



2.0

# Graphics Plugin Administrator's Guide

Product Version 2.0

December 12, 2016



## Graphics Plugin







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# 1 Introduction

This is the administrator's guide for Vizrt's *Graphics Plugin* for NLE systems.

This section contains information on the following topics:

- [About the Document](#)
- [Customer Feedback and Suggestions](#)
- [Customer Support Requests](#)

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## 1.1 About the Document

This manual covers the information needed in order to install and configure the Graphics Plugin version 2.0.

The purpose of this document is to help new Graphics Plugin administrators become familiar with the system; to illustrate the installation process, and show the available configuration options.

This section contains information on the following topics:

- [Document Structure](#)
- [Related Documents](#)
- [Conventions](#)

### Document Structure

Section 1 introduces the Graphics Plugin and this document.

Section 2 gives an overview of the supported operating systems, new features, software limitations, and basic workflows.

Section 3 describes various software, hardware, and network requirements and recommendations noteworthy before installing the Graphics Plugin.

Section 4 gives a guide on how to setup the Viz Engine for graphics rendering with the Graphics Plugin. It also gives a quick overview of the *Connection Broker* installation and use, and also a more in-depth step-by-step description of how to install, configure, test, and remove the Graphics Plugin for both Apple- and Windows-based systems.

Section 5 explains the user interface; general and advanced configuration, and performance testing. In most cases these settings are not needed by the average user; however, specific situations may raise the need to tune the system. For more information, please contact your local Vizrt representative.

Section 6 gives an in-depth explanation on how to tune the Graphics Plugin.

Section 7 provides an overview of issues that must be considered when designing scenes for the NLE workflow. Notes about key, stop points, stretching, embedded video, Transition Logic, and so on are included.

Section 8 is a summary of frequently asked questions. This section also covers information on logging and how to report technical issues back to Vizrt.

### Related Documents

For complementary information, see the following documents:

- *Easycut Manual*: How to install and use the Easycut tailored version of the Graphics Plugin.
- *Viz Artist User's Guide*: How to create scenes and work with *Transition Logic*.
- *Viz Pilot User's Guide*: How to install and use Viz Pilot, and how to create *combination templates*.
- *Viz Engine Administrator's Guide*: Contains lists of supported graphics cards.
- *Template Wizard User's Guide*: How to create and organize templates to be used by Viz Pilot.
- *Viz Trio User's Guide*: How to install and use the Viz Trio client.

### Conventions

The following typographic conventions are used in this document:

- *Italic is used for non-hyperlink external references, such as related documents, books, or Internet pages. Italic is also used to emphasize words.*
  - The color blue is used for references to sections within this document.
  - **Bold refers to GUI components.**
1. Numbered paragraphs are used to indicate tasks that must be carried out.

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## 1.2 Customer Feedback and Suggestions

We encourage suggestions and feedback about our products and documentation.

To give feedback and, or suggestions, please identify your local Vizrt customer support team at [www.vizrt.com](http://www.vizrt.com).

1. Click on **Contact** (top of page).
2. The Vizrt office which is nearest to your location will be shown, or select from the list of Vizrt offices.
3. Click on the **Contact** button for the office you want.
4. Complete the required details in the window that opens.

-----  
**Note:** If this message is for Customer Support, and there is a Support Contract in place, then click on the *For support requests, please visit our support portal* link in the message window.  
-----

A Vizrt representative will contact you as soon as possible.

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## 1.3 Customer Support Requests

Support Requests are supported by Vizrt if customers have a valid Service Agreement in operation. Customers who do not have a Service Agreement and would like to set up a Service Agreement should contact their regional sales representative (see [Customer Feedback and Suggestions](#)).

When submitting a Support Request, relevant and correct information should be given to Vizrt Support, to make sure that Vizrt Support can give the quickest and best solution to your Support Request.

This section contains information on the following topics:

- [Before Submitting a Support Request](#)
- [Submitting a Support Request](#)

### 1.3.1 Before Submitting a Support Request

Before a Support Request is submitted make sure that you:

**Read:**

- The relevant User Guide or Guides
- The release notes

**and Check:**

- That the system is configured correctly
- That you have the specified hardware, tested and recommended versions

Always refer to your Vizrt Service Level Agreement document.

### 1.3.2 Submitting a Support Request

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**Note:** When completing a Support Request, add as much information as possible.  
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**Content of a Support Request**

The report should contain information about these topics:

- **Problem description:** Include a good description of what the problem is and how to reproduce it. Specify your workflow. Remember to use simple English.
- **Screen shots and illustrations:** Use these to simplify the message. These are extremely useful for Vizrt Support.
- **Software configuration:** Add exact versions of software used. This is extremely important information.
- **System log files:** Send the system log file.
- **System locale:** Specify the Region and Language settings of the system.
- **Hardware configuration:** Add exact versions of hardware used, especially for Viz Engine.

Optional:

- **System setup:** Describe differences in the installation, if any, from the recommended setup.
- **System Network:** Add a description of how the network, bandwidth, routers, and switches are configured.

Always refer to your Vizrt Service Level Agreement document.

### To submit a Support Request

1. On the [www.vizrt.com](http://www.vizrt.com) page, click on Support.
2. Click on **Report a case**.
3. Click on **LOG IN** to login to the Customer and Partner portal.
4. At the top of the Case Management page, click on **Report a Case**.
5. In the online form complete the required minimum information (shown by a red asterisk) and click **SAVE**.
6. In the saved Support Case that opens, complete the various text boxes and upload any required documents, files, and so on (see [Content of a Support Request](#)).

To **track the status** of open support tickets, login to the Customer and Partner portal. Add information or communicate about the cases directly with the support team.

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## 2 About the Graphics Plugin

The Graphics Plugin integrates Vizrt's graphics workflow into the *Non-Linear Editing (NLE)* workflow.

Using the Graphics Plugin, NLE system users can continue to follow their normal workflow by accessing Vizrt's control applications within the preferred NLE system, and easily add real-time rendered Vizrt graphics while editing video clips.

The Graphics Plugin integrates with a variety of [Supported NLE Systems](#); Adobe's Premiere, Apple's Final Cut Pro, Avid's Media Composer and NewsCutter, and Quantel's QEffects. Though the Graphics Plugin versions are tailored to the specific platforms, the overall setup and user interface is the same.

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**Note:** Based on the Graphics Plugin SDK Guidelines, a tailored version of the Graphics Plugin has also been developed in order to suit the workflow of Easycut (Vizrt's timeline based proxy video editing tool). For more information on this specific Graphics Plugin version, see the *Easycut Manual*.

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Viz Trio, Viz Pilot, and the [Graphics Plugin Editor](#) are all graphical user interfaces that allow the NLE user to interact with the Vizrt graphics workflow, and edit graphics elements. The Graphics Plugin supports NLE systems on both Windows and Apple platforms. Viz Trio and Viz Pilot are both available for [Windows-based NLE Systems](#), whereas the Graphics Plugin Editor is also available for the [Mac-based NLE Systems](#).

This section contains information on the following topics:

- [Supported Operating Systems](#)
- [New Features in this Version](#)
- [Current Software Limitations](#)
- [Basic Workflow](#)
- [Typical Workflows for NLE Work Stations](#)

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### 2.1 Supported Operating Systems

The Graphics Plugin supports two operating systems; Microsoft Windows and Apple Macs using OS X 10.6 Snow Leopard, or later. The basic setup is in principle the same; however, there are some differences in how they are used, and what software is used in addition to the plugin.

Both setups need a Viz Engine for graphics rendering, and a database that stores the data for each graphics template or data element. The "database" can either be a Media Sequencer or a Viz Pilot database. The Viz Pilot database can only be used by Windows-based Graphics Plugins in conjunction with Viz Pilot.

The main components used with the Graphics Plugin are:

- *Viz Engine* is a real-time graphics renderer, and at the core of the Vizrt graphics workflow.
- *Connection Broker* performs connection broking, providing all Graphics Plugin system users with a single connection point for graphics rendering.
- *Media Sequencer* is a framework for defining and executing media elements on a Viz Engine. The media elements are defined in a tree-based schedule that the Media Sequencer interprets, but for the Graphics Plugin, it is simply used as a storage solution for Viz Trio, which is used by the Graphics Plugin Editor.
- *Viz Pilot database* is an Oracle 10g or 11g database that stores template data and references to the template graphics. The Viz Pilot database is mainly used in conjunction with Viz Pilot.

### Windows-based Systems

For Windows users there are two editors available for adding graphics to a video clip; Viz Trio and Viz Pilot. Viz Trio is bundled with the Graphics Plugin installer, whereas Viz Pilot must be installed separately, as it connects to the Viz Pilot database for the template data and graphics.

### Mac-based Systems

For Mac users, the plugin has its own built-in [Graphics Plugin Editor](#). The editor is capable of reading Viz Trio shows stored on the Media Sequencer and remote previewing the Viz Engine graphics as well as editing the text and image properties of graphic scenes.

The Mac-based Graphics Plugins are unable to control or use Viz Trio and Viz Pilot remotely as a user interface, hence the Graphics Plugin Editor.

### See Also

- [Supported NLE Systems](#)
- [Mac-based NLE Systems](#) (for details on installation and configuration)

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## 2.2 New Features in this Version

The following new features have been added to the various Graphics Plugins in version 2.0:

### Graphics Plugin for Adobe

- Support for using [Transition Logic](#) scenes with simple in/out animations.
- Support for rendering in any aspect ratio when using a Viz Engine version 3.7, or later.

### Graphics Plugin for Avid

- This plugin is now available for Mac.
- Support for using [Transition Logic](#) scenes with simple in/out animations.

- Support for rendering in any aspect ratio when using a Viz Engine version 3.7, or later.

### Graphics Plugin for Final Cut

- This plugin is now available for Final Cut X.

**Note:** Separate installers exist for Final Cut Pro 6+7 and X.

- Support for using [Transition Logic](#) scenes with simple in/out animations.
- Support for rendering in any aspect ratio when using a Viz Engine version 3.7, or later.

### Graphics Plugin for Quantel

- Support for x64 Quantel hosts.

**Note:** This requires a separate installer.

- Support for using [Transition Logic](#) scenes with simple in/out animations.
- Support for rendering in any aspect ratio when using a Viz Engine version 3.7, or later.

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## 2.3 Current Software Limitations

There are limitations to what a Graphics Plugin solution can do compared to a full SDI in-and-out Viz Engine renderer.

These are the general Graphics Plugin limitations on *both Windows and Mac*:

- Media Sequencer 1.19 and later, Viz Engine 3, and Connection Broker 3.0 and later, do not announce their presence on the computer network. The Graphics Plugin configuration tool will therefore not automatically discover these services.

These are the specific Graphics Plugin limitations on *Windows only*:

- For Avid installations, not all Graphics Plugin versions prior to 1.5 are automatically removed when upgrading.

