

Analyze 9.0 Windows Installation Instructions

Windows

Welcome to **Analyze 9.0**, a robust, powerful, and practical research software for advanced biomedical imaging visualization, manipulation, and measurement. Analyze features integrated, complementary tools for fully interactive multi-dimensional display, processing, segmentation, registration, and measurement of biomedical imaging modalities including MRI, CT, PET, SPECT, ultrasound, and digital microscopy. It has been designed and carefully programmed to be highly efficient and user-interactive, performing powerful 3-D image processing and display operations in seconds. The applications of Analyze are broad in scope, wide in scale, and penetrating in impact.

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I. Installing Analyze 9.0 on Windows Systems

System Requirements

Analyze 9.0 requires the following minimum PC configuration:

- Windows XP or Vista (32- or 64-bit)
- Intel Core or comparable processor
- Network card
- CD-ROM drive
- 512 MB RAM*
- 24/32-Bit graphics capability
- At least 450 MB disk space

*Analyze requires RAM equal to twice the size of the data set being processed (e.g. a 256 MB data set requires at least 512 MB of RAM).

Uninstalling Previous Versions of Analyze

Before installing Analyze 9.0, it is recommended to uninstall any previous Analyze versions resident on your system. Otherwise, make sure to choose a new directory for Analyze 9.0 during installation. To uninstall previous versions of Analyze:


1. Open the Windows **Control Panel** (Start > Control Panel) and select **Add or Remove Programs**.
2. In the window returned, click **Change or Remove Programs**.
3. Select the previous version of Analyze and click **Remove**. A dialog box will be returned requesting confirmation, click **Yes**. The previous version of Analyze will now be removed from your system.
4. Navigate to your **C:** drive and delete the **C:\BIR** folder.

Note – If you choose not to uninstall your previous version of Analyze, you will need to create a new folder on your C: drive named BIR9 before proceeding. During Analyze 9.0 installation, set the 'Destination Folder' to this new C:\BIR9 folder by clicking the 'Change' button.

Analyze 9.0 Installation

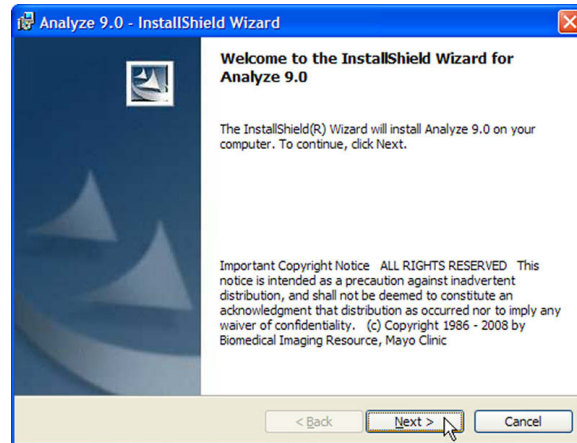
The InstallShield Wizard program will lead you through the complete Analyze 9.0 installation process (including optional components, such as the AVW Developers Add-On). To begin the installation process:

1. It is recommended to close all active programs on your desktop.
2. Insert the **Analyze 9.0 Installation CD** into your computer.
3. Once the Installation CD is inserted, the **InstallShield Wizard** for Analyze 9.0 should automatically open.

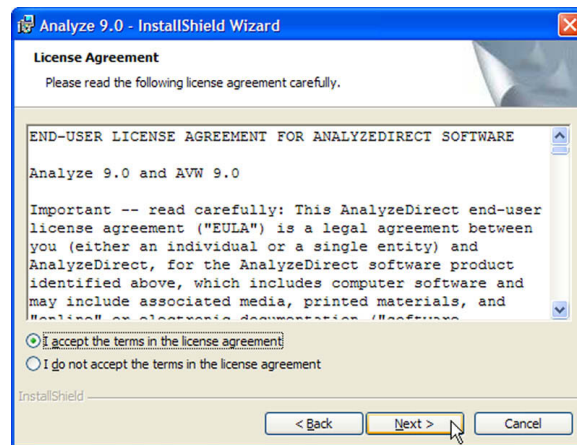
 If the InstallShield Wizard does not run automatically, open a Windows Explorer window and navigate to the 'My Computer' location. Locate the CD drive that shows 'Analyze_9.0' and select 'Auto Play'.

