make sure that the application

advertising mechanism is refreshed to reflect the new state of the processing node. To do this, run the following Condor command on the processing node:

```
Condor_restart -startd
```



For IMAGINE applications, there is currently no such advertising mechanism in place. If a job is submitted to a processing node that does not have IMAGINE installed, it will likely hang or exit with an error.

Jobs remain in the running state but are apparently not doing anything

It can happen that sometimes a job will get submitted to a processing node and then will remain in the running (R) state for an inordinate amount of time compared to other jobs. If that happens, it is likely that the job is either hung up or that it has exited abnormally due to a software error.

If you suspect that a job has been running for too long, then you can log in to the processing node and attempt to investigate whether the job is actually doing anything. It may be that it has displayed a dialog waiting for user input. Or you can use Windows Task Manager to check if the CPU is being used, or whether the expected processes are running.

If you establish that a job is not doing anything, it must be removed from the processing node manually. There are two ways to do this:

- a. Remove the job from the machine and resubmit it to another machine

Use the Condor commands:

```
Condor_hold <job-number>
```

followed by:

```
Condor_release <job-number>
```

On releasing the job, it will revert to the idle (I) state and will eventually be resubmitted to another processing node. For ImageStation jobs, if you have enabled the option to avoid machines where a job has previously failed, it will not go back to the same node.

- b. Remove the job from the machine and remove it from the queue so that it will not re-run

Use the Condor command:

```
Condor_rm <job-number>
```



ImageStation applications employ a timeout mechanism that can automatically remove a job after a specified amount of run time. The above commands can nonetheless be used to remove any jobs known to be hung up, without waiting for the timeout to occur.

Too few or too many jobs are running on a processing node with multiple CPUs

By default, the HTCondor Configuration Wizard configures multicore processing nodes for Condor dynamic provisioning, which permits a variable number of jobs to run on such a machine.

For ImageStation applications, the number of jobs that can run on a multicore node is controlled by the settings in the Distributed Processing Options window provided by those applications, specifically the amount of required memory and the number of required processing cores.

If you observe that a multicore machine is either under-utilized (i.e., too few jobs running) or over-utilized (i.e., too many jobs exhausting the system resources), then try running the jobs with different resource requirements.

For IMAGINE applications, the number of jobs that will be permitted to run on a multicore machine is half the number of cores. For example, an 8-core machine will accept 4 jobs concurrently. If this is too few or too many, then you can reconfigure the machine with a static number of "slots" instead of using dynamic provisioning.

To configure a static number of slots, locate the `Condor_config.ingr` file in the Condor installation directory and replace the lines:

```
SLOT_TYPE_1 = 1/1
NUM_SLOTS_TYPE_1 = 1
SLOT_TYPE_1_PARTITIONABLE = True
```

with the line

```
NUM_SLOTS = n
```

where *n* is the number of jobs you want the node to be able to run concurrently.

Alternatively, you can keep dynamic provisioning enabled and modify the definition of `MODIFY_REQUEST_EXPR_REQUESTCPUS` to specify a different number of cores that should be consumed by each IMAGINE job.

After making changes to the `Condor_config.ingr` file, execute the command `Condor_restart` to restart Condor and make the changes effective.



ERDAS IMAGINE

SECTION 11

Troubleshoot Installation using Logs

When an installer fails, there are a few options to get more information and act upon it:

Create a Log file for the installation -- this can be requested by using a registry key, or by specifying command-line parameters

Examine (and possibly Export) the Application Event Log -- gives you access to OS events generated during installation and configuration of a product

You can generate MSI (Windows Installer) and Application Event Logs.



Turning on MSI Logging from the registry, rather than from the command line, is recommended.

Enable Microsoft Windows Installer (MSI) Logging

You can enable MSI logging for every installation action that happens on your system.

1. From the Microsoft Windows Start menu, click **Run**, and type regedit to open the Registry Editor.
2. Find or add the following subkey Installer in the Windows registry:
HKEY_LOCAL_MACHINE > Software > Policies > Microsoft > Windows > Installer.



You may need to create the Installer key.

- a. Insert Debug as a REG_DWORD and set its value to 7.
- b. Insert Logging as a REG_SZ and set its value to voicewarmup.

Once the registry strings above have been created, every time you install, repair, modify, or remove, a log file will be created in the directory identified by your TEMP environment variable.

Creating an MSI Log for one specific installation



Turning on MSI Logging from the command line is a last choice effort.

It is highly preferred to use the registry key above to enable MSI logging, because it allows you to use your standard install, uninstall, and repair workflows. The workflow below should only be used in special circumstances, for example, if you are not allowed

to update the system registry, or you really just want to create the one MSI log and you are confident you can reproduce your exact problem on the command line.

You can request a log for one specific installation, if you know the specific command-line parameters that are required to reproduce your problem. You must be quite careful, since entering wrong parameters (like omitting the ACCEPT_EULA switch required by Install in Silent Mode process) can cause your command-line installation to fail for reasons unrelated to the problem you are investigating.

Log the Installation of Product XYZ

```
msiexec /l*v "C:\1LogInstallation\logs\InstallationXYZ.log" /i  
"C:\msi\XYZ.MSI" ACCEPT_EULA=1"
```

Log the Patching of a Product that already has been installed

It is also possible to log the installation of an MSP (a patch or hot-fix).

```
msiexec /l*v MyProdMSP.log /p MyProduct.msp REINSTALL=ALL  
REINSTALLMODE=omus /qb
```

Viewing and Exporting Application Event Log Information

Installation and Configuration of software products generates some events that are seen by the Microsoft Windows Operating System itself. This type of logging is always available – you do not need to enable it. You can find it by launching the event viewer, and can save the events out for someone else to analyze.

1. Go to **Start > Search programs and files** and type in eventvwr. The Event Viewer starts.
2. On the left, open **Windows Logs > Application**.
3. On the right, click **Save All Events As**.

Save the file as type Event Files (*.evtx).

Hexagon Geospatial Setup Manager Logging

As noted above, logging from the registry key is highly preferred. In the case where logging from the command line is necessary, try one of these examples:

```
setup.exe /s {SoftwareProductName} /ni ACCEPT_EULA=1 /L*  
MyLogFileName.log  
  
setup.exe /s {SoftwareProductName} /ni ACCEPT_EULA=1 /L*V  
MyLogFileName.log"
```

where {SoftwareProductName} is one of the Installable Applications under SoftwareProductName identified in an Installable Application Names Table above.

Tips for Resolving Issues in Installation Log

Component Based Servicing Log

The Component-Based Servicing Log can be helpful if you get a message like this in your Installation log:

```
MSI (s) (44:14) []: Assembly Error (sxs): To get more diagnostic information, enable the Component Based Servicing Log.
```

```
The Component Based Servicing Log is located in %windir%\logs\cbs\cbs.log (C:\Windows\Logs\CBS)
```

To get the cbs log you may first need to set:

```
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Component Based Servicing EnableLog=dword:00000001
```

Windows Installer SDK Tools

Wilogutl.exe assists the analysis of log files from a Windows Installer installation, and it displays suggested solutions to errors that are found in a log file. You can use it to debug installation, repair, and removal of a product.

For more information go to <http://msdn2.microsoft.com/en-us/library/aa372811.aspx>.

SECTION 12

Windows Printing

You can set up your map composition in the Map View to print to a printer plotter.

This workflow is based on the premise that the printing to be done can be executed on an HP printer plotter using an HPRTL printer driver.

Troubleshooting Printing

Sometimes when you are trying to print a map, system resources are consumed by the printing process, and the attempt to plot fails. There are several ways in which a printing failure might manifest itself. Depending on the type of print device being used, the indications of failure vary. The most common, of course, is that you do not successfully print the desired map. The symptoms of failure shown below are common for HP 600 to 3500 plotters. This includes the 1055 series.

Out of Memory/Data Lost

This is a printer panel message that is displayed when the printing application overwhelms the printer memory with data. This commonly occurs when postscript print drivers are used to attempt a print job that sends more data to the print device than the print device has memory to handle.

In ERDAS software, this situation can also occur if you do not choose to **Rasterize before printing**. In the case where the you do not choose to **Rasterize before printing**, the map composition should be processed using the **In computer** memory option. Commonly, when the system runs out of memory, the composition is partially printed. It is not unusual that whole elements of the map composition might be missing.

Nothing Prints

In another example, you send your map composition to print, and the process initiates successfully. However, as soon as the print job switches from spooling to printing, the job is deleted from the queue. There are no results to speak of. The only potential error message is from the OS: *Your system is running low on virtual memory. Please close some applications.* This is dependent on your system's virtual memory settings.

It is advisable that you increase the default Microsoft Windows virtual memory settings. On Microsoft Windows systems, there are initial and maximum size settings for the virtual memory that are made available to applications. The default minimum memory is acceptable, but the overall may need to be increased.

Changing Memory Settings

Increasing overall memory can be accomplished by:

increasing the maximum on the existing paging file.

creating an additional paging file (if there is not sufficient free disk space on the drive or partition where the other paging has been created).

It is also common that, when the Commit Charge value on the Microsoft Windows Task Manager exceeds ~ 1 GB, nothing prints. Eventually, this occurs when processing without **Rasterize before printing** and **In computer** memory.

Preferences

Strip Height

The Strip Height is set to 64 by default. This is an acceptable strip height. This is the height of each strip of data that is sent to the plotter.

Printing Data Transfer Compression

Printing Scale Factor is the scaling factor at which the output data is created. This scale applies to the output frame size. For example:

none = 1x

low = 2x

medium = 4x

high = 8x

For example, if the image that is being put into a frame is 5000 x 6000 pixels, and the frame in which the image data is going to be printed is 17" x 20", and you are plotting at 600 dpi, then there are 5000 pixels with which to fill 10200 dots.

Scaling is always constrained to the smaller of the dimensions to maintain geometric fidelity. In the example above, a scaling factor of 2 would be appropriate. If a scaling factor of one were used, ERDAS IMAGINE would create a file big enough to fill the output map frame. This is, in essence, quadrupling the size of the raster data needed to be sent to the plotter.

Moreover, a scale factor of two is a good trade-off in that little annotation degradation occurs. If the Printing Scale Factor is too high, text annotation can become pixelated.

Spool Data as Raw File Format

In order to print successfully in ERDAS IMAGINE, data must be spooled to the printer as Raw file format rather than EMF file format.

Follow your printer's instructions to spool data to the printer as Raw.

Printing Scenarios

You may encounter the following scenarios when printing:

No Pre-Rasterize

These steps work for a moderate size map composition (for example, 24" x 36" at 600 dpi). The no pre-rasterize scenario does not create a temporary file: all processing is handled in memory. This scenario can lead to the situation where nothing prints when the limits of system memory are exceeded. Any time the Commit Charge exceeds 1 GB, the print job is removed from the queue.