These are the specific Graphics Plugin limitations on *Mac only*:

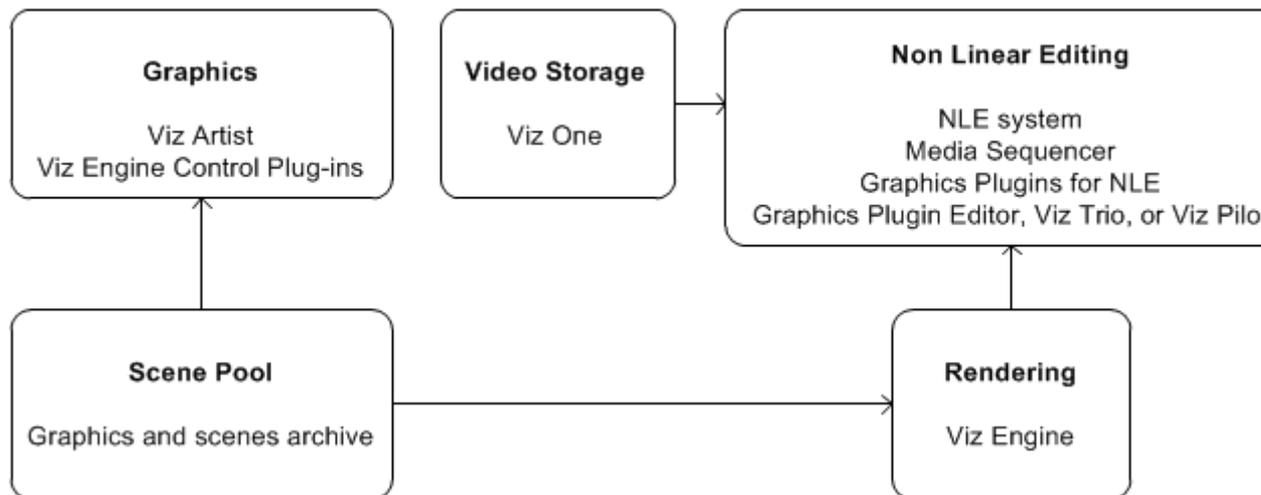
- It is only possible to input text, change numeric values, and select images/geometries/fonts/materials. There is no support for input of boolean values. There is no support for editing ControlList/Tables or Scrolls. However, the editor can pick up Viz Trio pages created using a regular Viz Trio, and render them, even though they may have these field types.
- The Graphics Plugin Editor cannot create shows and import scenes, so you must use Viz Trio 2.6 or later to create shows and import scenes for the Graphics Plugin Editor to use.
- It is not possible to select images from a local path in the Graphics Plugin Editor.

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## 2.4 Basic Workflow

### Workflow

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The basic Graphics Plugin workflow is straight forward:

- Import video -> Import graphic -> Move graphic to video

### The typical workflow from template design to rendering

A typical workflow consists of the following steps:

1. A graphics designer creates a scene in Viz Artist.
2. The scene is either added as a template to a Viz Trio show or created as a template for use with Viz Pilot in Template Wizard.
3. An editor or a journalist edits a video using an NLE system.
  - Using Vizrt's Graphics Plugin, the user can access and add graphics to the video.
  - Graphics properties can be edited using the graphics templates in either the Graphics Plugin Editor, Viz Trio, or Viz Pilot.
4. The video clip is rendered and saved to a shared file server or a Media Asset Management (MAM) system, such as Viz One.
5. Once the file is saved or posted to the MAM system, it can also be added to a playlist for playout on Viz Engine.

For details on how to use the Graphics Plugin in the various [Supported NLE Systems](#), see [Typical Workflows for NLE Work Stations](#).

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## 2.5 Typical Workflows for NLE Work Stations

The third party NLE work stations have different ways of importing and inserting graphics into video, but the Graphics Plugin itself has the same interface across all third party programs.

The various workflows are described in the following sections:

- [Graphics Plugin Workflow with Adobe Premiere Pro](#)
- [Graphics Plugin Workflow with Avid Media Composer](#)
- [Graphics Plugin Workflow with Apple Final Cut Pro](#)
- [Graphics Plugin Workflow with Apple Final Cut Pro X](#)
- [Graphics Plugin Workflow with Quantel](#)

### Graphics Plugin Workflow with Adobe Premiere Pro

The following steps are performed when adding Vizrt graphics to a sequence in Adobe Premiere Pro:

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**Note:** It is a prerequisite that the Graphics Plugin for Adobe has been successfully configured, see [Configuring Adobe Premiere Pro on Mac](#).  
-----

1. Open a project in Adobe Premiere Pro.
2. Add a *Transparent Video* clip to the project:
  - In the Project panel, make sure that the Project tab is selected, and click the **New Item** button in the lower right corner.
  - From the menu that appears, click **Transparent Video**.
  - In the New Transparent Video dialog box that opens, click **OK**.
  - Drag the new transparent video clip to the Sequence panel.
3. Add the Graphics Plugin to the project:
  - In the Project panel, click the **Effects** tab.
  - Navigate to **Video Effects > Vizrt > Graphics Plugin**, and drag the plugin onto the transparent video clip in the Sequence panel.
4. Select the transparent video clip that holds the plugin.
5. Click the **Effect Controls** tab in the upper left corner.  
  
(If the Effect Controls tab is not visible, go to the menu bar > Window > Effects Control, and check this option).
6. Navigate to **Graphics Plugin > Control**, and click the **Edit** button that appears.
7. In the editor (Viz Trio, Viz Pilot or Graphic Plugin Editor), specify the controllable items of the graphics element being used, and click the **Save/Save and Render in NLE** button.

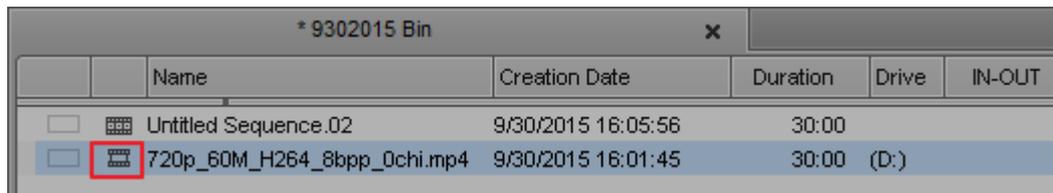
8. Back in Adobe Premiere Pro, a graphics element has now been added to the transparent video clip.
9. Create another Transparent Video with graphics plugin and drag it to the timeline to have multiple graphics.

### Graphics Plugin Workflow with Avid Media Composer

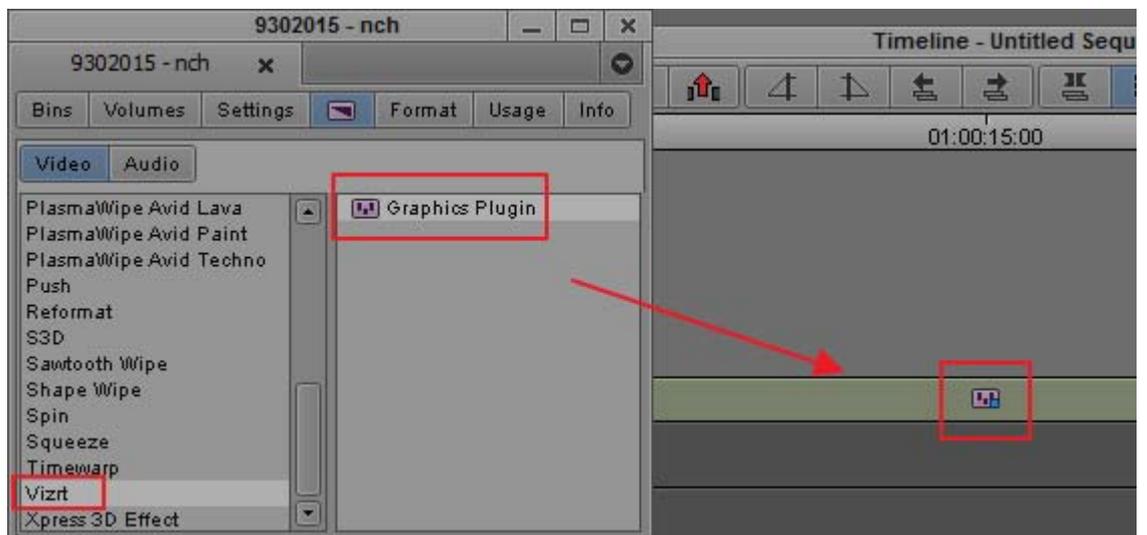
For Windows, the supported editors are Viz Trio and Viz Pilot.

For Mac, the supported editors are Graphics Plugin Editor (acts like Viz Trio to retrieve the scene from the Media Sequencer) and Viz Pilot (where Viz Pilot is on a remote host).

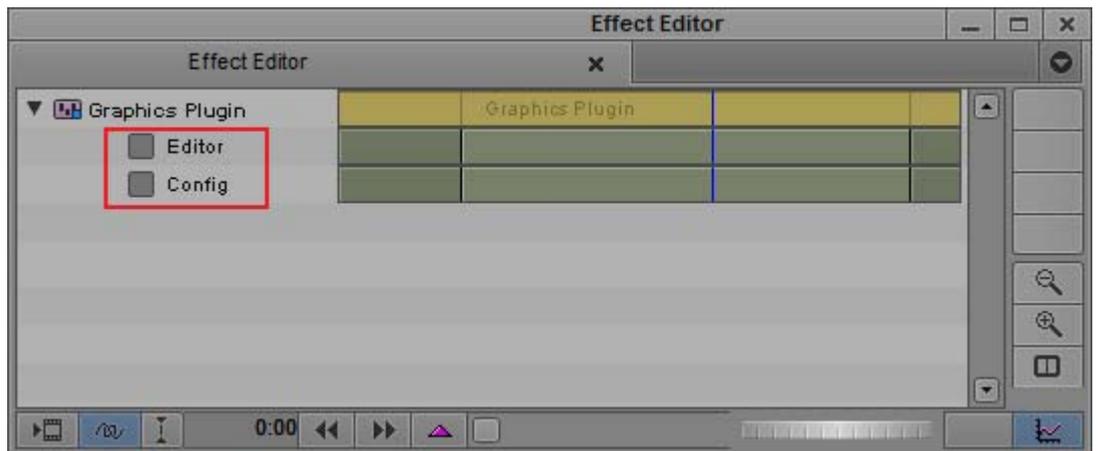
1. In Avid Media Composer, create a new project.
2. Import a video by right-clicking on the **Bin** window and selecting **Import**.
3. Click on the film icon on the item that you imported, and drag into the **Timeline** window.



4. In the Project window, click on the **Effect Palette** tab (represented by a square purple icon), select *Vizrt > Graphics Plugin*, and drag it to the video in the Timeline window.



5. Open the **Effect Editor** by going to *Tools > Effect Editor*.
6. In the Effect Editor window, under the Graphics Plugin, select the **Editor** checkbox to start importing graphic into Media Composer. Viz Trio, Viz Pilot or the Graphics Plugin Editor (Mac) will be started.



7. Edit and save a template.
8. Check that you are in **Effect** mode (the Mixer icon is highlighted in the Timeline window). This allows you to see graphics animations in the Preview windows.



9. Play the video clip or scrub the timeline to see the new effect.

**Note:** The graphics will not preview if you created another video layer with the plugin.

### Graphics Plugin Workflow with Apple Final Cut Pro

1. Start Final Cut Pro.
2. Import and add a video clip to the timeline.
3. Drag the **Graphics Plugin** generator effect to the timeline.
4. Double-click the effect on the timeline to enable the effect controls in the **Viewer** window.
5. Click the **Graphics Plugin Editor** button under the **Controls** tab, and the Graphics Plugin Editor will be started.
6. Edit and save a template.
7. When done, click **OK**.
8. Scrub the timeline to see the new effect.
9. Press **Command + R** to render the new effects.
10. Play the video clip to see the new effect.