I. Installing Analyze 9.0 on Windows Systems

- The InstallShield Wizard opens to a 'Welcome' screen. Click **Next** to begin the Analyze 9.0 installation.

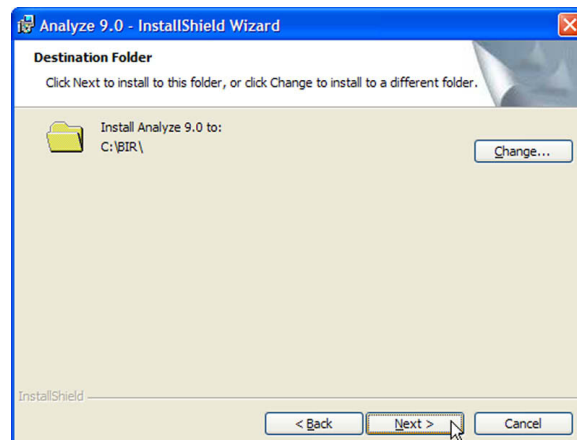


- License Agreement:** Please read the End-User License Agreement for AnalyzeDirect Software and select 'I accept' or 'I do not accept'. Note – If you select 'I do not accept', Analyze will not be installed. Click **Next**.



- Destination Folder:** The default location for installation is **C:\BIR** (when Windows is installed on the C: drive); it is recommended to leave this as the destination folder. Click **Next**.

 'BIR' stands for Biomedical Imaging Resource, the organization at Mayo Clinic that develops Analyze.



I. Installing Analyze 9.0 on Windows Systems

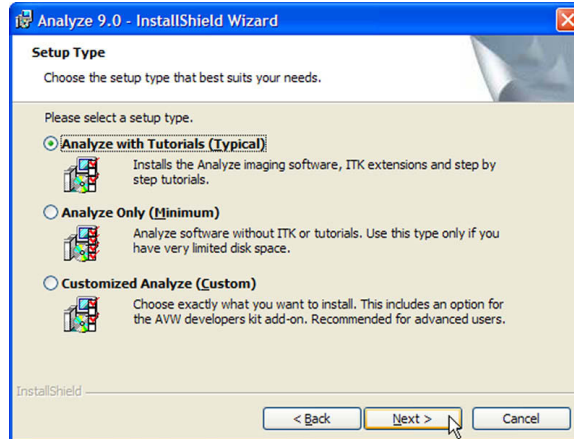
7. **Setup Type:** You may choose from the following setup types:

Setup Type	Required Disk Space
Analyze with Tutorials (Typical) – Installs Analyze 9.0, the Analyze Tutorials, and ITK Extension*	173 MB
Analyze Only (Minimum) – Only installs Analyze 9.0	125 MB
Customized Analyze (Custom) – Installs Analyze 9.0 and permits selection of six optional components on the next screen: <ul style="list-style-type: none"> - AVW Developers Kit - AVW Examples in C and TCL - Data for AVW Examples - Analyze Tutorials - ITK Runtime Extension - ITK Developers Kit 	60 MB 536 KB 16 MB 41 MB 6.7 MB 944 KB



*The ITK Extension component installs additional filtering, segmentation, and registration modules in Analyze that have been developed with functions from the ITK Library.

8. For most users, it is recommended to choose the **Analyze with Tutorials (Typical)** setup type.

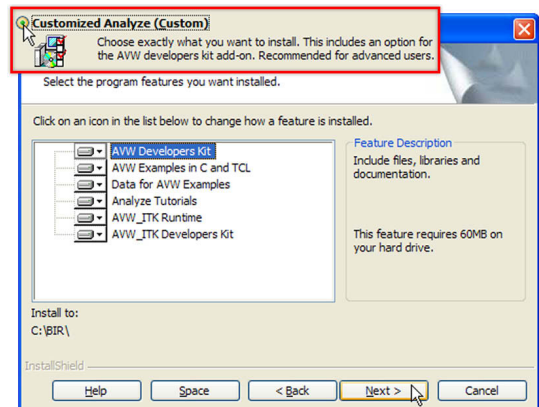


If you plan to use the Analyze Developers Add-On, choose the **Customized Analyze (Custom)** setup type and click **Next**. The screen that follows will allow you to deselect any components you do NOT wish to install before proceeding with installation.