Preparation

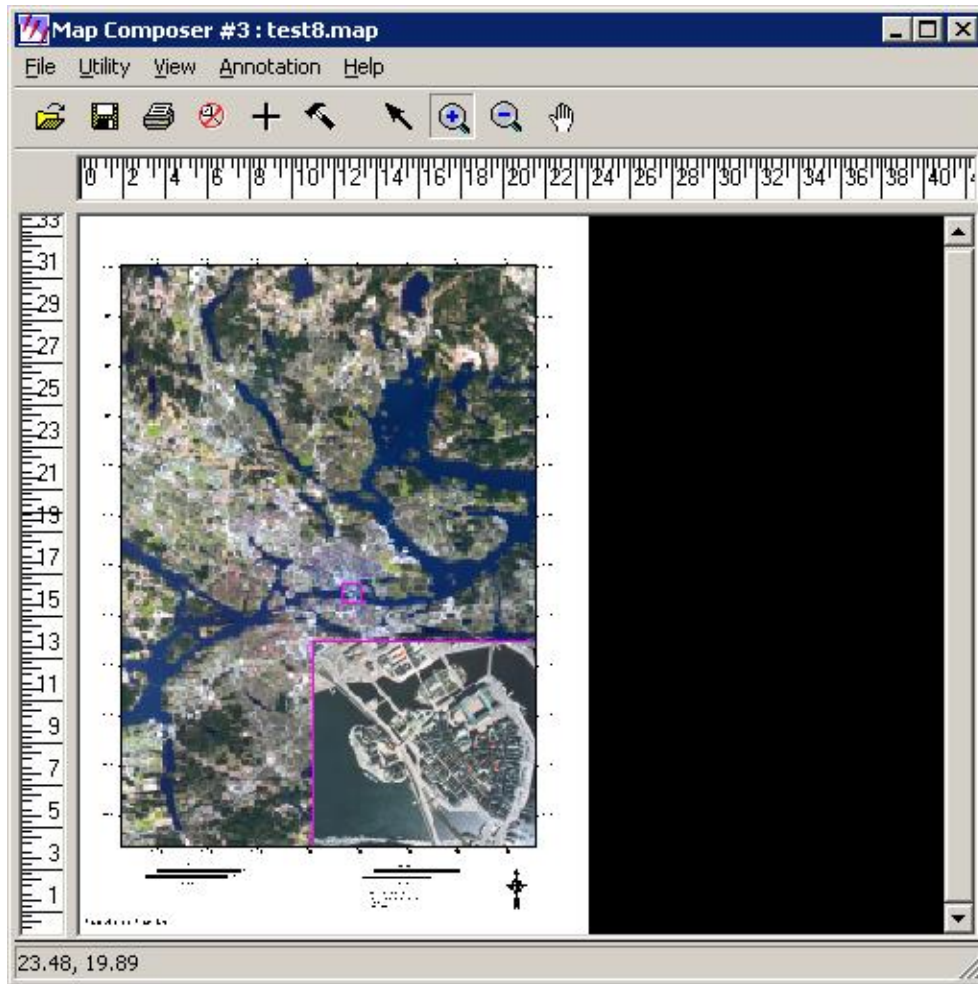
ERDAS IMAGINE must be running.

You must have a map composition displayed.



The map composition displayed in this scenario is not supplied with the examples data.

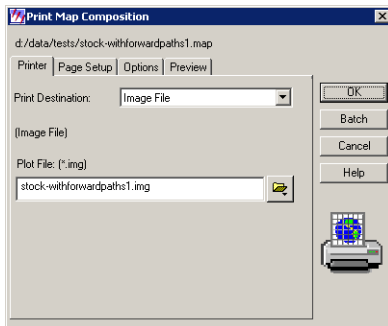
The following picture shows a Map Composition ready to print:



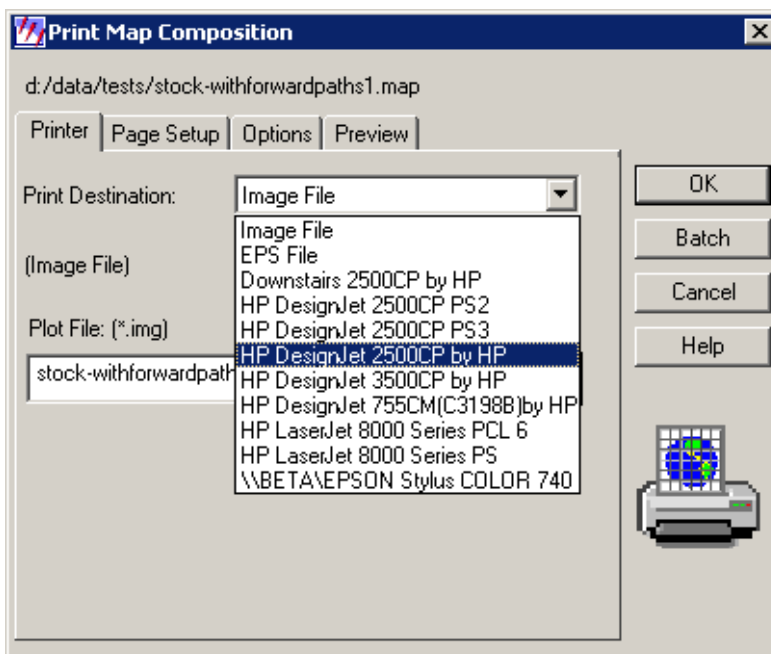
Open the Map Composition Dialog

1. In the Map Composer dialog, click the Print icon .

The Print Map Composition dialog opens. The Print Map Composition dialog opens on the **Printer** tab. In this tab, you can select a printer you have configured.



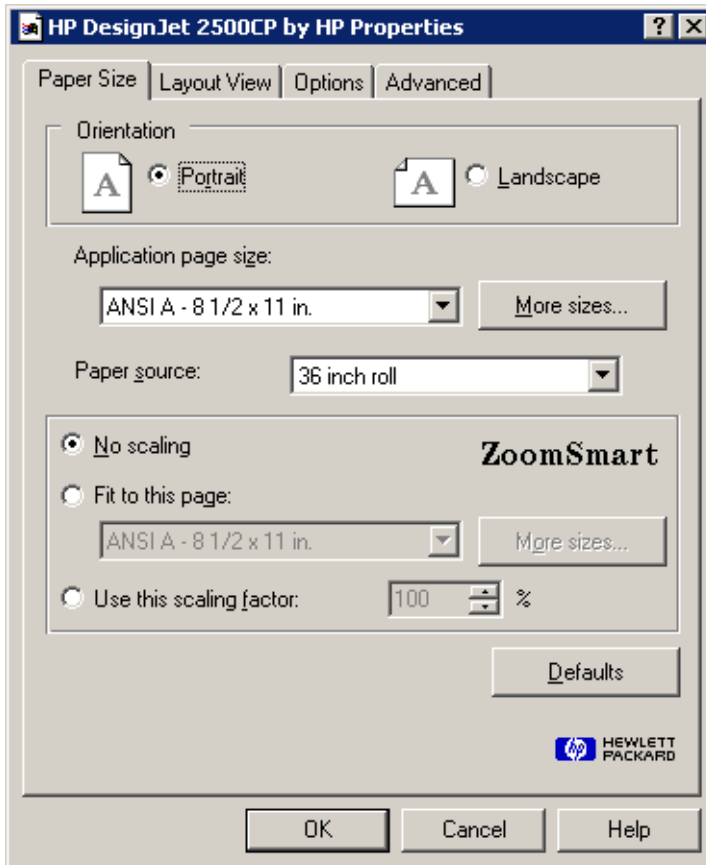
2. Click the **Print Destination** dropdown list and choose an appropriate printer.



The **Print Destination** you select displays in the Print Map Composition dialog. Now, you can set configuration parameters.

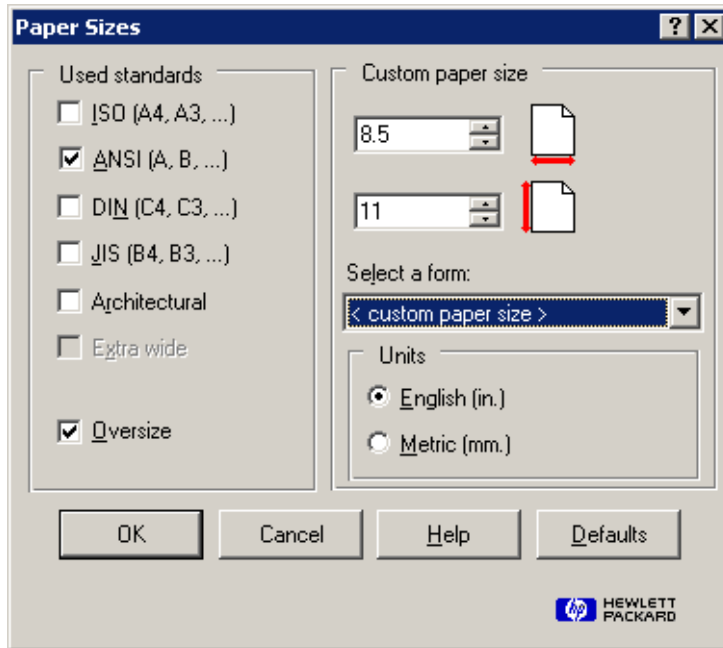
3. Click on the **Change printer configuration** button.

The Properties dialog for the printer you select displays. In this case, the title of the dialog is HP DesignJet 2500CP by HP.



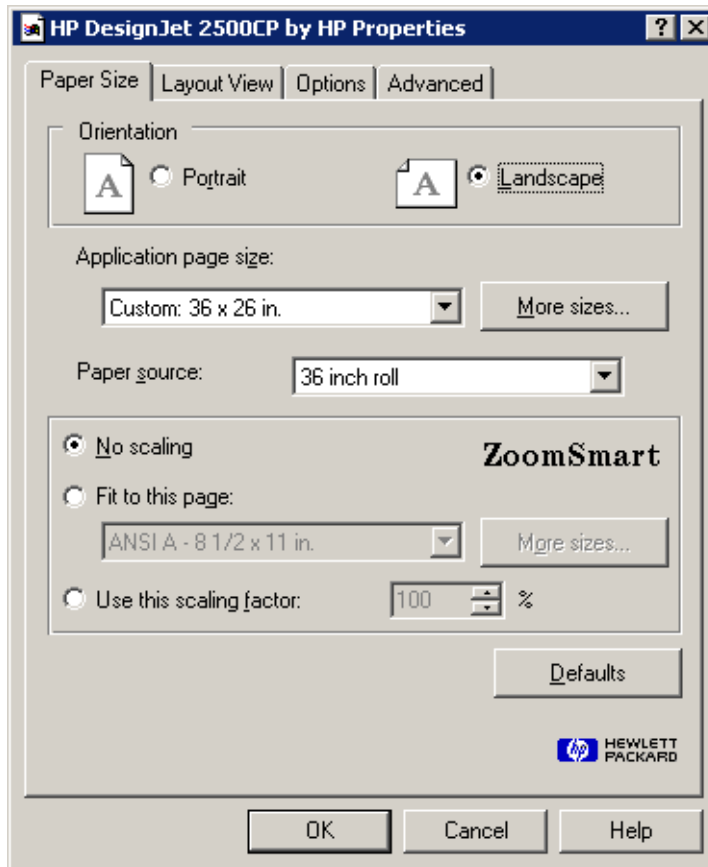
4. Click on the **More sizes** button.

The Paper Sizes dialog opens. In this dialog, you can set the paper size required for your particular map composition.