## Graphics Plugin Workflow with Apple Final Cut Pro X

To use Vizrt graphics in Final Cut Pro X (FCPX), you need to generate a graphic template in Motion first. The only thing that FCPX can do is to adjust the length and position of the graphic to align with the video, so the majority of the tasks (such as importing graphics or doing NLE configuration) are done within Motion.

With Final Cut Pro X, use Motion to create a Final Cut Generator, then use this generator in FCPX to add the effect on your timeline. You can have a single Viz generator that you will edit in FCPX, or one preconfigured generator per scene.

1. Start **Motion** and select Final Cut Generator.
2. On the right-hand side, click Add a generator > Generator > Vizrt Graphics.
3. Go to the Inspector tab, select the Generator tab and choose Editor.

Here you will find the Config and Editor buttons. With the editor, you can open Viz Trio or the Graphic Plugin Editor, and select and configure the scene to use in the effect.

4. Import a graphic and save.
5. If you want to be able to edit the scene or the configuration from Final Cut Pro X, you need to explicitly allow it from Motion. To do this:
  - Hover over the Setting area under the Generator tab
  - Click the arrow icon that appears near the Config button
  - Choose Publish
6. Save the template. You can create a new category for Vizrt Graphics so that items are easier to find later.

**Note:** Once you have saved your effect in Motion, you must restart FCPX to make sure that it recognizes your new generator.

You are now ready to use the Generator in FCPX.

7. Open **FCPX**, create a new project and import media.
8. Your effect will now appear in the generator list. Drag your effect to the timeline.

If you have explicitly published the parameters in Motion, you will see the Config and Editor buttons when selecting your effect and going into the Generator configuration panel.

9. Click on the Generator button, select the graphic template from step 6 and drag it into the timeline

### To export the video without burning in the Viz graphics

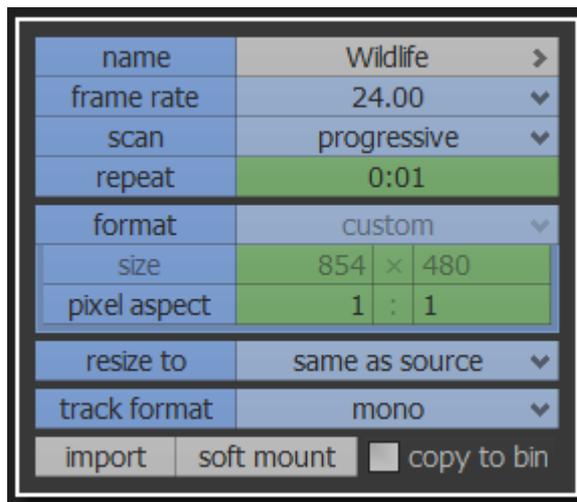
1. Select your effect and go in its Info configuration panel
2. Select the Roles parameter and then select Edit Roles in the popup menu. The Role Editor window will appear.
3. In the lower-left corner of the Role Editor, click the "+" button to add a new video role named "VizGfx".

Make sure you select this role for all your Viz effects.

4. When exporting your video with (File > Share > Master File), go to the Settings panel and set the Roles As parameter to *Multitrack QuickTime Movie*.
5. You will get a button to edit the roles you want to export. Click on it and unselect "VizGfx" to get all the effects except yours.

### Graphics Plugin Workflow with Quantel

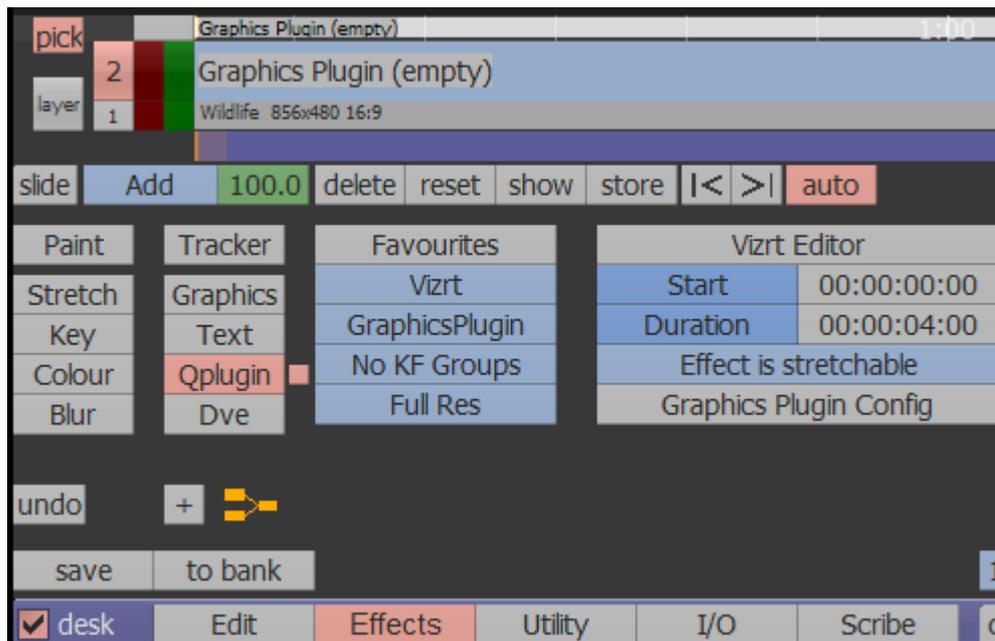
1. In Quantel, import a video by dragging a clip from the file browser to the workspace, and then clicking the **Import** button



2. Make the video available as a layer by dragging the video to the preview pane. It is now available as a layer and can be seen on the timeline.



3. Create a layer for the Graphics Plugin effect by pressing the **Layer** button (to the left of the timeline), and then dragging it on top of the video layer on the timeline.
4. Add the Graphics Plugin effect to the layer by selecting the **Tracker > Qplugin** button in Quantel and then selecting *Favorites > Vizrt > select > VizNlePlugin*



5. To change the starting point or duration of the effect, drag the mouse over the Start and Duration fields in the Vizrt Editor box.
6. Edit the effect by pressing the **Vizrt Editor** button. The editor will open.

For example, in Viz Trio, you can save a template as a page, make changes to the page and then preview it. Press **Save and Render in NLE**.

7. In Quantel, scrub to see the effect.
8. Render the sequence by pressing the **Render** button.

---

**Tip:** For a demonstration of Quantel and the Graphics Plugin, see the following [tutorial video](#).

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## 3 Requirements and Recommendations

This section covers hardware, software and network requirements and recommendations, information about supported NLE systems, and necessary references to other Vizrt system guides for complementary information.

This section contains information on the following topics:

- [Software Requirements](#)
- [Supported NLE Systems](#)
- [Network Requirements](#)

---

### 3.1 Software Requirements

This section gives an overview of the Vizrt software and NLE systems supported by the Graphics Plugin.

For full details, see the Graphics Plugin Release Notes.

This section contains information on the following topics:

- [Client Software Requirements](#)
- [Server Software Requirements](#)

#### 3.1.1 Client Software Requirements

The Graphics Plugin has been tested with the following software:

##### Graphics Plugin for Adobe 2.1.0

- Graphics Plugin for Adobe on Windows:
  - Microsoft Windows 7, 64-bit
  - Adobe Premiere Pro CC 2014
  - Viz Pilot 6.0.0
- Graphics Plugin for Adobe on Mac:
  - Apple OSX 10.10.3 on Intel Hardware.
  - Adobe Premier Pro CC 2014

##### Graphics Plugin for Final Cut 2.0.0

- Final Cut Pro 7
- Apple OSX 10.10.3 on Intel Hardware.

### Graphics Plugin for Avid 2.0.0

- Graphics Plugin for Avid on Windows
  - Microsoft Window 7, 64-bit
  - Avid Media Composer 8.1
  - Viz Pilot 6.0.0
- Graphics Plugin for Avid on Mac
  - Avid Media Composer 8.1
  - Apple OSX 10.10.3 on Intel Hardware

### 3.1.2 Server Software Requirements

The server components used by Graphics Plugin have different system requirements. A summary is provided here, but refer to the individual release notes and manuals for details. Please note that it is not recommended to install all components on a single server.

- **Connection Broker 4.0**
  - Optional, it is still possible to specify a specific Viz Engine directly.
  - Requires Microsoft .NET 4.5.
  - It can be installed on the same server as a Media Sequencer or a Viz Engine, or on a separate computer.
  - Connection Broker 1.0.0 can be used, but some of the new features in Viz Engine 3.5 will not work. This may impact performance.
  - Connection Broker 1.1 can be used but some of the new features in Viz Engine 3.7 will not work.
- **Media Sequencer 2.0.3 and 3.0.0**
  - Requires Microsoft .NET 4.0.
  - Connecting multiple Graphics Plugin workstations to the same Media Sequencer makes it easier to share graphics elements between Graphics Plugin clients.
  - Elements saved to an MSE from Viz Trio on Windows can be used from the Graphics Plugin Editor for Mac OS X, and vice versa.
  - Installing it on a Viz Engine server is not recommended since high memory usage can interfere with Viz Engine performance.
- **Viz Pilot 6.0.0, Pilot Data Server 6.0.0**
  - Used by Graphics Plugin Editor (the Mac OS X editor) as a source for images to be used in graphics.
  - The components are optional. If they are not used, Graphics Plugin Editor can still use images from the Viz Engine.
- **Viz Engine 3 / Viz Artist 3**
  - Viz Engine 3.7.0 and 3.8.0.
  - If you need to use older versions the recommended versions are 3.2.8, 3.3.1 and 3.5.1

- Viz Engine 3.7 or newer is required to take advantage of the new aspect independent frame fetching.
- Viz Engine 3.5 or newer is required to take advantage of the new custom resolution frame fetching and anti-aliasing.
- Viz Engine 3.5.0, 3.3.0, and 3.2.7 or earlier, have some known issues that can cause (rare) rendering artifacts when multiple NLE clients are using the same engine. We recommend Viz Engine 3.2.8, 3.3.1 and 3.5.1 or newer.
- It is highly recommended to have a fast (Gigabit) network connection between each NLE workstation and Viz Engine.
- This version of Graphics Plugin only supports UTF-8 encoding for the Viz Engine.

---

## 3.2 Supported NLE Systems

The list below is the current list of supported NLE systems that is within the scope of this document. Other versions are not officially supported unless it is specifically mentioned as part of this document.

The following systems are supported:

- [Adobe Premiere Pro](#)
- [Apple Final Cut Pro](#)
- [Avid Media Composer and Avid NewsCutter](#)
- [Quantel QEffects](#)
- [Adobe Premiere Pro Creative Cloud \(CC\)](#)

### Adobe Premiere Pro

The *Graphics Plugin for Adobe* works together with Adobe Premiere Pro from version CS5 (including versions CS5.5 and CS6). This plugin works on both Windows-machines and Macs.

The Graphics Plugin for Adobe also works together with Adobe Premiere Pro Creative Cloud (CC). This setup has been tested to work on Windows-machines.