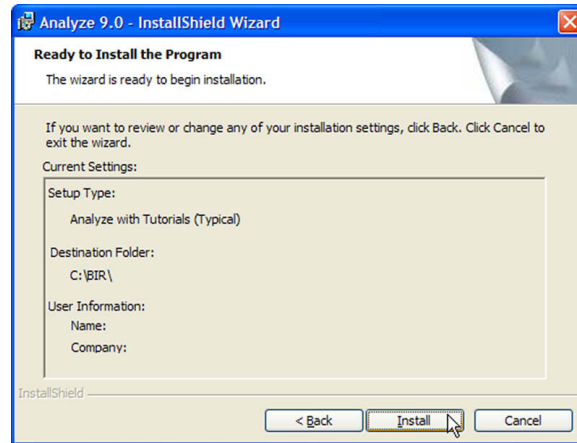
The Analyze Developers Add-On requires a special license file. To learn more about this Add-On, and to find out if your license file provides access, please refer to the Analyze Developers Add-On section at the end of this document.

Once you have selected your setup type, click **Next**.

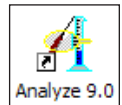


I. Installing Analyze 9.0 on Windows Systems

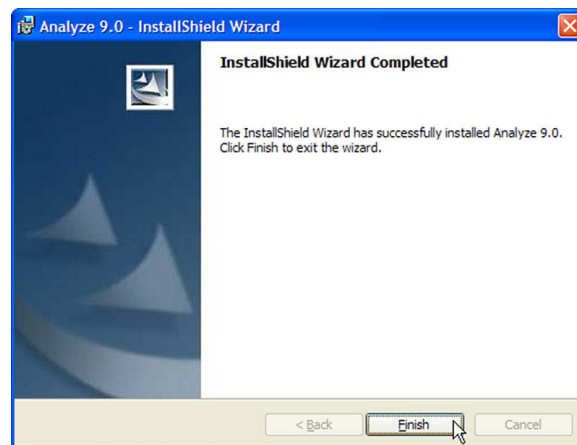
9. **Ready to Install the Program:** Verify that the 'Current Settings' are accurate, then click **Install**.



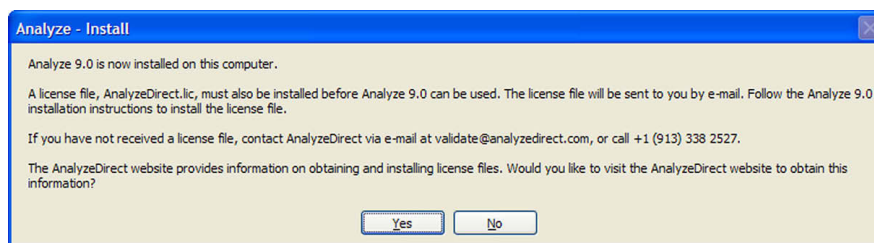
10. Analyze 9.0 will now be installed in the **C:\BIR** directory. During installation, an **Analyze 9.0** shortcut icon will be placed on your Desktop. A **Mayo Clinic Analyze** folder will also be added to the Windows **Start > All Programs** menu.



11. When the InstallShield Wizard notifies you that installation is complete, click **Finish**.



12. A dialog box will immediately open, stating that an **AnalyzeDirect.lic** license file must be installed to run Analyze 9.0. Instead of clicking 'Yes' to go to the AnalyzeDirect website - www.analyzedirect.com - click **No** and follow the instructions in the next section of this document, "**Analyze License Files**".