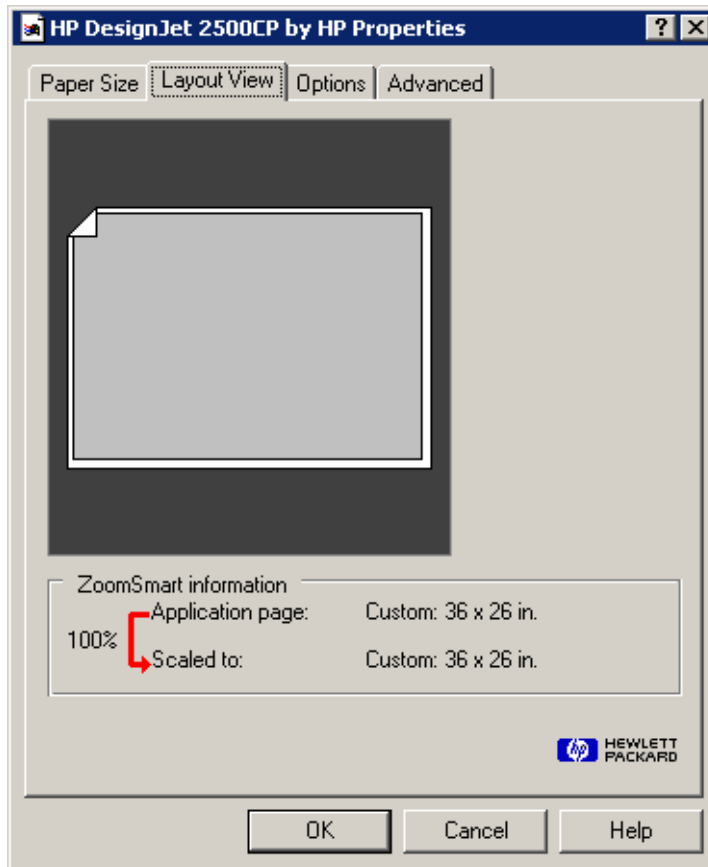
5. Click in the **Custom paper size** section of the Paper Sizes dialog and type the size of the paper. In this case, the appropriate size is **36" x 26"**.
6. Click **OK** in the Paper Sizes dialog.

You are returned to the **Paper Size** tab of the Properties dialog.



7. In the **Paper Size** tab of the Properties dialog, click the **Landscape** orientation radio button. This option conserves paper.
8. Click the **Layout View** tab in the Properties dialog.

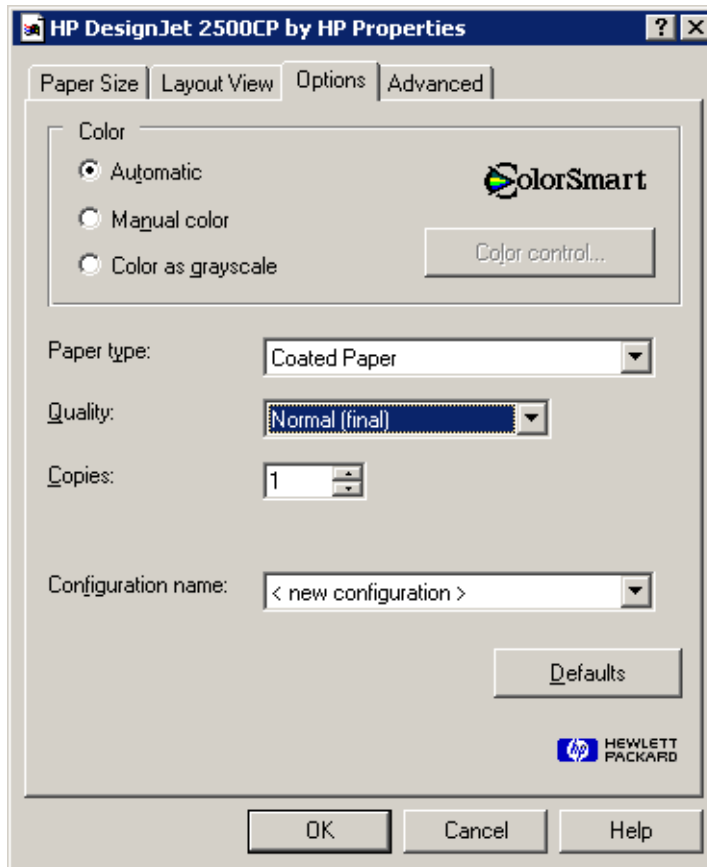
The **Layout View** information displays.



The **Layout View** tab shows that the width is **36"**, and the height is **26"**. The **36"** dimension runs across the **36"** width of the roll of paper.

9. Click the **Options** tab in the Properties dialog.

The options display. In this tab you make color and paper selections.



10. In the **Options** tab, click the checkbox for **Manual color**.

You are going to come back to the **Color control** setting in a moment.

11. Click the **Paper type** dropdown list, and select the type of paper.

The **Quality** setting controls the dots per inch (dpi) that is used to plot the map. There are different quality designations used by different printer drivers. Some common HP quality designations are:

Fast (draft) (300 dpi)

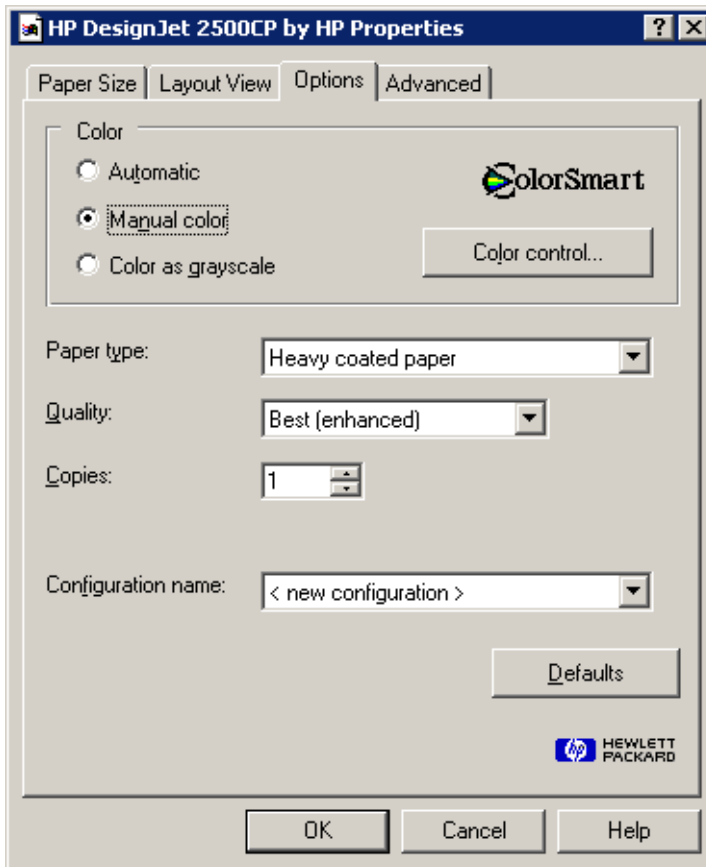
Normal (final) (300 dpi)

Best (enhanced) (600 dpi)

Economy (300 dpi)

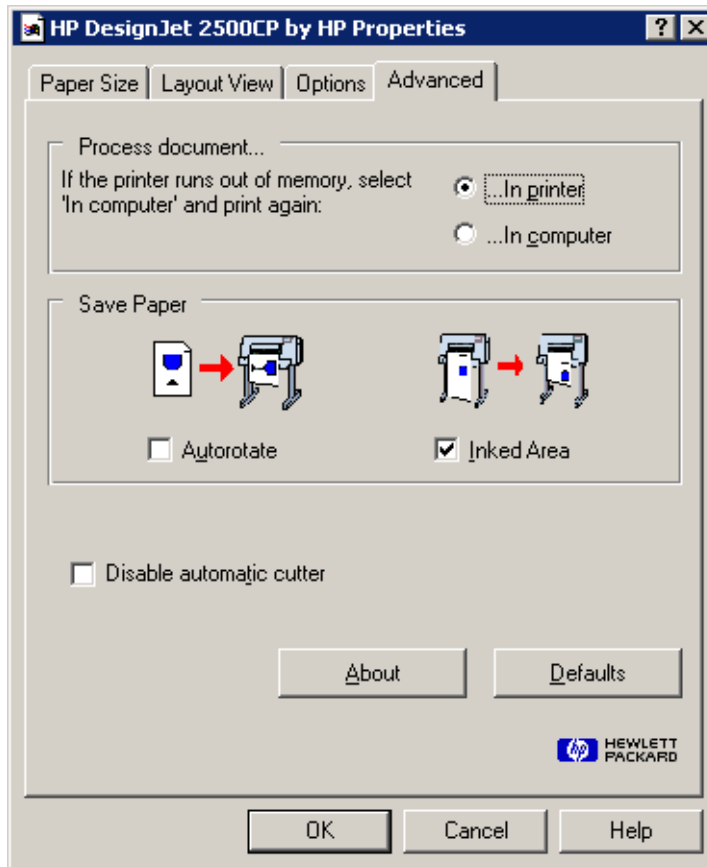
Productivity (300 dpi)

Photo (600 dpi)



1. Click on the **Advanced** tab in the Properties dialog.

The advanced options display in the Properties dialog.



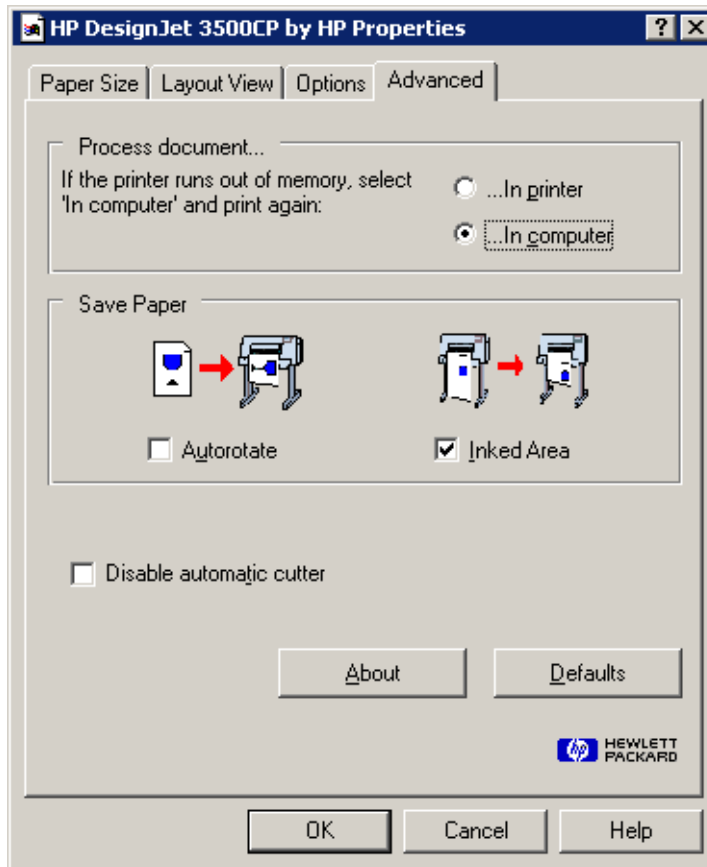
2. In the **Process document** section of the **Advanced** tab, click the **In computer** radio button.

You need to select the **In computer** option in order to successfully print the color calibration pages which follow.

A Hint dialog opens that warns of slower printing. You are going to process the document in the computer memory when you do not pre-rasterize anyway.