-----  
**Note:** In addition to Adobe Premiere Pro, the Graphics Plugin for Adobe plugin support Adobe AfterEffects from version CS5.  
-----

### Apple Final Cut Pro

The *Graphics Plugin for Final Cut* works together with Apple Final Cut Pro 6 and 7 (available in Final Cut Studio 2 and 3, respectively), and Final Cut Pro X. This plugin works on Mac-machines only.

---

**Note:** There are separate installers for versions 6+7, and X. Support for Final Cut Pro X is *new* in version 2.0 of the Graphics Plugin.

---

### **Avid Media Composer and Avid NewsCutter**

The *Graphics Plugin for Avid* works together with Avid Media Composer and NewsCutter. This plugin works on both Windows–machines and Macs.

---

**Note:** Support for Avid on Mac is *new* in version 2.0 of the Graphics Plugin.

---

The plugin for Avid has been tested with Avid’s Media Composer and NewsCutter; however, all systems supporting the Avid Extensions (AVX) 2.0 System Development Kit (SDK) should work. The following Avid products have AVX2 support:

- Avid Digital Studio (DS)
- Media Composer (Older Release and Post Adrenaline HD release that can run software only), Media Composer Adrenaline, and Media Composer Adrenaline HD
- NewsCutter, NewsCutter FX, NewsCutter XP, and NewsCutter Adrenaline (FX)
- Symphony and Symphony Nitris
- Xpress, Xpress Pro, and Xpress Pro HD

Separate Graphics Plugin for Avid installers apply for Windows 32– and 64–bit systems. The 32–bit Graphics Plugin version works together with Media Composer 5 and NewsCutter 9, whereas the 64–bit version works with the new Media Composer 6 and NewsCutter 10.

---

**Note:** Avid Liquid, previously known as Pinnacle Liquid, has been discontinued by Avid, and is currently not supported by the Graphics Plugin.

---

### **Quantel QEffects**

The *Graphics Plugin for Quantel* works together with Quantel QEffects 4.2, or later. This plugin works on Windows–machines only.

---

**Note:** Version 1.3.4 of the Graphics Plugin supports earlier versions of Quantel QEffects (versions 3.6 to 4.1).

---

### **Adobe Premiere Pro Creative Cloud (CC)**

The *Graphics Plugin for Adobe* works together with Adobe Premiere Pro Creative Cloud (CC). The system is supported by Windows 8.1.

---

## 3.3 Network Requirements

A Viz Engine can be shared by multiple simultaneous NLE clients; however, there are no recommended number of users for SD and HD as this in most cases is a performance issue and not a fixed limitation.

The Windows- and Mac-based NLE system setup typically operates on a single Viz Engine. This requires transportation of frames (images) over the network, so a fast network connection is recommended, preferably a gigabit switched network connection; however, a megabit (100 Mbit/s) connection will also work as the plugin supports lossless data compression using Portable Network Graphics (PNG) or Run-length Encoding (RLE) instead of uncompressed raw images.

-----  
**Note:** RLE is only supported by Viz Engine 3.2.2, or later.  
-----

### Port Numbers

The table below describes all listeners, port numbers, and which applications that use the port numbers to establish a connection.

**Table 1:** Port numbers

Listener	Port	Description
Viz Engine	6100	Default port used for graphics rendering.
Viz Trio	6210	Used by the Graphics Plugin to establish a connection to Viz Trio.
Viz Pilot	6220	Used by the Graphics Plugin to establish a connection to Viz Pilot.
Graphics Plugin Editor	6230	Used by the Graphics Plugin to establish a connection to the Graphics Plugin Editor.
Graphics Plugin Config	6240	Used by the Graphics Plugin to establish a connection to the Graphics Plugin configuration tool.
Media Sequencer	8594	Port used by all clients that connect to the Media Sequencer.
Viz Engine	14300	Alternative port used to avoid conflicts with port 6100. Port 6100 is normally used by renderers that are on air, hence, it is (for example when running Viz Pilot version 4) recommended to use another port.

**Table 1:** Port numbers

Listener	Port	Description
Viz Engine (multiplexed)	50007	Used by clients that connect to a multiplexed Viz Engine.
	50008	<i>50007</i> : Isolated port. All connections to this port get its own session. The port is used by the Graphics Plugin to deliver frames to the host NLE system. For example rendering or scrubbing of video clips with graphics. Using this port will also suppress bounding box commands. Cannot be used by Viz Pilot.
	50009	<i>50008</i> : Shared port. All connections from one single host shares one session. Used by Viz Trio and Viz Pilot to display preview frames. <i>50009</i> : Fixed port. Same as shared port, except that allocated resources are never cleared from memory. Used by Viz Pilot 4.
Connection Broker	21098	Connection to the Connection Broker configuration interface (for example <a href="http://localhost:21098/">http://localhost:21098/</a> ).

---

## 4 Installation and Configuration

The following sections describe the different setup procedures. The sections follow the order of a new installation.

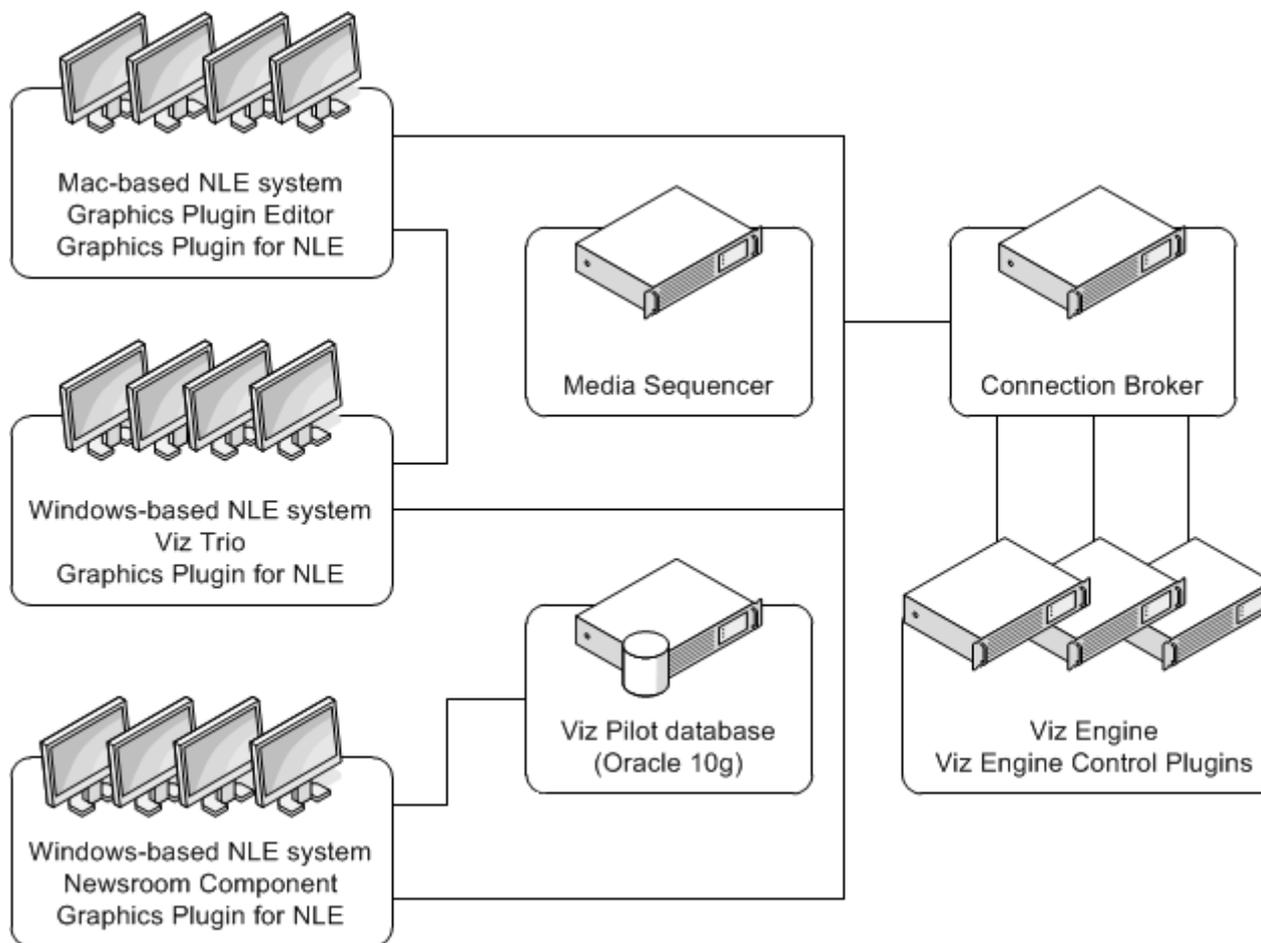
- [System Components](#)
- [Graphics Rendering](#)
- [Connection Broker](#)
- [Mac-based NLE Systems](#)
- [Windows-based NLE Systems](#)

---

### 4.1 System Components

All installations use a Viz Engine in combination with a database. The “database” is either a Media Sequencer, used by Viz Trio or Graphics Plugin Editor, or Viz Pilot’s database used by Viz Pilot.

The following illustration gives an overview of an NLE system using the [Connection Broker](#).



The Viz Engine must handle multiple simultaneous requests. In Viz Engine, the multiplexing functionality is a built-in feature.

**Note:** The Viz Pilot workflow is only available to Windows-based NLE systems.

The Graphics Plugin supports different NLE systems on both Windows and Mac, and the setup is basically the same for both platforms. The Graphics Plugin configuration tool is used to configure the plugin, Viz Engine, the Media Sequencer and the editor(s).

The Graphics Plugin Editor for Mac supports browsing and previewing of Viz Trio templates and pages stored on a Media Sequencer.

Viz Trio and Viz Pilot both support browsing and previewing of Viz Trio templates and pages stored on a Media Sequencer and templates and data elements stored on the Viz Pilot database, respectively.

Note that effects are bound to the editor that made them, even if you subsequently switch to a different editor. This binding happens the first time "Editor" is clicked for a specific effect, not the instant the effect is dragged down onto the timeline.

-----  
**Note:** NLE system-specific installations are outside the scope of this guide.  
-----

---

## 4.2 Graphics Rendering

In order for an NLE system to render graphics, a successful connection to a Viz Engine must be established.

For the Viz Engine, off-screen rendering is the default rendering mode.

### To setup a Viz Engine for graphics rendering

- Start the installer and select **VGA** mode.

---

## 4.3 Connection Broker

Connection Broker

VIZ ENGINE NAME OR IP ADDRESS

vizengine1 Add New

Renderer removed: bgopreview2:50010

NAME OR IP ADDRESS	VIDEO MODE	ASPECT	VERSION	GRAPHIC HUB	STATUS
bgoqapreview1:50010	1080i 50	1.778	v3.8.2.56645	slartibartfast	Responsive

Connection Broker

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The Connection Broker is a component that manages a pool of Viz Engines. Clients can query it for a Viz Engine that matches a specific video mode. It provides load balancing, video mode matching and can be used to create a redundant renderer pool.

-----  
**Note:** The Preview Server is bundled together with the Connection Broker. Both components have their own service document URL, but they share the same pool of  
-----

Viz Engines. Note that if both services are used extensively, the load on the joint pool may be higher than what is recommended.