II. Analyze License Files

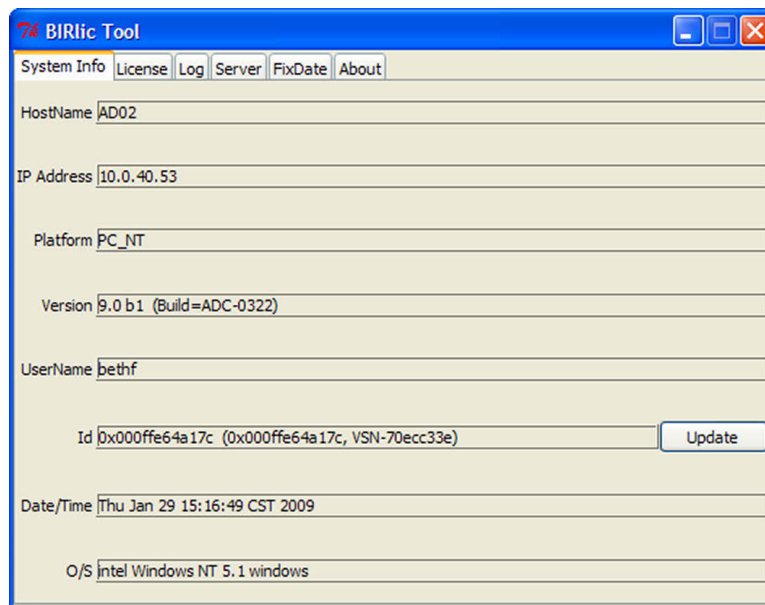
Obtaining a License File

A system-specific license file must be installed before Analyze 9.0 will run. You can obtain this license file from AnalyzeDirect.

In order to generate your license file, AnalyzeDirect must receive two pieces of information specific to your computer: 1) the **Host Name** and 2) the **System ID**. The instructions below will explain how to find this information, and how to send it to AnalyzeDirect.

1. Go to the Windows **Start** menu and select **All Programs > Mayo Clinic Analyze > BIRlic Tool**.
2. The **BIRlic Tool** will open to the **System Info** tab.

! If the BIRlic Tool fails to open, please contact the AnalyzeDirect Support Team at support@analyzedirect.com.



The screenshot shows the BIRlic Tool application window with the 'System Info' tab selected. The window contains the following fields and values:

Field	Value
HostName	AD02
IP Address	10.0.40.53
Platform	PC_NT
Version	9.0 b1 (Build=ADC-0322)
UserName	bethf
Id	0x000ffe64a17c (0x000ffe64a17c, VSN-70ecc33e)
Date/Time	Thu Jan 29 15:16:49 CST 2009
O/S	intel Windows NT 5.1 windows

An 'Update' button is located to the right of the 'Id' field.

3. Please take a **screenshot*** of the **System Info** tab. Send this screenshot, along with your **name, company/institution, and telephone number** to validate@analyzedirect.com.

*To take a screenshot press <Alt+Print Screen> on your keyboard. A screenshot of the current active window will be saved to memory. Paste the screenshot into your e-mail or into a Word document that you send as an attachment.

4. Once AnalyzeDirect receives your system information, an **AnalyzeDirect.lic** license file will be generated and sent to you via e-mail.
5. To install this AnalyzeDirect.lic license file, please refer to the instructions for your license type (node-locked or floating) found under the section entitled "**License File Installation**".


Note – All 30-day evaluation license files are node-locked licenses.

II. Analyze License Files

BIRlic License Management and Analyze Licenses

Analyze 9.0 uses the **BIRlic license management system** for Analyze validation and runtime license administration. The BIRlic license management software can be found in the **C:\BIR\BIRlic-9.0** directory. BIRlic administers two types of Analyze licenses – node-locked and counted floating licenses.

A **node-locked license** will allow Analyze 9.0 to be run on one system only. With a node-locked license, all license file administration is handled local to the specific system. Additionally, on Windows systems the BIRlic license manager does not need to be configured for a node-locked license.

 *Windows users can also purchase a dongle as an add-on to their node-locked license. A dongle is a USB device that allows you to easily move the license between different Windows computers.*

A **floating license** allows one system to act as a license server, “floating” the license across a network to a client system. Any client system with access to the license server can check out a license if one is available. Note – if only one floating license is purchased, two or more client system cannot run Analyze simultaneously.

For information on license pricing and options, please contact sales@analyzedirect.com.

License File Installation

Your **AnalyzeDirect.lic** license file will be stored in the **C:\BIR\BIRlic-9.0\Licenses** directory. Note – during Analyze 9.0 installation, a default AnalyzeDirect.lic license file is placed in this Licenses directory.

The default AnalyzeDirect.lic license file MUST BE REPLACED by a system-specific license file, otherwise Analyze 9.0 will not run!

Once you receive your system-specific AnalyzeDirect.lic license file, it must be installed before Analyze 9.0 will run. Instructions for installing a node-locked license can be found immediately below. If you purchased a dongle for your node-locked license, please refer to the “Dongle Installation” section at the end of this document. Instructions for installing a floating license are located on the proceeding page. If you are unsure what type of license you have, or encounter any difficulties with license file installation, please contact support@analyzedirect.com.