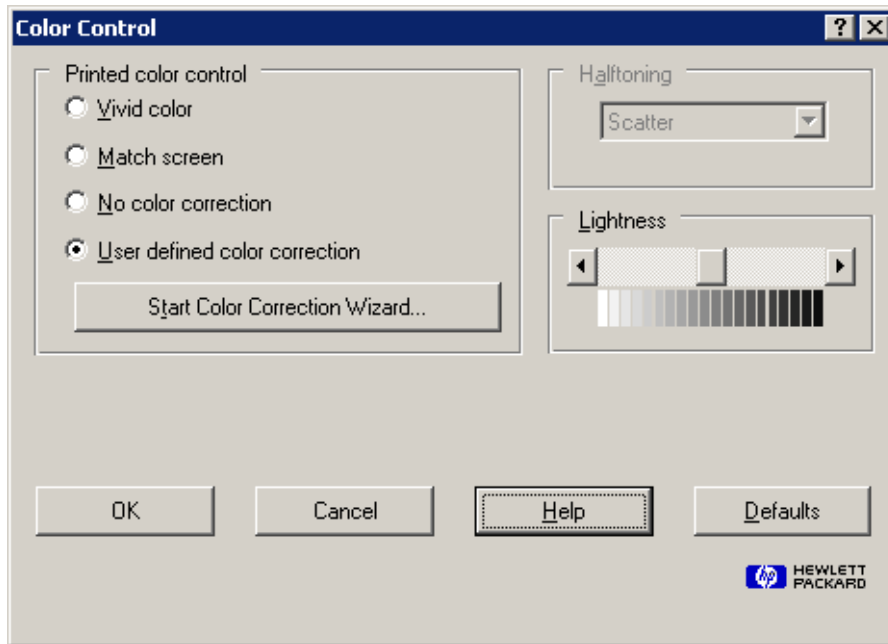
3. Click **OK** in the Hint dialog.
4. Click the **Inked Area** checkbox.

Your **Advanced** tab should now look like the following:



Color control

1. Click the **Options** tab in the Properties dialog.
2. Click on the **Color control** button in the **Options** tab.
The Color Control dialog opens.



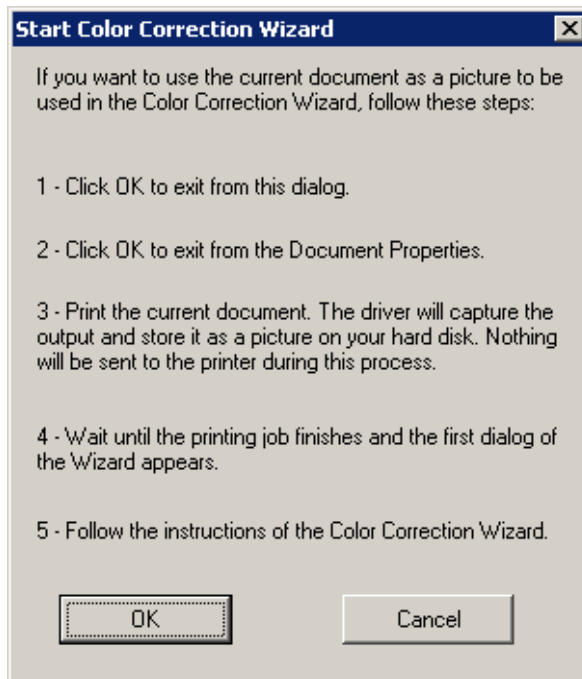
1. In the **Printed color control** section of the Color Control dialog, click on the **User defined color correction** radio button.
2. Click on the **Start Color Correction Wizard** button.

The Start Color Correction Wizard dialog opens.



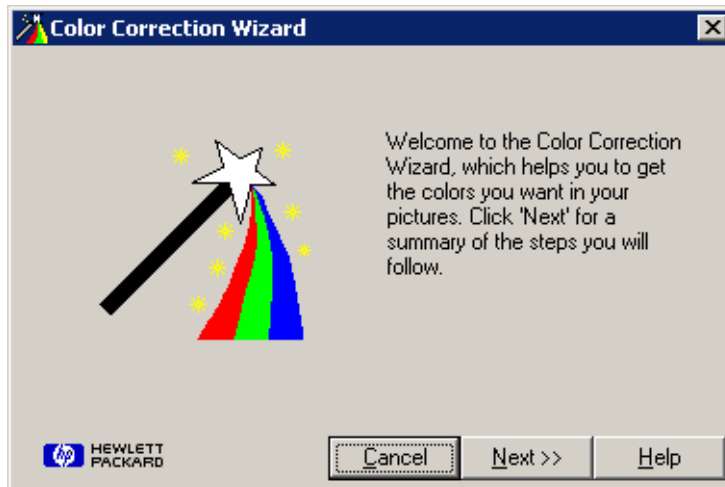
3. Click the **Use the current document in your application** radio button.

The next Start Color Correction Wizard dialog opens. It provides information about using the current document as the basis for the Color Correction Wizard.

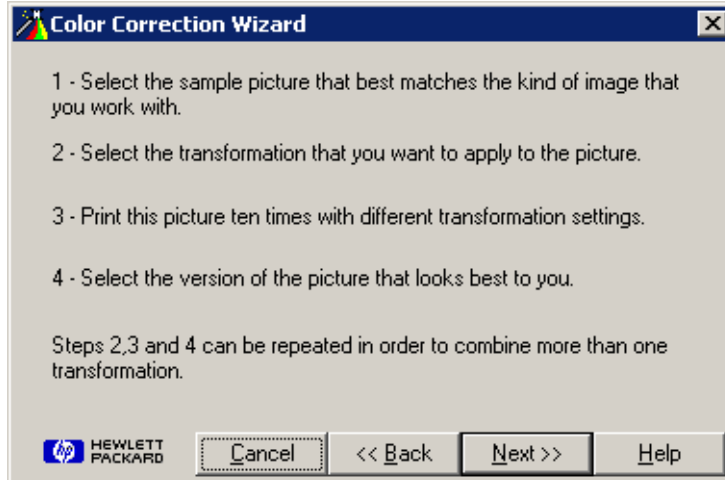


4. Click **OK** in the Start Color Correction Wizard dialog.
A Job Status dialog opens to show the progress of the document capture.
5. Click **OK** in the Color Control dialog and the Map Composition dialog.
6. Depending on your preference settings, you may need to click **OK** in the Job Status dialog to close it.

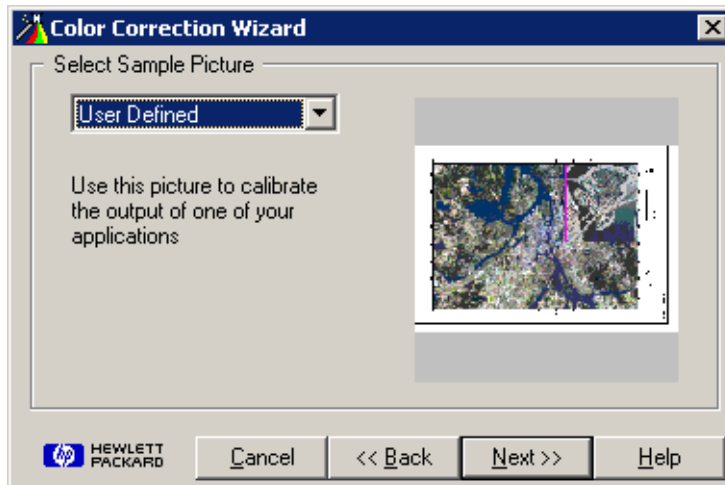
The Color Correction Wizard welcome dialog opens.



7. Click **Next** in the Color Correction Wizard dialog.
The next Color Correction Wizard dialog suggests a series of steps.

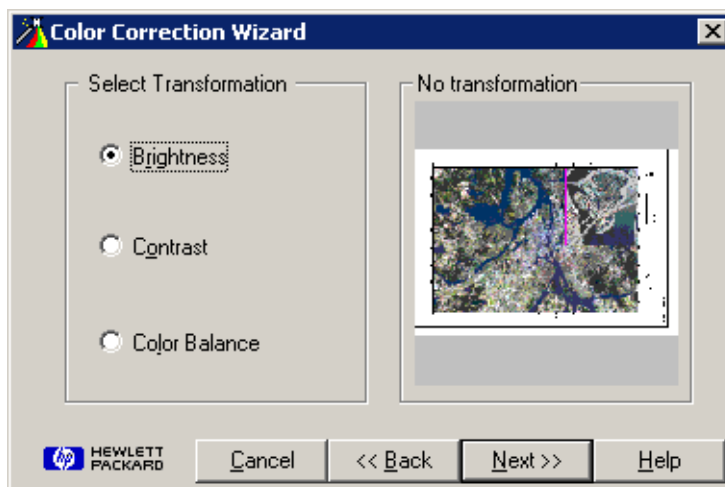


- Click **Next** in the Color Correction Wizard dialog.

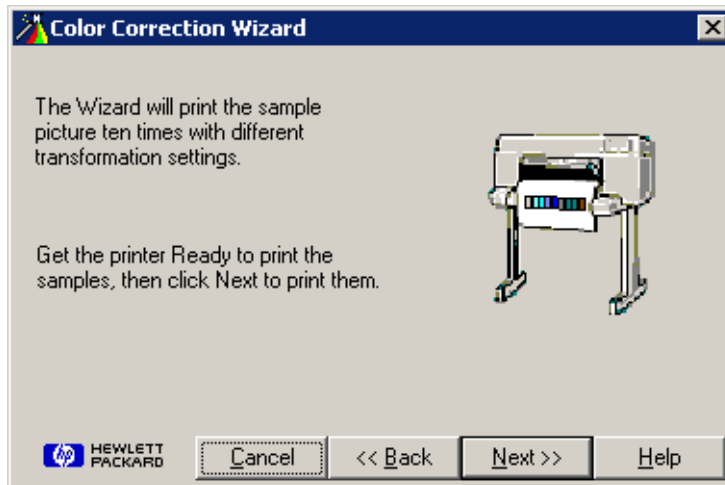


- Click **Next** when the No transformation message is displayed above the document preview.

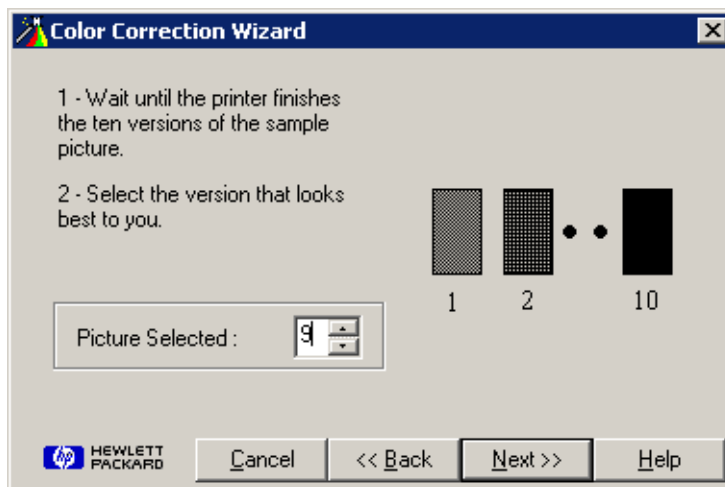
The Brightness is adjusted in this step.