---

This section describes the following Connection Broker–related procedures:

- [To install the Connection Broker](#)
- [To add a Viz Engine to the Connection Broker](#)
- [To remove a Viz Engine from the Connection Broker](#)
- [To modify the ping interval from the Connection Broker towards a Viz Engine](#)

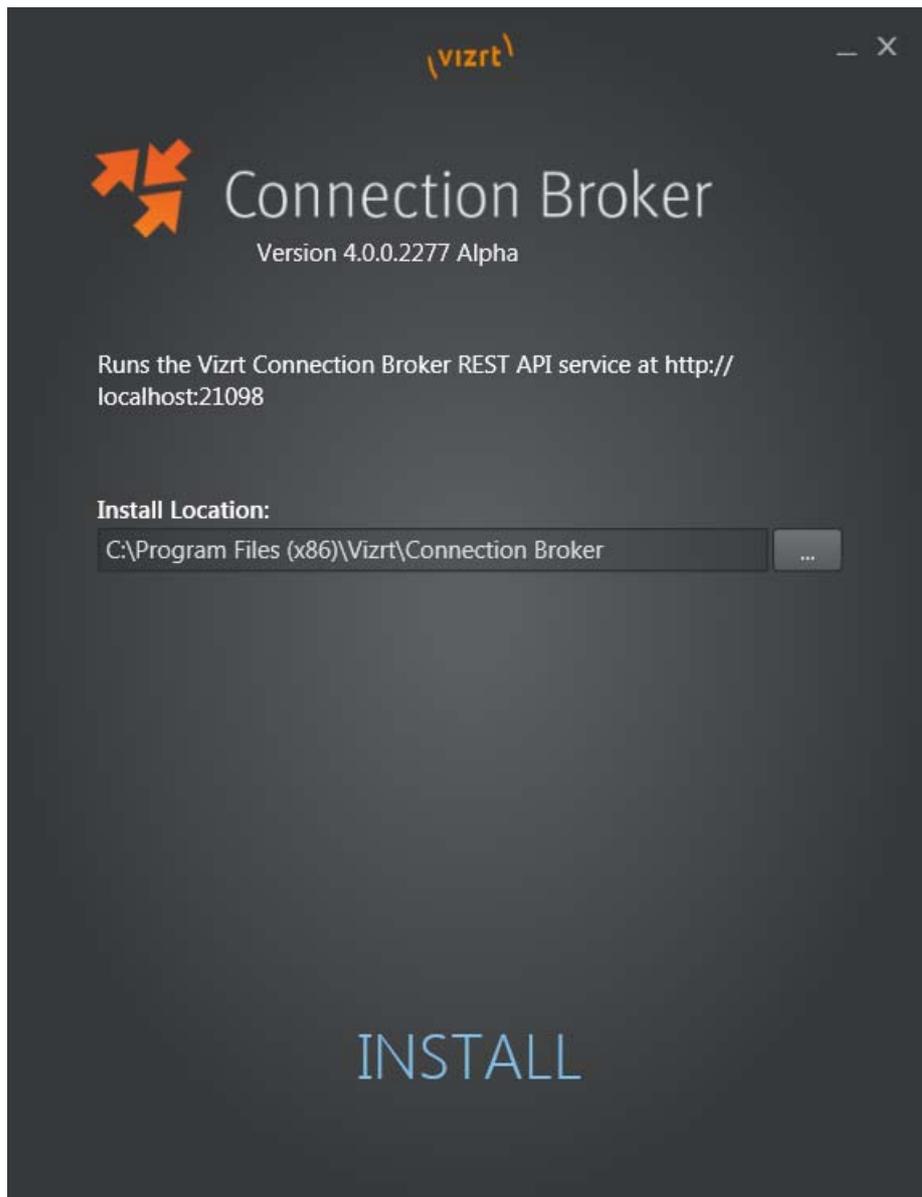
### To install the Connection Broker

---

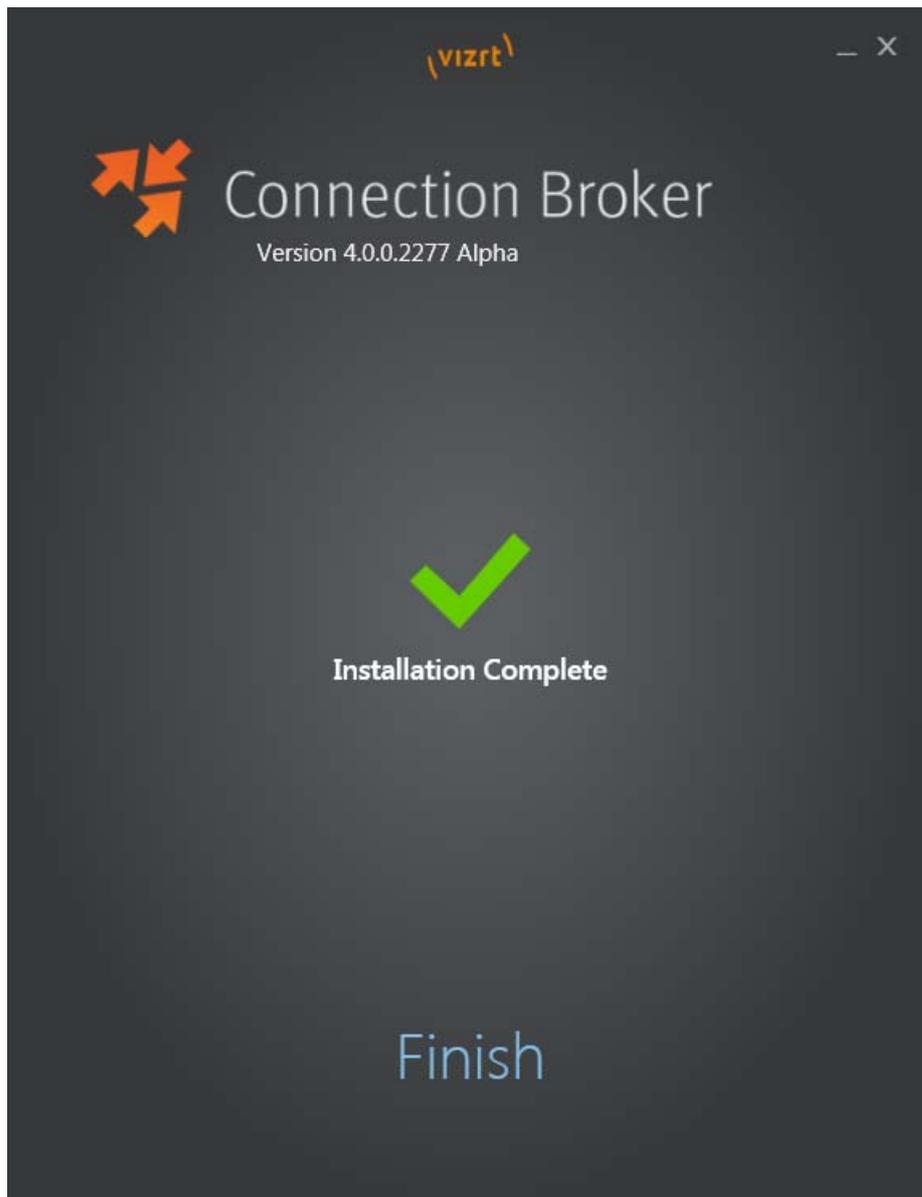
**Note:** The installation requires Microsoft .NET 4.5.

---

1. Run the Connection Broker installer file (\*.exe) to start the *Connection Broker Setup*.
2. Make sure that the **Install Location** is correctly defined.
3. Click **INSTALL**.



4. When the installation is complete, click **FINISH**.



5. From the **Start** menu, navigate to **All Programs > Vizrt > Connection Broker > Connection Broker Config**.

The Connection Broker's web interface will open if the service is running (address <http://localhost:21098/>).

---

**Tip:** It is possible to open the Connection Broker configuration from other machines. In order to do so, replace "localhost" with the actual hostname.

---

#### To add a Viz Engine to the Connection Broker

1. In the Connection Broker web interface, enter the Viz Engine hostname or IP address in the text box.

VIZ ENGINE NAME OR IP ADDRESS

vizengine1

## 2. Click **Add New**.

**Note:** If not specified, the Viz Engine will be added with default port 50007. When using Viz Engines in a so-called dual channel setup, it is possible to run multiple instances of Viz Engine on a single host. Each instance uses a unique port, which means that two Viz Engines should only be considered duplicates when both the hostnames and port numbers are identical. When referring to Viz Engines in a dual channel setup, type the port number after the host name (for example "VizEngine1:51007").

## To remove a Viz Engine from the Connection Broker

NAME OR IP ADDRESS	VIDEO MODE	ASPECT	VERSION	GRAPHIC HUB	STATUS	
bgoqapreview1:50007	1080i 50	1.778	v3.8.2.56645	slartibartfast	Responsive	

- In the Connection Broker web interface, click the *trash can* icon next to the Viz Engine entity that is to be removed.

## To modify the ping interval from the Connection Broker towards a Viz Engine

1. Locate the *Connection Broker.exe.config* file, typically located at C:\Program Files (x86)\Vizrt\Connection Broker.
2. In the configuration file, set a new value for the *VizEnginePollIntervalMilliseconds* option, which controls the interval for how often the Connection Broker will poll each Viz Engine.
3. Set a new value for the *VizEngineTimeoutMilliseconds* option, which controls the timeout in milliseconds when trying to connect to a Viz Engine.

Code example:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>

  <configSections>

    <sectionGroup name="applicationSettings"
type="System.Configuration.ApplicationSettingsGroup, System,
Version=4.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089">

      <section name="Vizrt.Frames.Properties.Settings"
type="System.Configuration.ClientSettingsSection, System,
Version=4.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089"
requirePermission="false" />

    </sectionGroup>
```

```

</configSections>

<applicationSettings>
  <Vizrt.Frames.Properties.Settings>
    <setting name="VizEnginePollIntervalMilliseconds"
serializeAs="String">
      <value>10000</value>
    </setting>
    <setting name="VizEngineTimeoutMilliseconds" serializeAs="String">
      <value>10000</value>
    </setting>
    <setting name="CacheMaxAge" serializeAs="String">
      <value>86400</value>
    </setting>
    <setting name="VizEngineCleanupIntervalMilliseconds"
serializeAs="String">
      <value>60000</value>
    </setting>
    <setting name="UseRunLengthEncoding" serializeAs="String">
      <value>False</value>
    </setting>
  </Vizrt.Frames.Properties.Settings>
</applicationSettings>

<system.serviceModel>
  <services>
    <service behaviorConfiguration="Vizrt.Frames.AtomBrokerService"
name="Vizrt.Frames.AtomBrokerService"></service>
  </services>
  <behaviors>
    <serviceBehaviors>
      <behavior name="Vizrt.Frames.AtomBrokerService">
        <serviceDebug includeExceptionDetailInFaults="true"
httpHelpPageEnabled="false" httpsHelpPageEnabled="false" />
      </behavior>
    </serviceBehaviors>
  </behaviors>
</system.serviceModel>

```

```

    <uri>
      <schemeSettings>
        <add name="http"
genericUriParserOptions="DontUnescapePathDotsAndSlashes" />
        <add name="https"
genericUriParserOptions="DontUnescapePathDotsAndSlashes" />
      </schemeSettings>
    </uri>