Note – All 30-day evaluation license files are node-locked licenses.

Installing an AnalyzeDirect.lic Node-Locked License

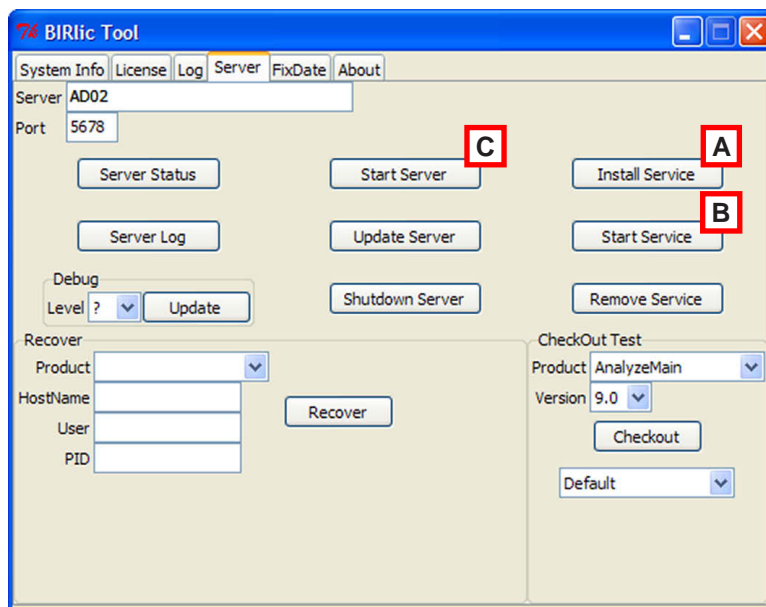
1. Locate the **AnalyzeDirect.lic** license file sent to you via e-mail.
2. Save this **AnalyzeDirect.lic** file in the **C:\BIR\BIRlic-9.0\Licenses** directory.
3. Click **Yes** when asked if you would like to replace the existing ‘AnalyzeDirect.lic’.
4. No further configuration is needed for a node-locked license on a Windows system. To run Analyze 9.0, please refer to the section entitled “**Running Analyze 9.0**”.

II. Analyze License Files

Installing an AnalyzeDirect.lic Floating License – Server System Configuration

A floating license requires that the BIRlic license server be running on the system that will act as the license server. Complete the following steps to configure the **license server system**:

1. Locate the **AnalyzeDirect.lic** license file sent to you via e-mail.
2. Save this **AnalyzeDirect.lic** file in the **C:\BIR\BIRlic-9.0\Licenses** directory.
3. Click **Yes** when asked if you would like to replace the existing 'AnalyzeDirect.lic'.
4. Open the **BIRlic Tool** (**Start > All Programs > Mayo Clinic Analyze > BIRlic Tool**).
5. Select the **Server** tab.



6. Click **Install Service** [A] to install the BIRlic license server as a Windows Service that will automatically start the license server at system boot. Click **Yes** when asked to confirm the installing 'BIRlic Server as a Service' on this computer.
7. Once the Service has been installed, a notification window will open. Click **OK**.
8. Click **Start Service** [B] to start the license server service. Click **Yes** when asked to confirm starting 'BIRlic Server as a Service' on this computer.
9. Once the Service has been started, a notification window will appear. Click **OK**.
10. To start the server process, you can restart your system or click **Start Server** [C]. Click **Yes** when asked to confirm starting a 'local License Server' on this computer.
11. The BIRlic license server configuration is now complete. To configure client systems, please follow the instructions on the proceeding page.

II. Analyze License Files

Installing an AnalyzeDirect.lic Floating License – Client System Configuration

Once the BIRlic license server is running on the server system, client systems can be configured. Complete the following steps to configure the **client systems**:

1. Install Analyze 9.0 on any client systems.
2. Then, locate the **AnalyzeDirect.lic** license file sent to you via e-mail.
3. Save this **AnalyzeDirect.lic** file in the **C:\BIR\BIRlic-9.0\Licenses** directory.
4. Click **Yes** when asked if you would like to replace the existing 'AnalyzeDirect.lic'.
5. **No additional configuration is necessary on client systems.** You should not start the BIRlic license server on the client systems. For more information on running Analyze 9.0, please refer to the section entitled "**Running Analyze 9.0**".