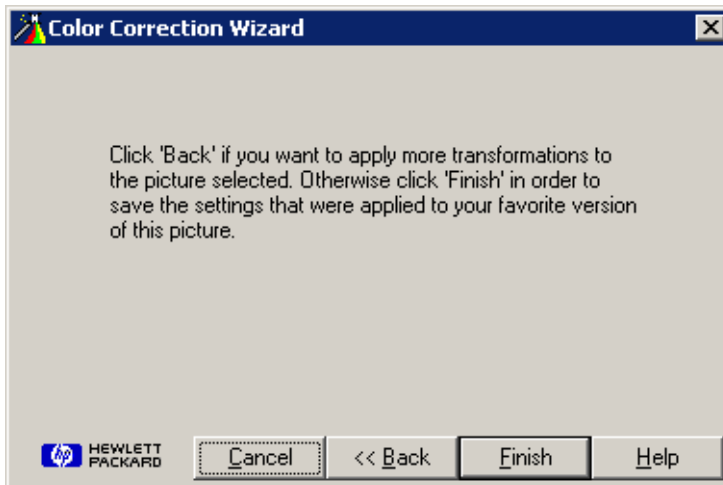
The next dialog advises you to prepare the printer. Next, the sample pictures are going to be printed.



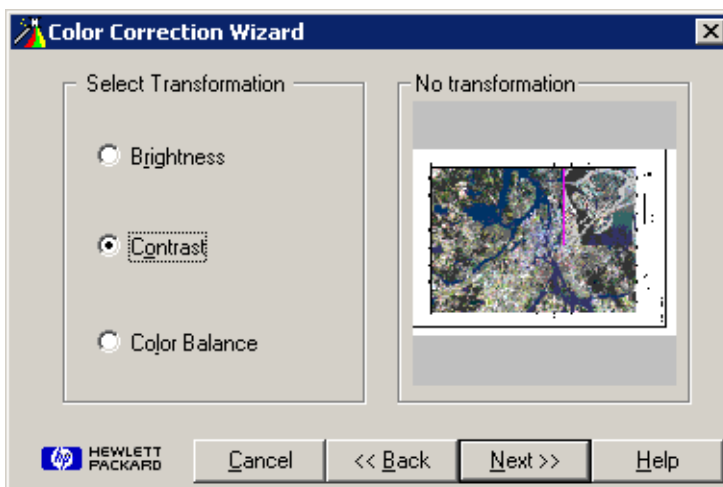
10. Click **Next** to print the sample images.
11. Once you get the sample images from the printer, compare the sample image printout to the map on your screen.
12. In the **Picture Selected** section, type the number of the image that best represents the brightness of the map. In this example, **9** is the best.



13. Click **Back** twice to define the contrast setting.



In the Color Correction Wizard dialog you can set Contrast:

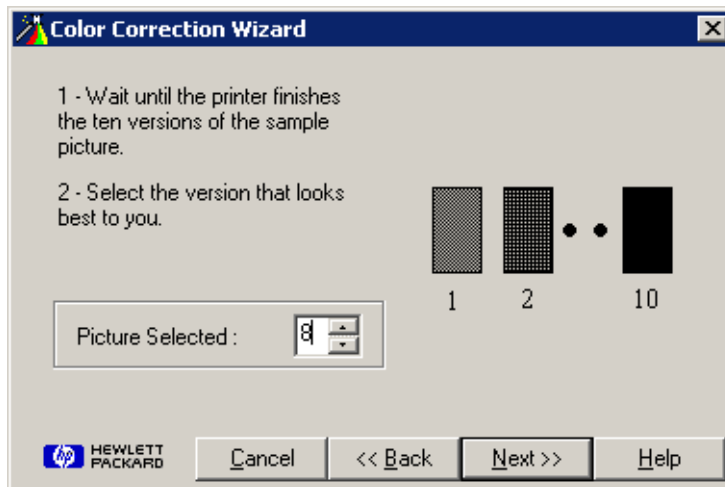


14. Click on the **Contrast** radio button.

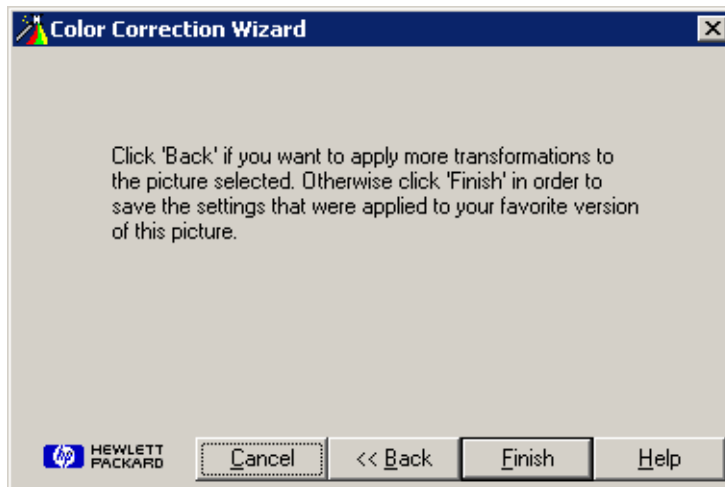
15. Click **Next** when the No transformation message is displayed above the document preview.

16. Click **Next** to print the sample images.

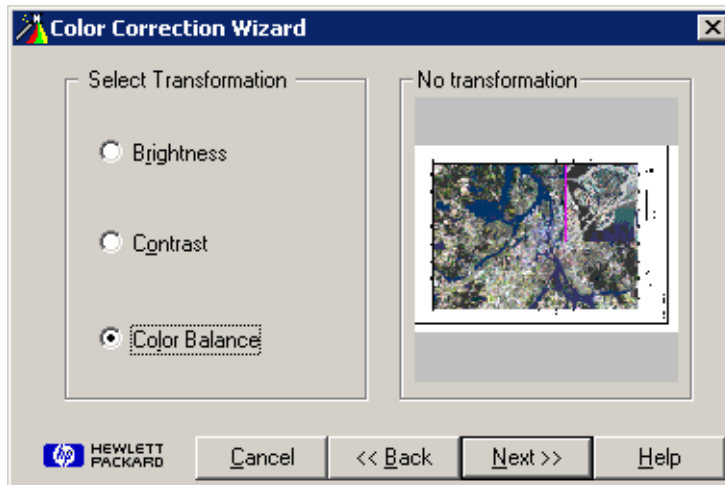
17. In the **Picture Selected** section, type the number of the image that best represents the brightness of the map. In this case, **8** is best.



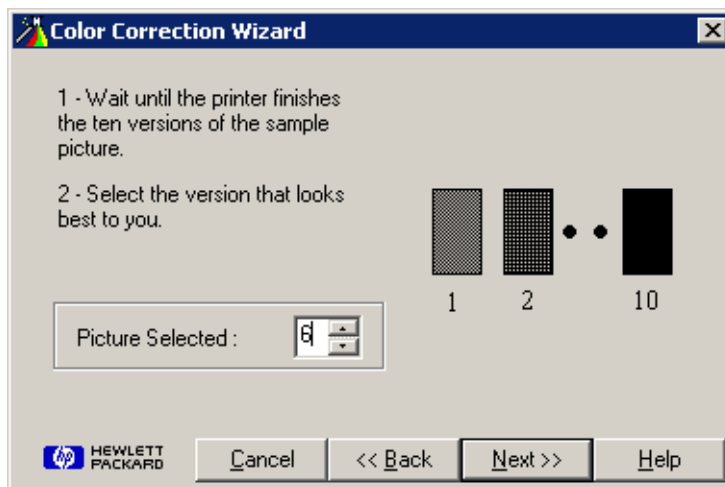
18. Click **Back** twice to define the **Color Balance** setting.
19. Click **Back** again.



Now, you can select the Color Balance option.

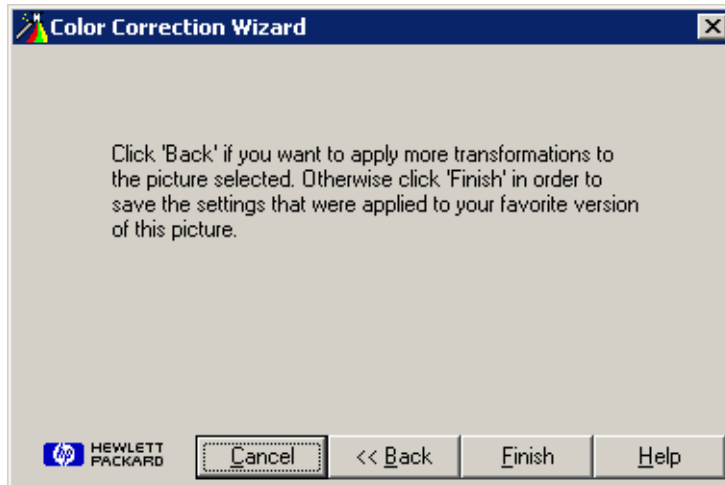


20. Click on the **Color Balance** radio button.
21. Click **Next** when the No transformation message is displayed above the document preview.
22. Click **Next** to print the sample images.
23. In the **Picture Selected** section, type the number of the image that best represents the brightness of the map. In this case, **6** is best.



24. Click **Next** in the Color Correction Wizard dialog.

Now, you have defined all three elements of the Color Correction Wizard:
Brightness, Contrast, and Color Balance.



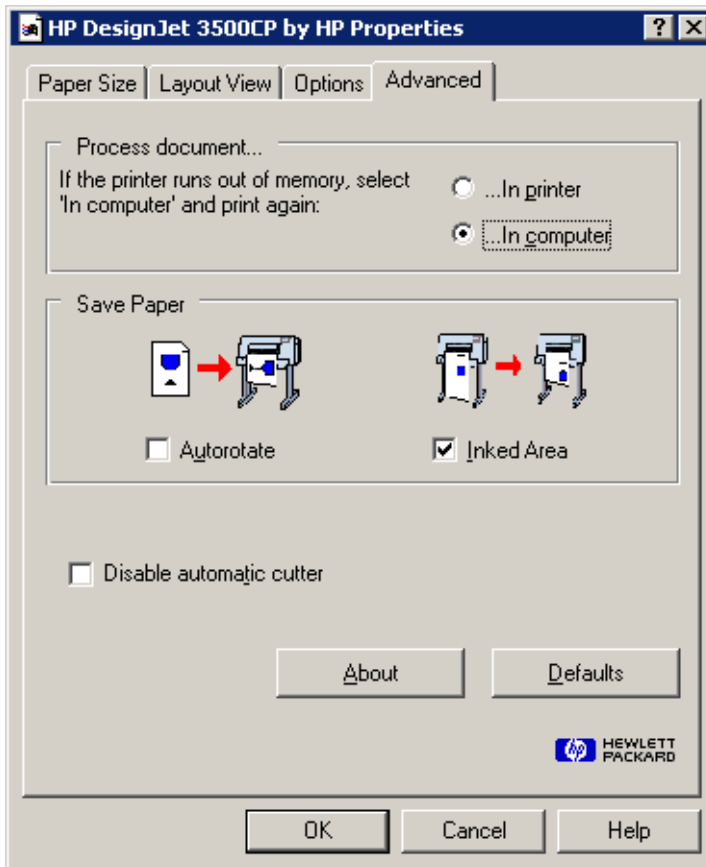
25. Click on **Finish** in the Color Correction Wizard.

A dialog opens advising you that the color calibration was a success.

26. Click on **OK** in the Color Calibration Successful dialog.

You are returned to the Properties dialog. If you have the **User Defined Color Correction** selected, it uses your color calibration.