<startup><supportedRuntime version="v4.0"
sku=".NETFramework,Version=v4.5.2" /></startup>

<runtime>
  <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
    <dependentAssembly>
      <assemblyIdentity name="System.Web.Http"
publicKeyToken="31bf3856ad364e35" culture="neutral" />
      <bindingRedirect oldVersion="0.0.0.0-5.2.2.0" newVersion="5.2.2.0"
/>
    </dependentAssembly>
    <dependentAssembly>
      <assemblyIdentity name="Microsoft.Owin"
publicKeyToken="31bf3856ad364e35" culture="neutral" />
      <bindingRedirect oldVersion="0.0.0.0-3.0.0.0" newVersion="3.0.0.0"
/>
    </dependentAssembly>
    <dependentAssembly>
      <assemblyIdentity name="System.Net.Http.Formatting"
publicKeyToken="31bf3856ad364e35" culture="neutral" />
      <bindingRedirect oldVersion="0.0.0.0-5.2.2.0" newVersion="5.2.2.0"
/>
    </dependentAssembly>
  </assemblyBinding>
</runtime>
</configuration>

```

---

## 4.4 Mac-based NLE Systems

Using a Mac-based NLE system, such as Apple's Final Cut Studio or Adobe's Premiere for Mac, requires an installation of the Graphics Plugin. The Graphics Plugin installs the Graphics Plugin configuration tool and the Graphics Plugin Editor.

This section contains information on the following topics:

- [Prerequisites for Mac-based NLE Systems](#)

- [Introduction to Mac-based Graphics Plugin Systems](#)
- [Installation of Mac-based Graphics Plugin Systems](#)
- [Allow Mac NLE to use Editors on a Windows Remote Host](#)
- [Configuring Adobe Premiere Pro on Mac](#)
- [Configuring Avid Media Composer on Mac](#)
- [Configuring Final Cut Pro on Mac](#)
- [Configuring Final Cut Pro X on Mac](#)
- [Removal of Mac-based Graphics Plugin Systems](#)

#### 4.4.1 Prerequisites for Mac-based NLE Systems

Before installing the Graphics Plugin, a Media Sequencer and a Viz Engine must be running (on a Windows machine).

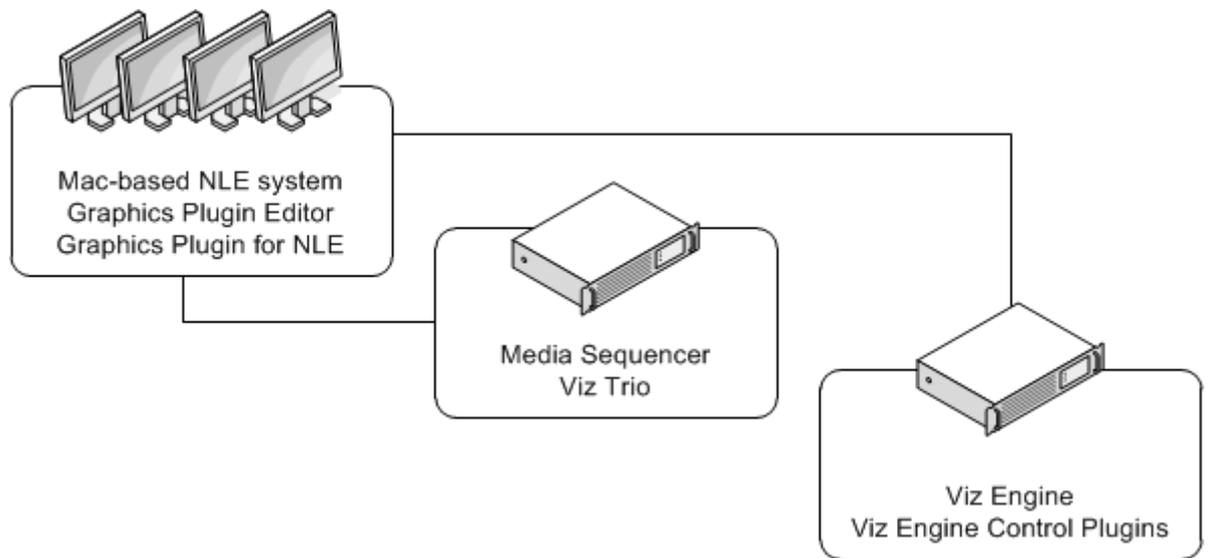
-----  
**Note:** Viz Engine and the Media Sequencer must both run on Windows 7, or later. It is recommended to run the Media Sequencer separately on a Windows Server 2008 or Windows 7. In smaller production environments however, the Media Sequencer may run on the Viz Engine machine.  
 -----

The Media Sequencer should preferably contain a Viz Trio show to confirm that the connection is working properly; however, the Graphics Plugin Editor has status indicators indicating connections to Viz Engine, the host application (FCP or Premiere for Mac) and the Media Sequencer which should be sufficient information to confirm a correct setup.

#### 4.4.2 Introduction to Mac-based Graphics Plugin Systems

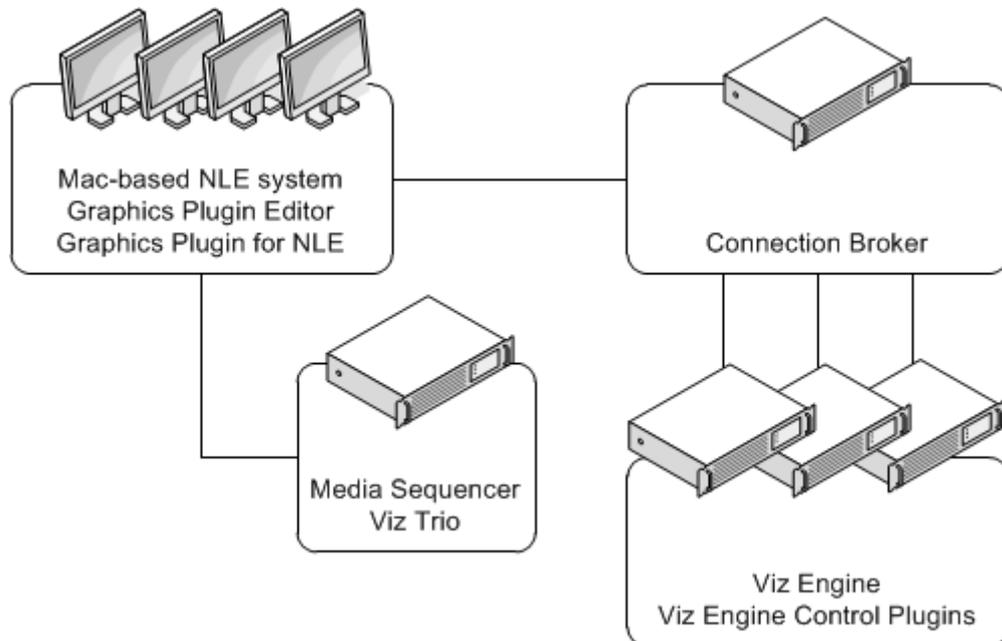
The Graphics Plugin Editor is a tool used to fetch graphics content for use with NLE systems on Mac. This editor enables Mac-users to incorporate graphics from Vizrt's Windows-based Viz Engine and Media Sequencer to the NLE workflow.

A *basic setup* requires a Viz Engine and a Media Sequencer, where the Media Sequencer holds the actual data (for example text and image reference(s)) and Viz Engine the graphic scenes.



A prerequisite is that a Viz Trio operator has created a show with graphics templates on the Media Sequencer. Once the show is available on the Media Sequencer, the Graphics Plugin Editor is able to display the graphics such that the NLE user can select and edit the content and add it to the timeline.

A more advanced setup that uses the [Connection Broker](#) enables the Connection Broker to select engines from a pool of Viz Engines.



A typical setup using the Graphics Plugin Editor is as follows:

- NLE machines
  - Mac-based NLE system (Adobe, Avid, or Final Cut)
  - Graphics Plugin (with Graphics Plugin Editor)
- Viz Engine

- Graphic Hub with graphic scenes
- *Optional*: Datapool plugins for Viz Engine
- *Optional*: Connection Broker

### 4.4.3 Installation of Mac-based Graphics Plugin Systems

The following procedures install the Graphics Plugins, which enable the use of the Graphics Plugin configuration tool and the Graphics Plugin Editor.

---

**Note:** The installer requires an OS X user with administrator privileges.

---

- [To install the Graphics Plugin for Adobe on Mac](#)
- [To install the Graphics Plugin for Avid on Mac](#)
- [To install the Graphics Plugin for Final Cut Pro](#)
- [To install the Graphics Plugin for Final Cut Pro X](#)

#### To install the Graphics Plugin for Adobe on Mac

1. Double-click the **disk image** file (\*.dmg) to open the package file.
2. Double-click the **package** file (\*.pkg) to start the installation.
3. In the *Graphics Plugin for Adobe installer*, click **Continue** until the installation has finished.
4. **Eject** the file.

#### To install the Graphics Plugin for Avid on Mac

1. Double-click the **disk image** file (\*.dmg) to open the package file.
2. Double-click the **package** file (\*.pkg) to start the installation.
3. In the *Graphics Plugin for Avid installer*, click **Continue** until the installation has finished.
4. **Eject** the file.

---

**Note:** Support for Avid on Mac is *new* in version 2.0 of the Graphics Plugin.

---

#### To install the Graphics Plugin for Final Cut Pro

---

**Note:** Separate Graphics Plugin installers exist for Final Cut Pro 6+7 and Final Cut Pro X.

---

1. Double-click the **disk image** file (\*.dmg) to open the package file.
2. Double-click the **package** file (\*.pkg) to start the installation.
3. In the *Graphics Plugin for Final Cut installer*, click **Continue** until the installation has finished.

4. Eject the file.

### To install the Graphics Plugin for Final Cut Pro X

---

**Note:** Separate Graphics Plugin installers exist for Final Cut Pro 6+7 and Final Cut Pro X. Previous versions of the plugin cannot be used with Final Cut Pro X.

---

1. Double-click the **disk image** file (\*.dmg) to open the package file.
2. Double-click the **package** file (\*.pkg) to start the installation.
3. In the *Graphics Plugin for Final Cut X installer*, click **Continue** until the installation has finished.
4. Eject the file.

The Graphics Plugin may not be shown in Final Cut Pro x if previous versions of the plugin are still installed. If this occurs, run the following commands in a terminal window:

```
sudo rm -rf /Library/Plug-Ins/FxPlug/viznle_plugin.fxplug  
sudo rm -rf /Library/Application Support/Final Cut Pro System Support/  
Plugins/VizFcpNotifier.bundle
```

#### 4.4.4 Allow Mac NLE to use Editors on a Windows Remote Host

To allow a Mac-based NLE program to use other editors, such as Viz Pilot NLE, on a Windows remote host, do the following:

1. Start C:\Program Files(x86)\vizrt\Pilot 6.1\VCPAxE.exe
2. In Premiere/Avid on the Mac, create a new effect and click Edit
3. NLE will now start communicating with Viz Pilot on the Windows host
4. Open a data element, and click save
5. The effect may now be rendered in Premiere/Avid

If you have used Graphic Plugin Editor on your Mac before, you must delete the existing plugin. You may also need to exit and re-open Avid Media Composer in order for the setting to be applied.

---

**Note:** Transition Logic scenes need to use Viz Pilot as the editor. They will not work if using Viz Trio/Graphic Plugin Editor.

---

#### 4.4.5 Configuring Adobe Premiere Pro on Mac

After the plugin has been configured the first time, the configuration can be accessed in various ways:

- By clicking the **Graphics Plugin Config** button

- By selecting the *Graphics Plugin Config* option on the *Graphics Plugin Editor* menu. Optional: Press the shortcut keys Command + , (comma).

For details on advanced configuration options, see the Graphics Plugin configuration tool's tool tips or the [Graphics Plugin Configuration Tool](#) section.

#### To configure the Graphics Plugin for Adobe on Mac using the configuration tool

1. Start Adobe Premiere Pro for Mac.
2. Open a project.
3. Add a *Transparent Video* clip to the project:
  - In the Project panel, make sure that the Project tab is selected, and click the **New Item** button in the lower right corner.
  - From the menu that appears, click **Transparent Video**.
  - In the New Transparent Video dialog box that opens, make sure the resolution matches the current sequence settings, and then click **OK**.
  - Drag the new transparent video clip to the Sequence panel.
4. Add the Graphics Plugin to the project:
  - In the Project panel, click the **Effects** tab.
  - Navigate to **Video Effects > Vizrt > Graphics Plugin**, and drag the plugin onto the transparent video clip in the Sequence panel.
5. Select the transparent video clip that holds the plugin.
6. Click the **Effect Controls** tab in the upper left corner.
7. Press the **Setup** icon.
8. From the dialog box that appears, click **Configure**.

The *Graphics Plugin configuration tool* then opens.

9. Make sure that the **General** tab is selected.
10. Select a Viz Engine:
  - **Specific Viz Engine:** Sets a Viz Engine connection.
  - **Connection Broker:** Sets a [Connection Broker](#) connection.
11. Select a **Media Sequencer**.
12. Click the **OK** button to confirm the settings and close the configuration tool.

-----  
**Note:** To apply a new configuration, close and reopen your NLE system. If the new settings are still not applied, delete the existing graphic and add a new one.  
 -----

#### 4.4.6 Configuring Avid Media Composer on Mac

See [Graphics Plugin Workflow with Avid Media Composer](#).

---

**Note:** To apply a new configuration, close and reopen your NLE system. If the new settings are still not applied, delete the existing graphic and add a new one.

---

#### 4.4.7 Configuring Final Cut Pro on Mac

After the plugin has been configured the first time, the configuration can be accessed in various ways:

- As a result of an error message, for example if the Viz Engine or Media Sequencer is unavailable
- By clicking the **Graphics Plugin Config** button (see [To configure the Graphics Plugin for Final Cut using the configuration tool](#))
- By selecting the *Graphics Plugin Config* option on the *Graphics Plugin Editor* menu. Optional: Press the shortcut keys Command + , (comma).

For details on advanced configuration options, see the Graphics Plugin configuration tool's tool tips or the [Graphics Plugin Configuration Tool](#) section.

##### To configure the Graphics Plugin for Final Cut using the configuration tool

1. Start Final Cut Pro.
2. Select the **Effects** tab in the Browser window, and add the **Graphics Plugin** effect to the timeline.
3. Select the **Controls** tab and click the **Graphics Plugin Config** button.
4. In the *Graphics Plugin configuration tool* that opens, select a Viz Engine.
  - **Viz Engine:** Sets a Viz Engine connection.
  - **Connection Broker:** Sets a [Connection Broker](#) connection.
5. Select a **Media Sequencer**.
6. Click the **OK** button to confirm the settings and close the configuration tool.

---

**Note:** If all connections are working properly, a list of Viz Trio shows from the Media Sequencer should appear. Selecting a show will display all templates. Selecting a template will display the tab-fields and preview the graphics.

---

---

**Note:** To apply a new configuration, close and reopen your NLE system. If the new settings are still not applied, delete the existing graphic and add a new one.

---

#### 4.4.8 Configuring Final Cut Pro X on Mac

See step 5 of [Graphics Plugin Workflow with Apple Final Cut Pro X](#).

---

**Note:** To apply a new configuration, close and reopen your NLE system. If the new settings are still not applied, delete the existing graphic and add a new one.

---

#### 4.4.9 Removal of Mac-based Graphics Plugin Systems

The following procedures describe how to delete the Graphics Plugins.

- [To remove the Graphics Plugin for Adobe on Mac](#)
- [To remove the Graphics Plugin for Avid on Mac](#)
- [To remove the Graphics Plugin for Final Cut](#)
- [To remove the Graphics Plugin for Final Cut Pro X](#)

##### **To remove the Graphics Plugin for Adobe on Mac**

To remove the Graphics Plugin for Adobe, use Finder, Terminal or some other tool to remove the following files:

- /Library/Plug-ins/MediaCore/viznle\_plugin.plugin
- /Library/Application Support/Adobe/Common/Plug-ins/[CS version]/MediaCore/viznle\_plugin.plugin per installed CS version (for example CS5 and CS6)

##### **To remove the Graphics Plugin for Avid on Mac**

To remove the Graphics Plugin for Avid, use Finder, Terminal or some other tool to remove the following files:

- /Library/Application Support/Avid/AVX2\_Plug-ins/Vizrt/AvidGraphicsPlugin.avx/

##### **To remove the Graphics Plugin for Final Cut**

To remove the Graphics Plugin for Final Cut, use Finder, Terminal or some other tool to remove the following files:

- /Library/Plug-ins/FxPlug/viznle\_plugin.fxplug
- /Library/Application Support/Final Cut Pro System Support/Plugins/VizFcpNotifier.bundle
- /Library/Frameworks/VizCocoa.framework (used by older Graphics Plugin versions)

##### **To remove the Graphics Plugin for Final Cut Pro X**

To remove the Graphics Plugin for Final Cut X, use Finder, Terminal or some other tool to remove the following files:

- /Applications/FCPXGraphicsPlugin.app

---

## 4.5 Windows-based NLE Systems

Using a Windows-based NLE system, such as Avid's Media Composer, Adobe's Premiere, or Quantel's QEffects, requires an installation of the Graphics Plugin.

The Graphics Plugin installs the Graphics Plugin configuration tool and an NLE version of Viz Trio.

In order to configure the Graphics Plugin for use, a Media Sequencer and a multiplexed Viz Engine must be running.

---

**Note:** Viz Engine and the Media Sequencer both run on Windows XP or 7. Note that Viz Engine 3.7, and later, do not support Windows XP. It is recommended to run the Media Sequencer separately on a Windows Server 2008 or Windows 7. In smaller production environments however, the Media Sequencer may run on the Viz Engine machine.

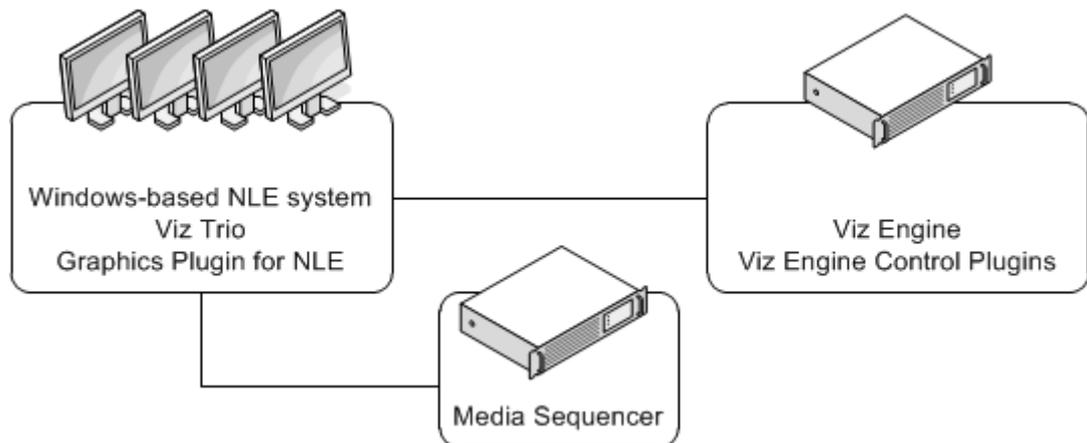
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This section contains information on the following topics:

- [Introduction to Windows-based Graphics Plugin Systems](#)
- [Installation of Windows-based Graphics Plugin Systems](#)
- [Basic Configuration of Windows-based Graphics Plugin Systems](#)