If at any point you encounter difficulties getting your floating license server or client systems up and running, please contact support@analyzedirect.com.

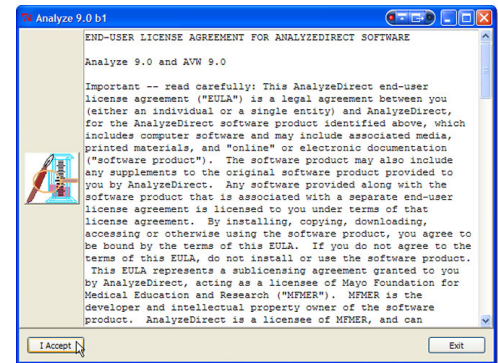
III. Running Analyze 9.0

Running the Analyze Program

Once you have installed Analyze 9.0 and your AnalyzeDirect.lic license file, you are ready to run the program.

1. To open Analyze 9.0, select **Start > All Programs > Mayo Clinic Analyze > Analyze 9.0** or click on the **Analyze 9.0** Desktop shortcut icon.
2. The first time Analyze 9.0 opens, the **End-User License Agreement for AnalyzeDirect Software** will appear. Please read the agreement carefully and then click **I Accept** or **Exit**. Note, if you click 'Exit' Analyze 9.0 will not open.
3. Once you have accepted the End-User License Agreement, Analyze 9.0 will open.

! If Analyze 9.0 fails to open, please contact support@analyzedirect.com.

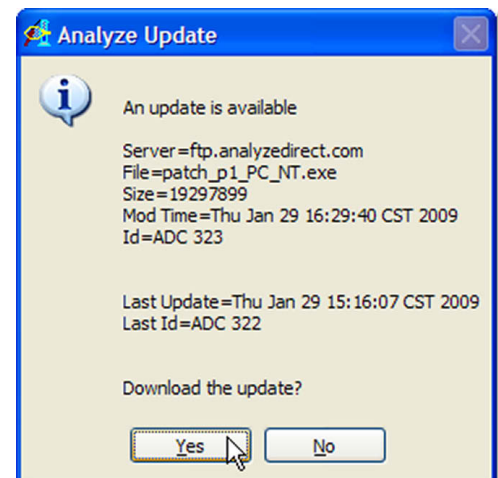


Analyze Patch Updates

As with most software products, the process of bug fixing and minor maintenance between versions is an ongoing process. Analyze has all such fixes available in the form of a patch. Patches can be automatically downloaded and installed by selecting the **Help > Analyze Update** option from the main Analyze window.

If it is detected that a new patch is available when you select Help > Analyze Update, a window will appear, asking if you wish to download the update. Click **Yes** to download and install the patch update.

It is recommended that you check for new patch updates the first time you run Analyze 9.0 and then once each month.



III. Running Analyze 9.0

License File Renewal and Expiration

All AnalyzeDirect.lic license files are encoded with an expiration date. For Analyze evaluators, this date is 30 days after the license file was first sent. If you are an evaluator and you still wish to use Analyze following the expiration of your license file, please contact sales@analyzedirect.com to find out about purchasing options.

For Analyze customers, long-term AnalyzeDirect.lic license files are provided in 12-month increments. This provides the opportunity for you to change the system on which Analyze is run.

AnalyzeDirect contacts all customers one month prior to the expiration of the license file to determine if the license file system information is still current. Once AnalyzeDirect receives your confirmation of the system information, a renewal 12-month license file will be sent via e-mail. If your license file expires, and you have not yet received a new license file, please contact validate@analyzedirect.com to obtain your renewal license file.

Installing a Renewal Node-Locked License

1. Locate the new **AnalyzeDirect.lic** license file sent to you via e-mail.
2. Save this **AnalyzeDirect.lic** file to the **C:\BIR\BIRlic-9.0\Licenses** directory. A dialog box will be returned stating that the file 'AnalyzeDirect.lic' already exists, click **Yes** to replace it.
3. Analyze 9.0 should now be ready to use.

Installing a Renewal Floating License

To install a renewal AnalyzeDirect.lic floating license file, first do the following on the system acting as the **license server**:

1. Locate the new **AnalyzeDirect.lic** license file sent to you via e-mail.
2. Save this **AnalyzeDirect.lic** file to the **C:\BIR\BIRlic-9.0\Licenses** directory. A dialog box will be returned stating that the file 'AnalyzeDirect.lic' already exists, click **Yes** to replace it.
3. Open the **BIRlic Tool** (**Start > All Programs > Mayo Clinic Analyze > BIRlic Tool**).
4. Select the **Server** tab.
5. First, click **Shutdown Server**. Then, restart the server by clicking **Start Server**.