27. Click the **Advanced** tab in the Properties dialog.

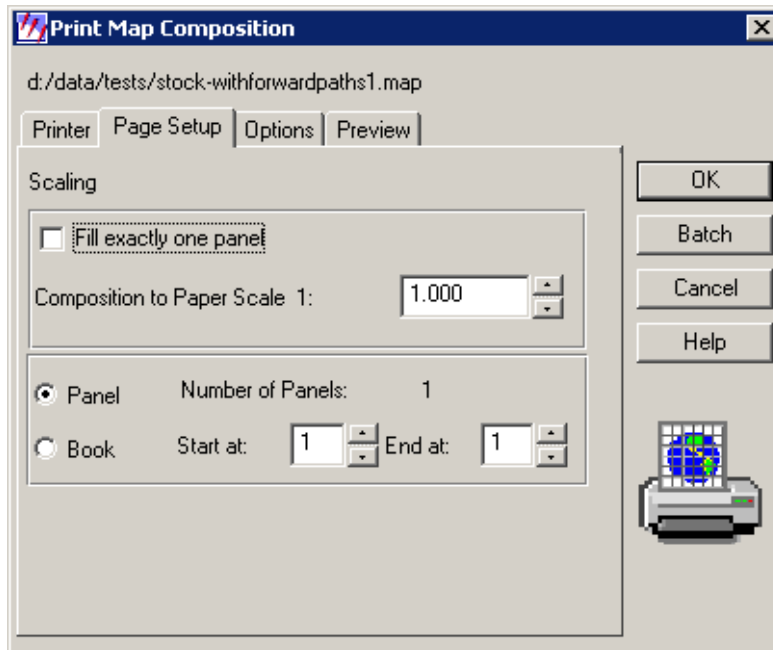


28. Click **OK** in the Properties dialog.

Return to the Print Map Composition Dialog

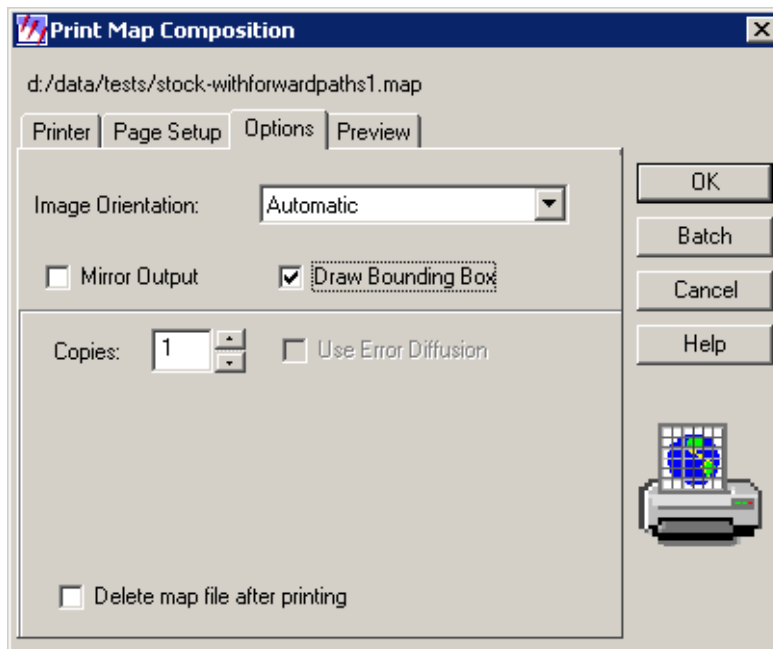
1. Click the **Page Setup** tab in the Print Map Composition dialog.

Your Print Map Composition dialog Page Setup tab should look like this:

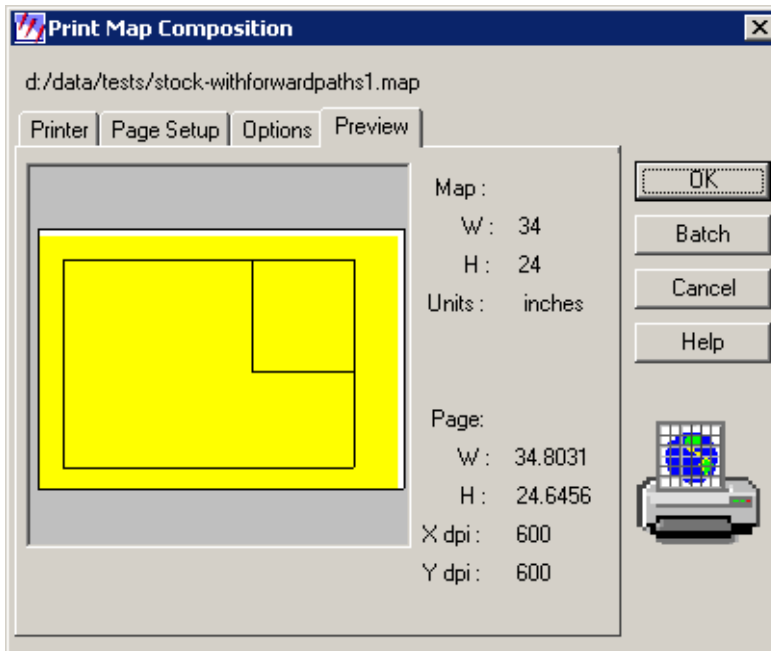


2. Click the **Options** tab of the Print Map Composition dialog.

The **Options** tab looks like this:



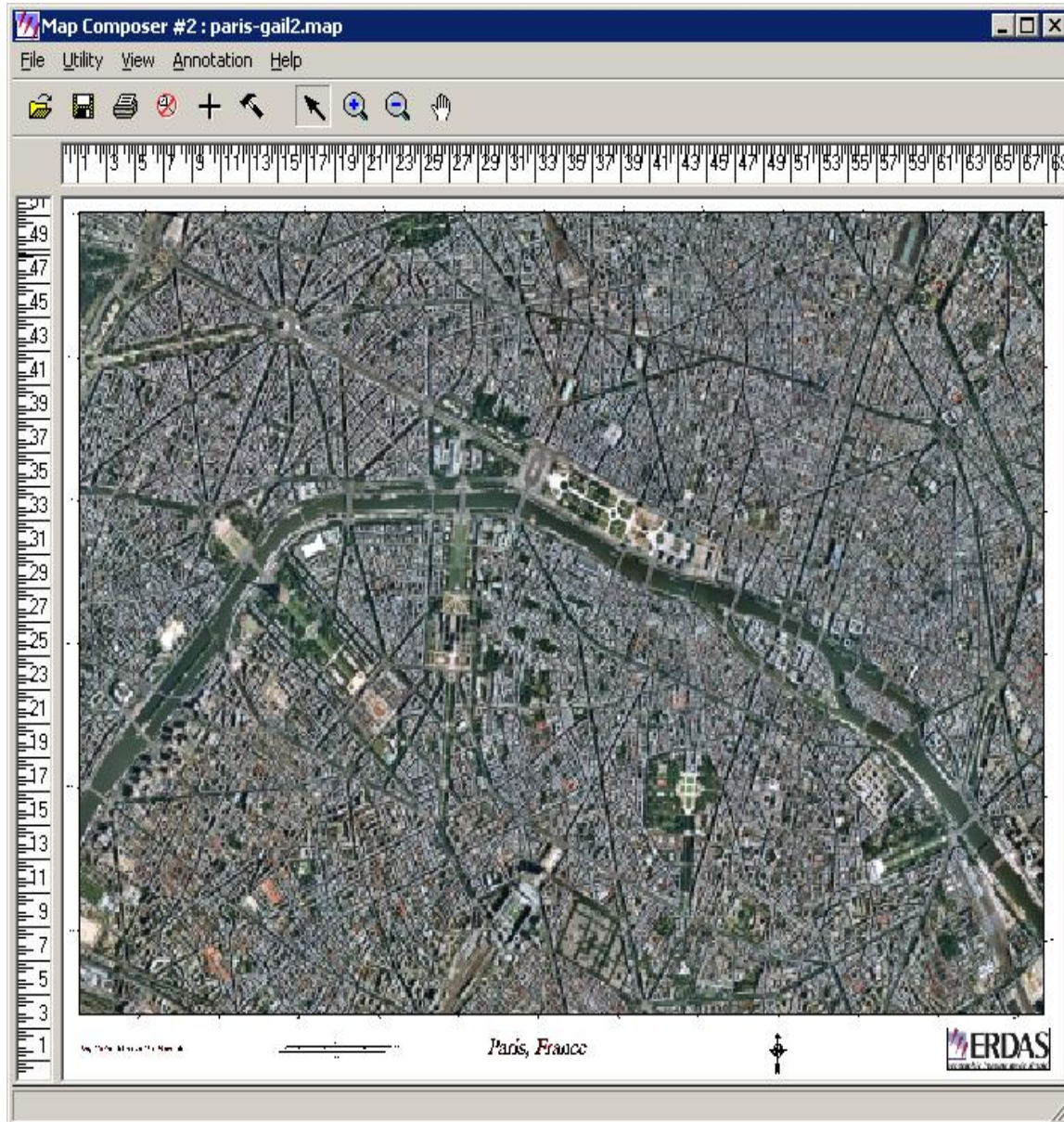
3. Click the **Preview** tab of the Print Map Composition dialog.
Finally, your **Preview** tab should look like this:



4. Click **OK** to print your map.

Pre-Rasterize

Another scenario involves the **Pre-Rasterize** option. If you want to print large maps or print to higher resolution print devices, it is probably necessary to use the **Pre-Rasterize** option in ERDAS IMAGINE in conjunction with an HPRTL driver. There are similar languages that can be utilized with plotters sold by other printer manufacturers.



This map is large. It is 52" x 68". It is printed at 600 dpi, and would easily exceed the system limits for successful printing. This map cannot print without pre-rasterization unless the Printer Data Transfer Compression preference is set to high. Even then, the raster data that is printed appears highly degraded as no higher than a compression factor of low or 2 can be effectively used with this data. Consequently, the **Pre-Rasterize** option is used in order to print successfully.

The 52" height of the map corresponds with the 54" width of the paper for the HP 3500. There are effectively 31200 pixels, or dots, available for plotting at 600 dpi. The image in the map frame is 37000 pixels high. This map would be best processed with the **Printer Data Transfer Compression** preference set to **none**, but that would also quadruple the amount of data that is sent to the plotter. So, you are going to use the default **Printer Data Transfer Compression** preference **low**. This generally provides acceptable results.

Preparation

ERDAS IMAGINE must be running.

You must have a map composition displayed.