Next, do the following on all of the **client systems**:

1. Save the new **AnalyzeDirect.lic** file to the **C:\BIR\BIRlic-9.0\Licenses** directory. A dialog box will be returned stating that the file 'AnalyzeDirect.lic' already exists, click **Yes** to replace it.
2. No additional configuration is required on the client systems. Analyze should now be ready to use on both the server and client systems.

IV. Analyze 9.0 Basics

Analyze 9.0 Resources

There are several excellent resources available to help you get started with Analyze 9.0.

To quickly learn the basics of Analyze, we recommend that you work through the Analyze 9.0 Quick Start Guide – found on the silver Resources CD included with your software package. The Quick Start Guide contains a series of short exercises covering the most commonly used Analyze features and functions.

The Analyze Tutorials (optional component during installation) and the Analyze User's Guide, both available from the Help menu in the main Analyze window, are another excellent resource, providing detailed information about the Analyze modules.

Analyze Viewlets (short tutorial movies) are also now available and can be accessed by selecting the Analyze Viewlets option from the Help menu. The viewlets show many of the key features and functionality of the Analyze modules and can help you become familiar with the program interface.

Analyze 9.0 Tutorial Data

The tutorial data used in the Analyze 9.0 Quick Start Guide exercises and the Analyze Tutorials can be found on the silver Resources CD. To install the tutorial data from the Resources CD, do the following:

1. Insert the silver **Resources CD** into your computer.
2. Open **Analyze 9.0**. From the main Analyze window select **Help > Analyze Tutorials**.
3. In the Tutorials window, click the **Install Tutorial Data** button.
4. In the window returned, specify the file path to the **TutorialData** folder on the Resources CD (e.g. D:\TutorialData).
5. Click **Install**. The tutorial data will be copied into the **C:\BIR\images\TutorialData** directory.

Analyze 9.0 Image File Format Support

Please note - Analyze does not automatically configure all supported file formats. This keeps module startup time to a minimum, loading only those image formats that you need to use with Analyze for your purposes. To configure and load all supported file formats in Analyze, use the Import/Export module's External Libraries tool. Instructions on how to use the External Libraries tool can be found in the Quick Start Guide, Exercise 3: Switching on Support for Additional Formats.

AnalyzeDirect Technical Support

For Analyze technical support issues, please contact the AnalyzeDirect Support Team at support@analyzedirect.com. For information about purchasing a **Maintenance Agreement**, which provides unlimited priority technical support, live online training and free version upgrades, please contact sales@analyzedirect.com.

V. Analyze Developers Add-On

The **Analyze Developers Add-On** allows software developers to extend the capabilities of Analyze by developing their own macros and modules, using the **AVW** (A Visualization Workshop) image function library upon which Analyze is built. The library is robust and includes over 600 imaging functions that can be called at a C-language level.

Note – the Analyze Developers Add-On assumes you are familiar with programming.

To get access to AVW development capabilities, you must select the '**Custom**' install during Analyze 9.0 installation. The Developers Add-On also requires a special **AnalyzeDirect.lic** license file that will allow access to the AVW development capabilities. All 30-day evaluation license files provide access to the Developers Add-On.

If you already own an Analyze license and would like to evaluate the Developers Add-On, please contact sales@analyzedirect.com.

During the 'Custom' install of Analyze 9.0, the AVW Programmers Guide, AVW Reference Manual, and AVW Quick Reference Guide should have been installed in the **C:\BIR\AVW-9.0\Manuals** directory. You can also find these documents under **Start > All Programs > Mayo Clinic Analyze > AVW Developers Kit**.

The best place to start practicing with the AVW functions is with the examples provided in the **C:\BIR\AVW-9.0\Extras** directory. This directory contains a number of example source files, both in C and in Tcl/Tk, for common Analyze imaging tasks (like rendering, segmentation, etc.). Note that while Analyze uses Tcl/Tk, the AVW library is interface-independent, allowing developers to work in almost any development environment. If you do want to know more about Tcl programming, we recommend starting with the 'Bible' of Tcl/Tk - "Practical Programming in Tcl and Tk" by Brent Welch. This comes with a CD that you can load on to your computer, which includes a full Tcl/Tk implementation and many examples.