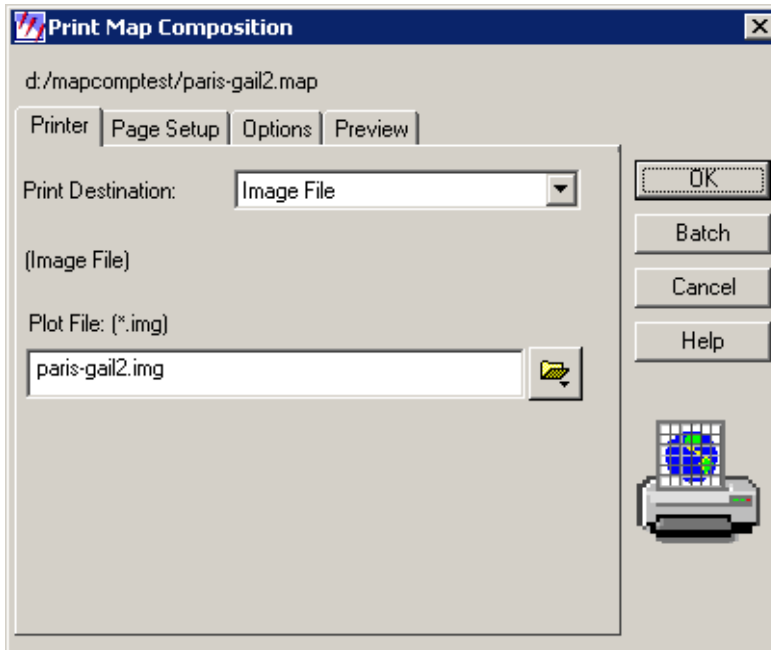


The map composition displayed in this scenario is not supplied with the examples data.

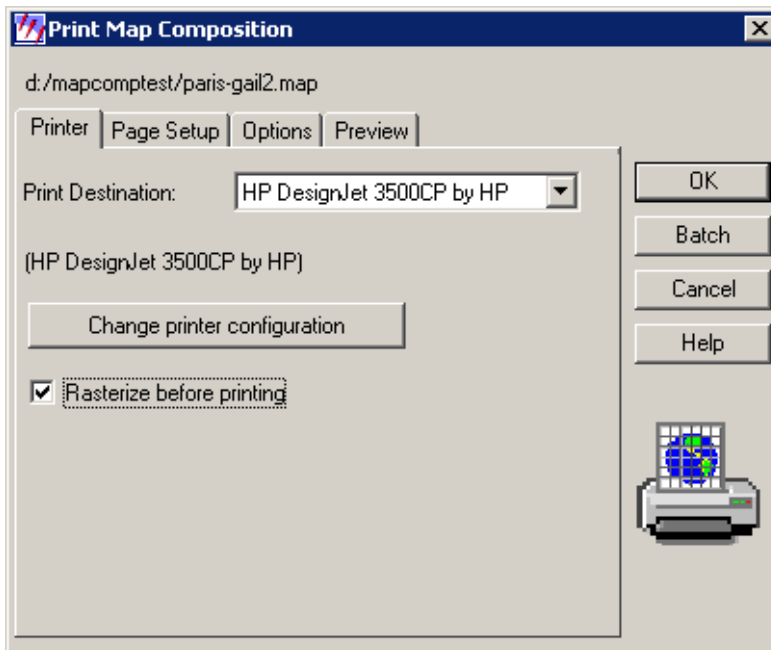
1. In the Map Composer dialog, click the Print icon .

The Print Map Composition dialog opens on the **Printer** tab. In this tab, you can select a printer you have configured.

2. In the Print Map Composition dialog, select the printer from the **Print Destination** dropdown list.



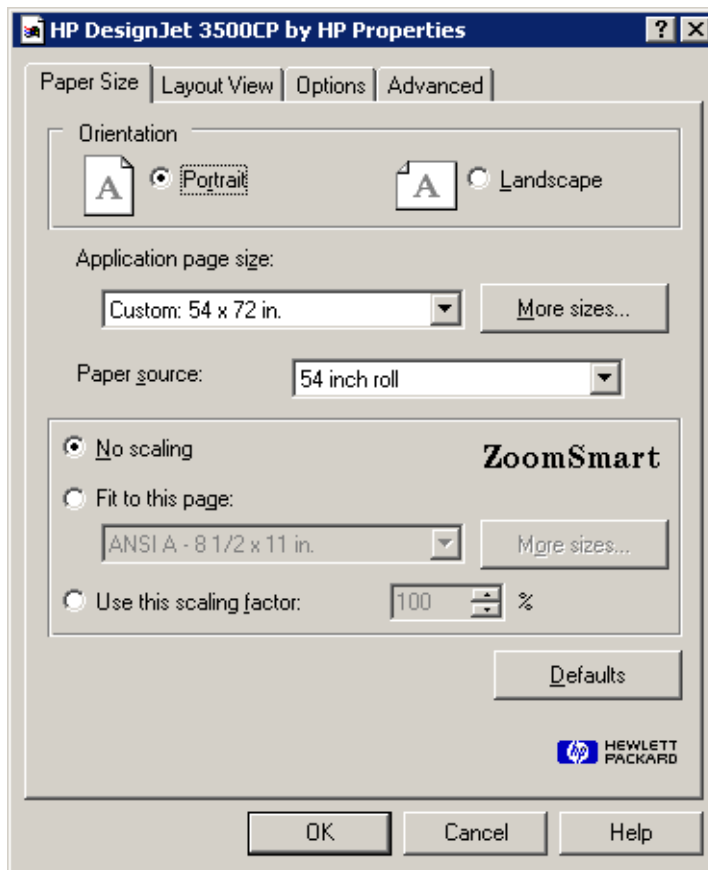
Once you choose your printer, the **Rasterize before printing** option displays.



3. Click the **Rasterize before printing** checkbox.

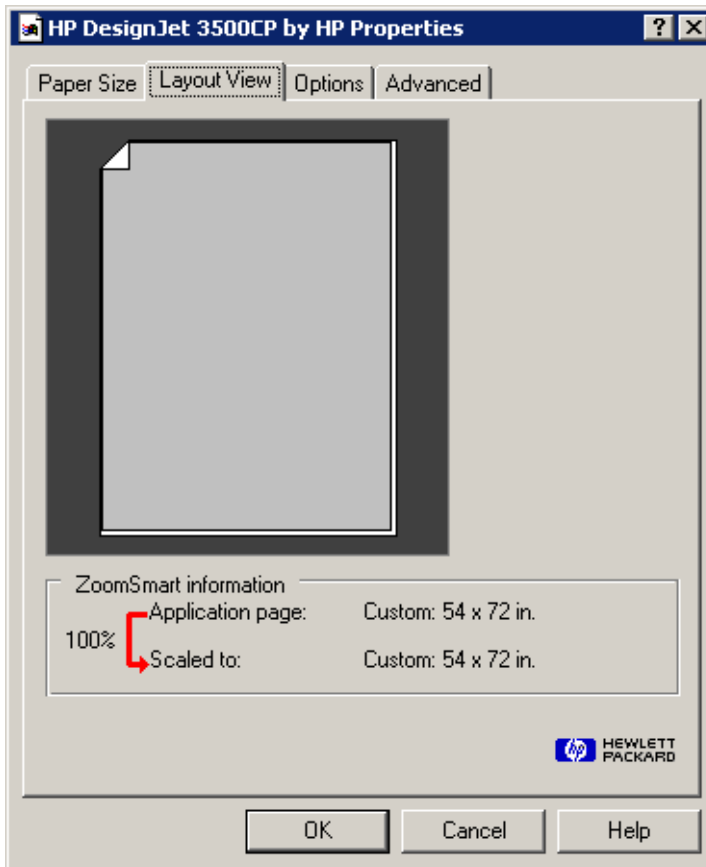
4. Click on the **Change printer configuration** button.

The Properties dialog opens. It has the name of the printer you selected as the **Print Destination**.



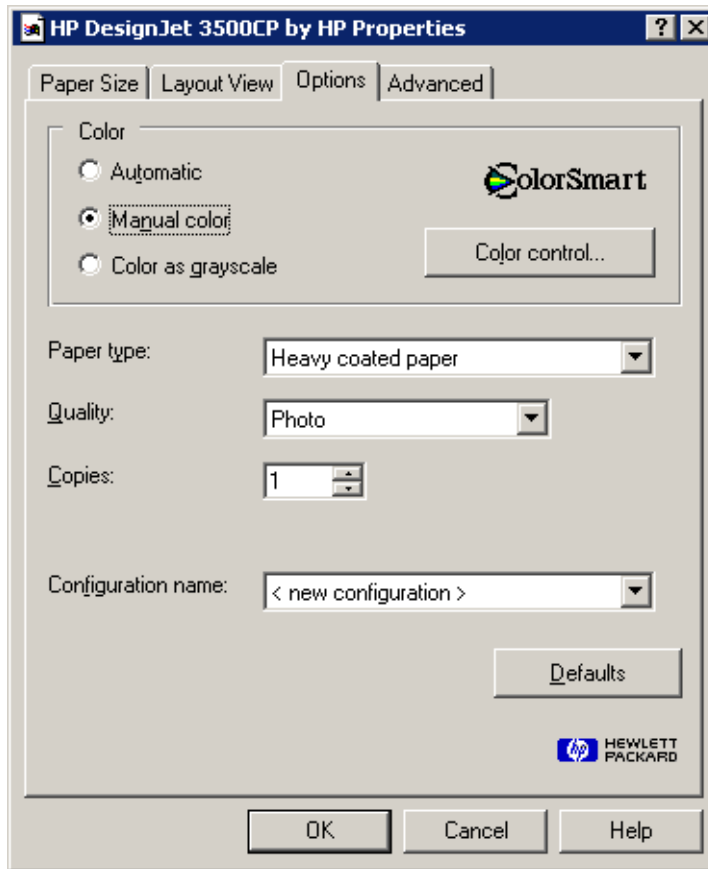
5. In the **Application page size** section of the Page Size tab, set the paper size to 54" x 72".

6. Click on the **Layout View** tab of the Properties dialog.



7. Look at the **Layout View** to verify the parameters.
8. Click on the **Options** tab of the Properties dialog.

The Options display.



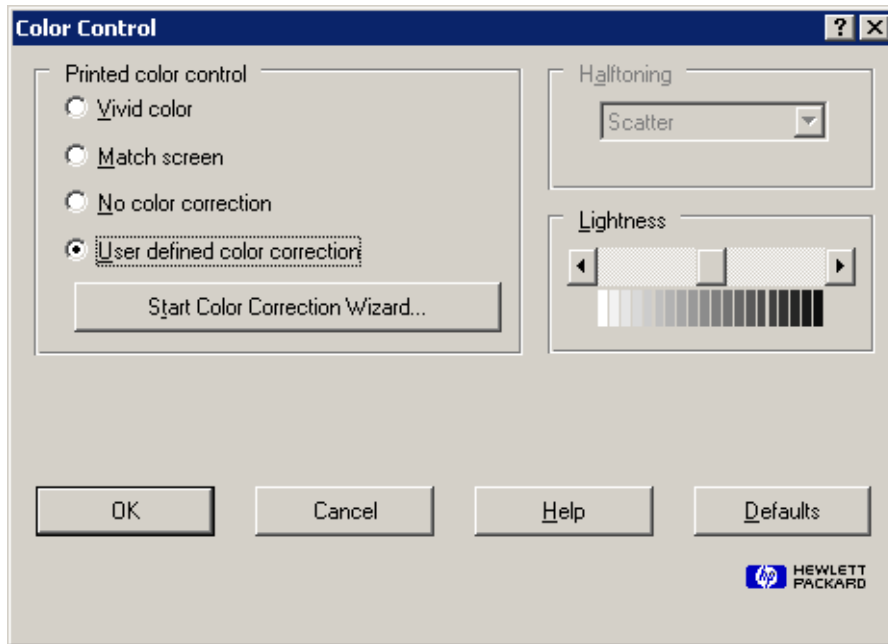
9. Set the **Paper type** and **Quality**.