The .tcl scripts contained in the **C:\BIR\AVW-9.0\Extras** subdirectories are full source code scripts that can be run, however, you will need to setup the Tcl/Tk environment such that these scripts can find the Tcl/Tk files needed to execute. The `develop_env.bat` script included in the **C:\BIR\AVW-9.0** directory provides an example of a script that can be used to set these development environment variables.

VI. Dongle Installation

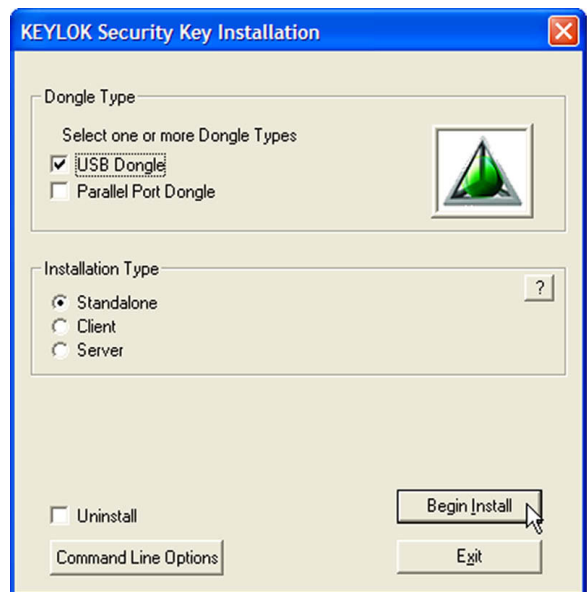
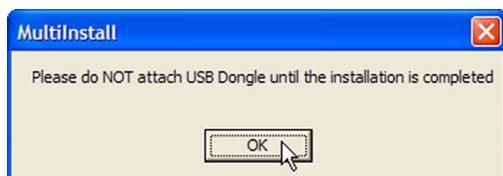
The following instructions are for users who have purchased a dongle for their Windows node-locked license.

Please DO NOT attach the dongle to the system until directed to do so in the instructions below.

1. Install Analyze 9.0 according the instructions found in the section entitled “**Installing Analyze 9.0 on Windows Systems**”.
2. Ensure that your dongle is **NOT** attached to your system. The dongle driver must be installed before attaching the dongle to your computer.

 *If you did attach your dongle before installing the driver, please remove it and follow steps 3 and 4 to open the dongle driver installation program. However, instead of proceeding with step 5, select the 'Uninstall' option and click 'Begin Uninstall'. Once uninstall is complete, repeat the steps above.*

3. The dongle driver installation program is shipped with Analyze 9.0. To find the program, navigate to the following directory based on your version of Windows:
 - **Windows XP or Vista (32-bit)** – C:\BIR\BIRlic-9.0\PC_NT\USB_Dongle
 - **Windows XP x64 or Vista 64-bit** – C:\BIR\BIRlic-9.0\PC_NT64\USB_Dongle
4. Double-click on the **Install.exe** found in your respective directory to begin the dongle driver installation.
5. In the Security Key Installation window that opens, check the **USB Dongle** option.
6. A dialog box will be returned asking that you do **NOT** attach the dongle until the installation is completed. Click **OK** to dismiss this window.



7. Select **Standalone** (if not already selected) and then click **Begin Install**.
8. Once the installation process is complete, a notification will be returned, click **Close** to dismiss the window.
9. Attach the dongle to your computer's USB port. In Windows XP, the Add Hardware Wizard will automatically open; follow the instructions in the Wizard to complete driver installation. In Windows Vista, the Add Hardware Wizard will run silently in the background - no further steps are required.
10. Next, locate the **AnalyzeDirect.lic** license file sent to you via e-mail.
11. Save this **AnalyzeDirect.lic** file to the **C:\BIR\BIRlic-9.0\Licenses** directory. A dialog box will be returned stating that the file 'AnalyzeDirect.lic' already exists, click **Yes** to replace it.
12. Analyze 9.0 will now run when the dongle is attached to your computer. Repeat these installation steps on every computer on which you plan to run Analyze 9.0 using the dongle-based license.