The **Quality** should be set to **Photo** or **Best**, which is 600 dpi if the highest quality is desired.

10. Click on the **Manual color** radio button in the **Options** tab.

11. Click on the **Color control** button to check the Color Control settings.

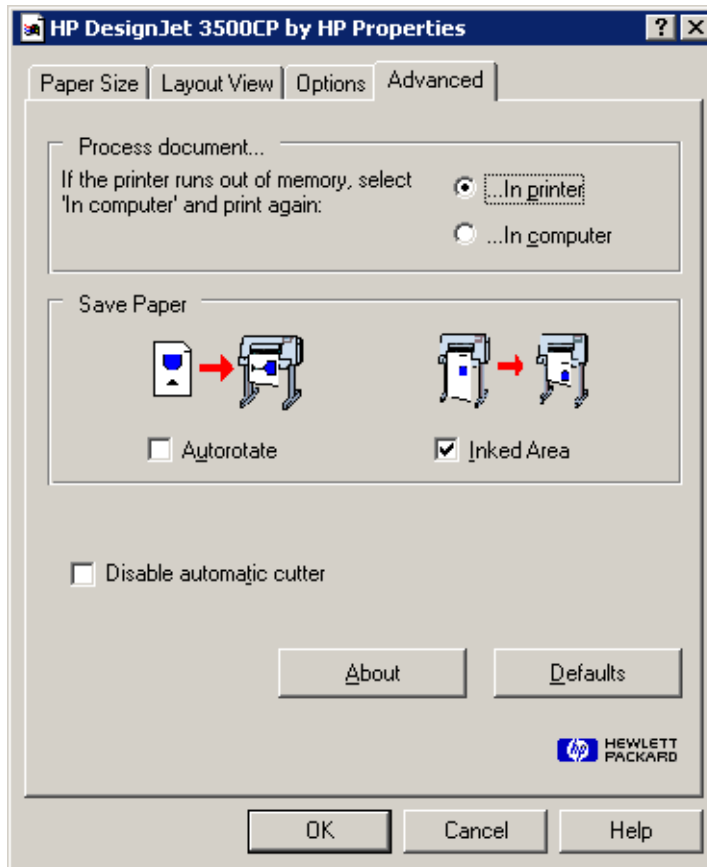
The Color Control dialog opens.



12. Set the **Printed color control** to **User defined color correction**.

This should still be set to the same values used in the previous exercise. If you did not perform the previous exercise, the procedure for setting the User defined color correction is fully described there.

13. Click on the **Advanced** tab.

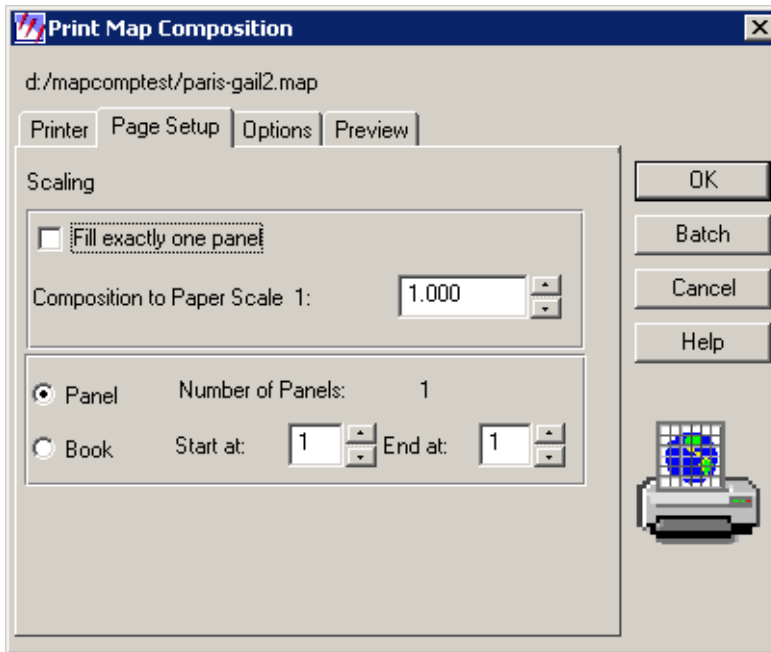


14. Click the **In Printer** radio button.

In the previous exercise, the **In Computer** radio button was set so that printing could be done using the no pre-rasterize method in ERDAS IMAGINE.

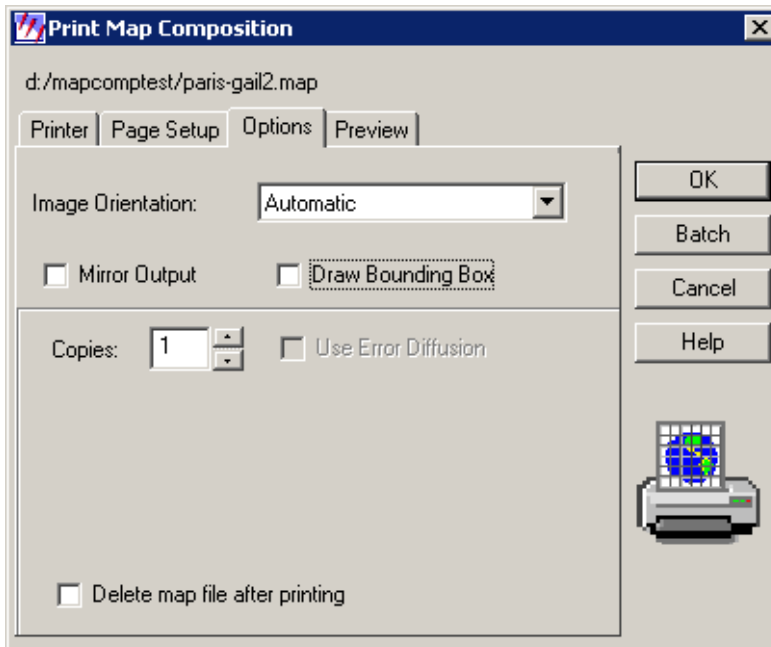
15. Click **OK** in the **Advanced** tab.

The **Page Setup** tab of the Print Map Composition dialog opens:



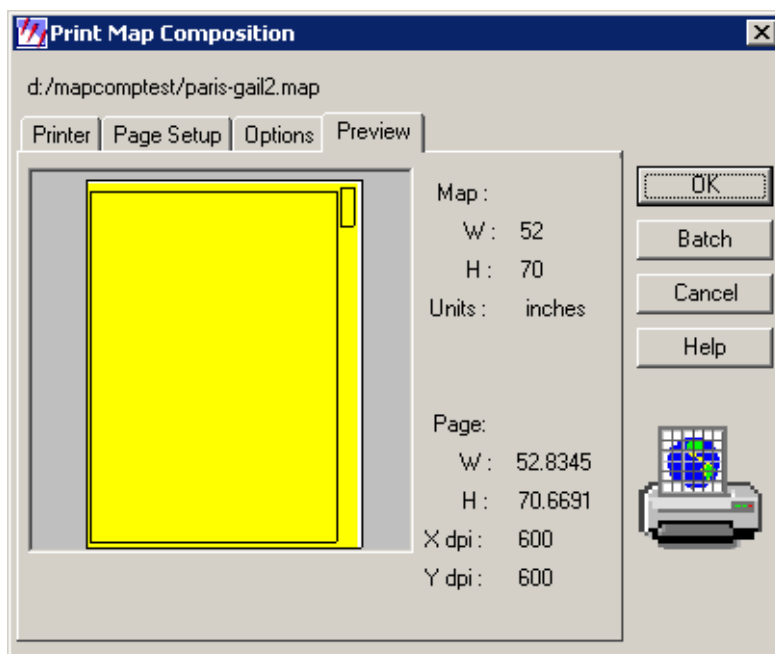
16. Verify the parameters on the **Page Setup** tab.

17. Click the **Options** tab.



18. Verify the parameters on the **Options** tab.

19. Click on the **Preview** tab.



20. Examine the Print Preview.

21. Click **OK** in the Print Map Composition dialog to print.

SECTION 13

Configuring a 3D View for Stereo

Stereo Configuration for Windows Systems



Stereo-In-A-Window system requirements are subject to late changes. See the Release Notes or visit our website at <http://www.hexagongeospatial.com> > specific Product > Technical Documents for the latest System Requirements.

A stereo graphics emitter, an emitter cable, liquid crystal glasses, and a stereo-capable graphics card are required to use the Stereo-In-A-Window option.

Most stereo-capable graphics cards provide a control panel for enabling and disabling stereo display (see your graphics card's instructions). The card must be stereo-enabled before starting a 3D View (formerly the IMAGINE VirtualGIS module, now provided as part of the IMAGINE Expansion Pack).

Contact StereoGraphics (www.reald.com) for the specific cable needed to work with your system and graphics card.

ERDAS IMAGINE Preference Settings

Several ERDAS IMAGINE preferences can be modified to improve the performance of the 3D View. These changes may affect other applications running within the ERDAS IMAGINE environment.

ERDAS IMAGINE Image Files (Native)

The **Memory Map File Size Limit** and **Memory Map Segment Height** preferences should both be set to 0.000. This disables memory mapping. Some Virtual Worlds built in the Virtual World Editor could be greater than the defaults displayed.

Technical Support and Information

Hexagon Geospatial® provides several ways to access information and to contact support, including self-help tools, the Hexagon Geospatial Community, the Hexagon Geospatial Developer Network, and phone support.

Hexagon Geospatial Community

You can find support-related discussion boards and knowledge bases across the Hexagon Geospatial products on the *Hexagon Geospatial Community* <http://community.hexagongeospatial.com>. Find more information about the community in a Community *blog* <http://blog.hexagongeospatial.com/join-the-community/>.

Announcements

Get the latest announcements from Hexagon Geospatial on what is new or updated on the Community!

Discussions

Discuss topics with other Hexagon Geospatial Product pioneers and experts.

Knowledge and Support

Learn more about our products, find answers, get the latest updates, and connect with other Hexagon Geospatial Community members, or get support from our *support teams* <http://www.hexagongeospatial.com/support>.

Developer Network

Share technical information with other developers who use Hexagon Geospatial's SDKs and M.App Portfolio. To get full access to the Developer Network you need to purchase a Hexagon Geospatial Developer Network (HGDN) Subscription. With HGDN, you get broad access to select Hexagon Geospatial development products in one place. You will also get access to powerful toolkits, including currently published APIs and SDKs. You also get access to in-depth resources such as tutorials, collaborative samples, and web-based training.

Find more information about HGDN in a Community *blog* <http://community.hexagongeospatial.com/t5/About-the-Community/HGDN-Subscription/ba-p/3597>.

Training Portal

As your one-stop shop for learning, here you will find the access to eTraining, written tutorials, product documentation, support and more to help you in your geospatial journey.

Hexagon Geospatial U

Designed for university educators, this community contains thousands of pages of curriculum for various products in our Education portfolios.

Professional Service Team

For support phone numbers or to submit sales inquiries, general questions, and comments, click the appropriate tabs at the top of the *Hexagon Geospatial Support* (<http://www.hexagongeospatial.com/support>) page.

End-User License Agreement

Hexagon Geospatial End User License Agreement
<https://www.hexagongeospatial.com/legal/standardeula>

Hexagon Geospatial Legal Contents
<https://www.hexagongeospatial.com/legal/legal-contents>

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