- [Removal of Windows-based Graphics Plugin Systems](#)
- [Upgrade from Graphics Plugin 1.3 to Later Versions](#)

#### 4.5.1 Introduction to Windows-based Graphics Plugin Systems

Viz Trio is an advanced character generator that is used to produce content for use with a Windows-based NLE system. Similar to the Graphics Plugin Editor, Viz Trio basically requires a Viz Engine and a Media Sequencer.

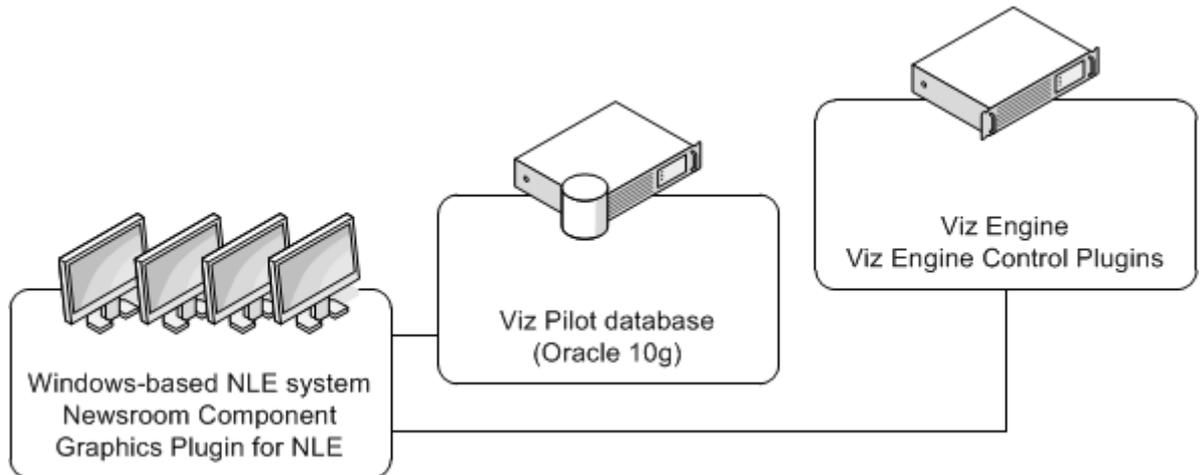


A typical setup using Viz Trio is as follows:

- NLE machines
  - NLE system
  - Graphics Plugin (includes bundled Viz Trio)
- Media Sequencer
- Viz Engine

- Graphic Hub with graphic scenes
- *Optional:* Datapool plugins for Viz Engine

Viz Pilot basically requires a Viz Engine and a Viz Pilot database. The Viz Pilot database (Oracle 10g) is where the templates, template data elements and its associated data is stored.



A typical setup using Viz Pilot is as follows:

- NLE machines
  - NLE system
  - Viz Pilot
  - Graphics Plugin
- Viz Pilot database installation
  - Oracle 10g
- Viz Engine
  - Graphic Hub with graphic scenes
  - *Optional:* Datapool plugins for Viz Engine

## 4.5.2 Installation of Windows-based Graphics Plugin Systems

The installer requires a Windows user with administrator privileges.

- [To install the Graphics Plugin for Adobe on a Windows machine](#)
- [To install the Graphics Plugin for Avid on a Windows Machine](#)
- [To install the Graphics Plugin for Quantel](#)

### To install the Graphics Plugin for Adobe on a Windows machine

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**Note:** Adobe Premiere Pro (or Adobe AfterEffects) must be installed on the workstation before installing the Graphics Plugin for Adobe.  
 -----

1. Double-click the **Windows installer** file (\*.msi) to start the installation.
2. Click **Next** in the appearing Welcome dialog box.
3. Click **Next** in the **Custom Setup** dialog box.
  - *Optional:* Select the features to be installed.
  - *Optional:* Select a different installation location.
4. Click **Install** in the Ready to Install dialog box to start the installation.
5. Click **Finish** to end the installation process.

#### See Also

- [To configure the Graphics Plugin for Adobe on a Windows machine using the configuration tool](#)
- [To remove the Graphics Plugin for Adobe from a Windows machine](#)

#### To install the Graphics Plugin for Avid on a Windows Machine

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**Note:** Separate installers apply for 32- and 64-bit NLE systems. The 32-bit installer should be used together with Media Composer 5/NewsCutter 9 (or older), the 64-bit installer with Media Composer 6/NewsCutter 10.

---

1. Double-click the **Windows installer** file (\*.msi) to start the installation.
2. Click **Next** in the appearing Welcome dialog box.
3. Click **Next** in the **Custom Setup** dialog box.
  - *Optional:* Select the features to be installed.
  - *Optional:* Select a different installation location.
4. Click **Install** in the Ready to Install dialog box to start the installation.
5. Click **Finish** to end the installation process.

#### See Also

- [To configure the Graphics Plugin for Avid on a Windows machine using the configuration tool](#)
- [To remove the Graphics Plugin for Avid from a Windows machine](#)

#### To install the Graphics Plugin for Quantel

1. Double-click the **Windows installer** file (\*.msi) to start the installation.
2. Click **Next** in the appearing Welcome dialog box.
3. Click **Next** in the **Custom Setup** dialog box.
  - *Optional:* Select the features to be installed.
  - *Optional:* Select a different installation location.
4. Click **Install** in the Ready to Install dialog box to start the installation.
5. Click **Finish** to end the installation process.

### See Also

- [To configure the Graphics Plugin for Quantel using the configuration tool](#)
- [To remove the Graphics Plugin for Quantel](#)

## 4.5.3 Basic Configuration of Windows–based Graphics Plugin Systems

This section explains the basic configuration of a Graphics Plugin for Windows.

For Advanced configuration options, open the configuration tool and select the Advanced tab. For more information about the Advanced options, see the Graphics Plugin configuration tool's tool tips or the [Graphics Plugin Configuration Tool](#) section.

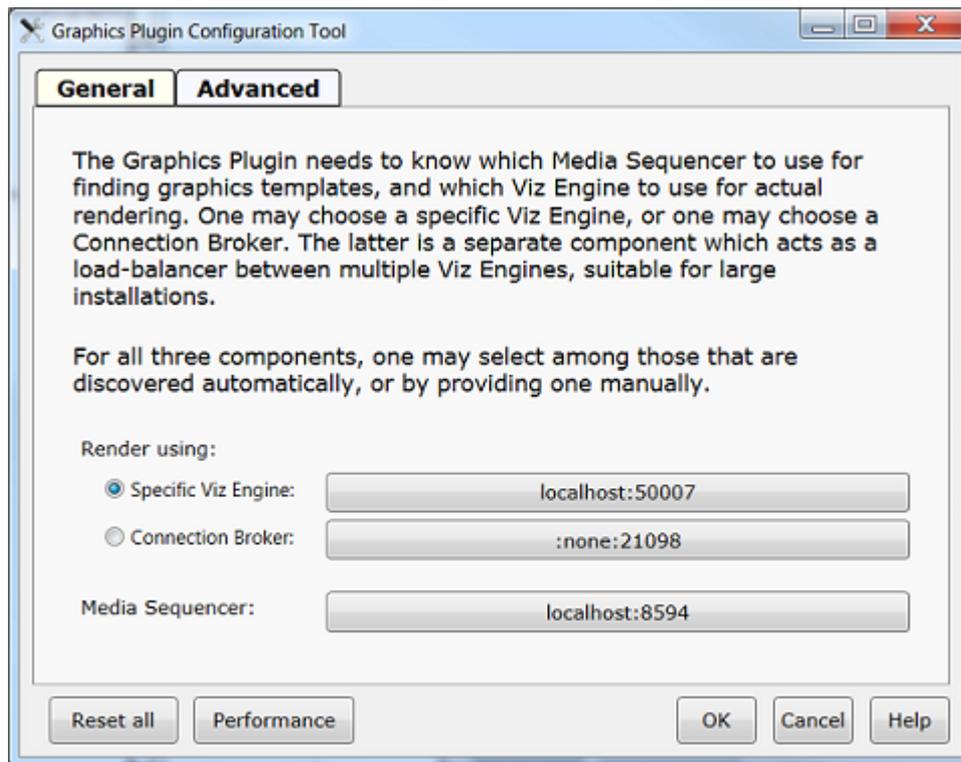
Configuration steps for the following plugins are described:

- [To configure the Graphics Plugin for Adobe on a Windows machine using the configuration tool](#)
- [To configure the Graphics Plugin for Avid on a Windows machine using the configuration tool](#)
- [To configure the Graphics Plugin for Quantel using the configuration tool](#)

### To configure the Graphics Plugin for Adobe on a Windows machine using the configuration tool

1. Start the NLE system; Adobe Premiere Pro.
2. Open a project.
3. Add a *Transparent Video* clip to the project:
  - In the Project panel, make sure that the Project tab is selected, and click the **New Item** button in the lower right corner.
  - From the menu that appears, click **Transparent Video**.
  - In the New Transparent Video dialog box that opens, click **OK**.
  - Drag the new transparent video clip to the Sequence panel.
4. Add the Graphics Plugin to the project:
  - In the Project panel, click the **Effects** tab.
  - Navigate to **Video Effects > Vizrt > Graphics Plugin**, and drag the plugin onto the transparent video clip in the Sequence panel.
5. Select the transparent video clip that holds the plugin.
6. Click the **Effect Controls** tab in the upper left corner.
7. Navigate to **Graphics Plugin > Control**, and click the **Graphics Plugin Editor** button that appears.
8. From the dialog box that appears, click **Configure**.

The *Graphics Plugin configuration tool* then opens.



9. Make sure that the **General** tab is selected.
10. Select a Viz Engine:
  - **Specific Viz Engine:** Sets a Viz Engine connection.
  - **Connection Broker:** Sets a [Connection Broker](#) connection.
11. Select a Media Sequencer.
12. Click **OK** to confirm the settings and close the configuration tool.

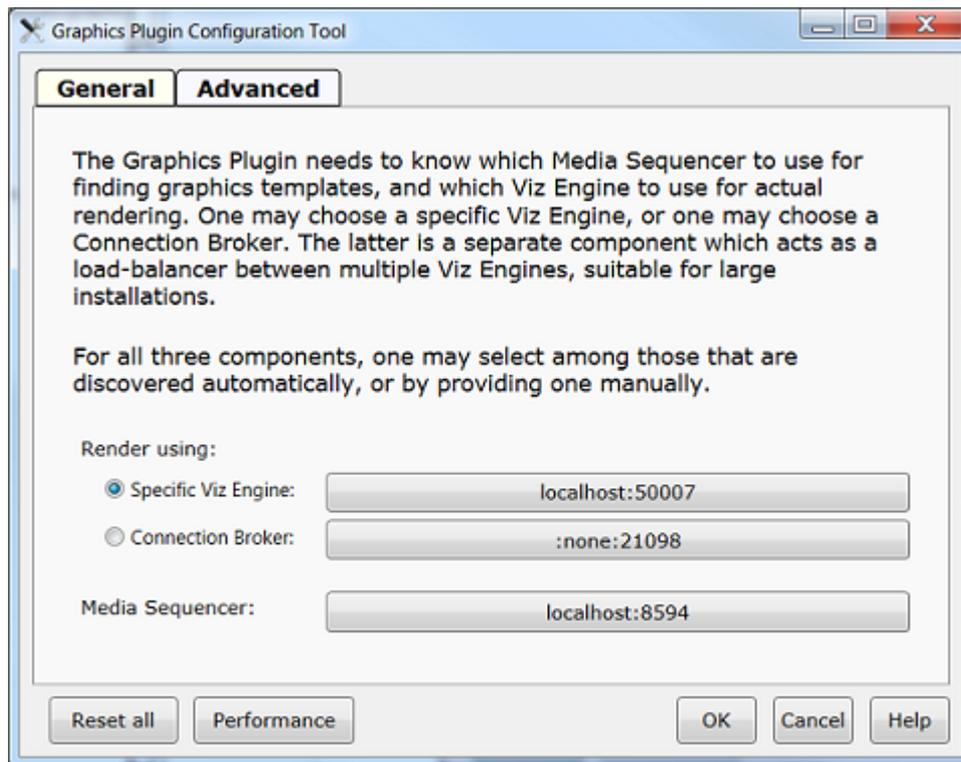
#### See Also

- [Graphics Plugin Workflow with Adobe Premiere Pro](#)

#### To configure the Graphics Plugin for Avid on a Windows machine using the configuration tool

1. Start the NLE system.
2. Create a **new project** and add a video clip to the timeline.
3. On the **Tools** menu select **Effect Palette** and **Effect Editor**.
4. In the **Effect Palette**, open the effect category named **Vizrt**.
5. Drag the **GraphicsPlugin** effect onto the timeline.
6. In the **Effect Editor**, click the **Config** button to open the Graphics Plugin configuration tool.

The *Graphics Plugin configuration tool* then opens.



7. Make sure that the **General** tab is selected.
8. Select a Viz Engine:
  - **Specific Viz Engine:** Sets a Viz Engine connection.
  - **Connection Broker:** Sets a [Connection Broker](#) connection.
9. Select a Media Sequencer.
10. Click **OK** to confirm the settings and close the configuration tool.

After the plugin is configured the first time, the configuration can be accessed by clicking the Graphics Plugin's **Config** button in the Effect Editor window. The *Editor* option is unavailable as long as no Viz Engine and Media Sequencer is configured using the Graphics Plugin configuration tool.

---

**Note:** If all connections are good, the **Editor** button will appear, making either Viz Trio or Viz Pilot available for use. For more information on how to configure Viz Trio and Viz Pilot, read the Viz Trio and Viz Pilot user guides, respectively.

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**Note:** When working with the Graphics Plugin for Avid, an effect is not automatically re-rendered when changing the length of an already rendered effect. In order to re-render this, select *Clear Renders at Position* from the context menu.

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### To configure the Graphics Plugin for Quantel using the configuration tool

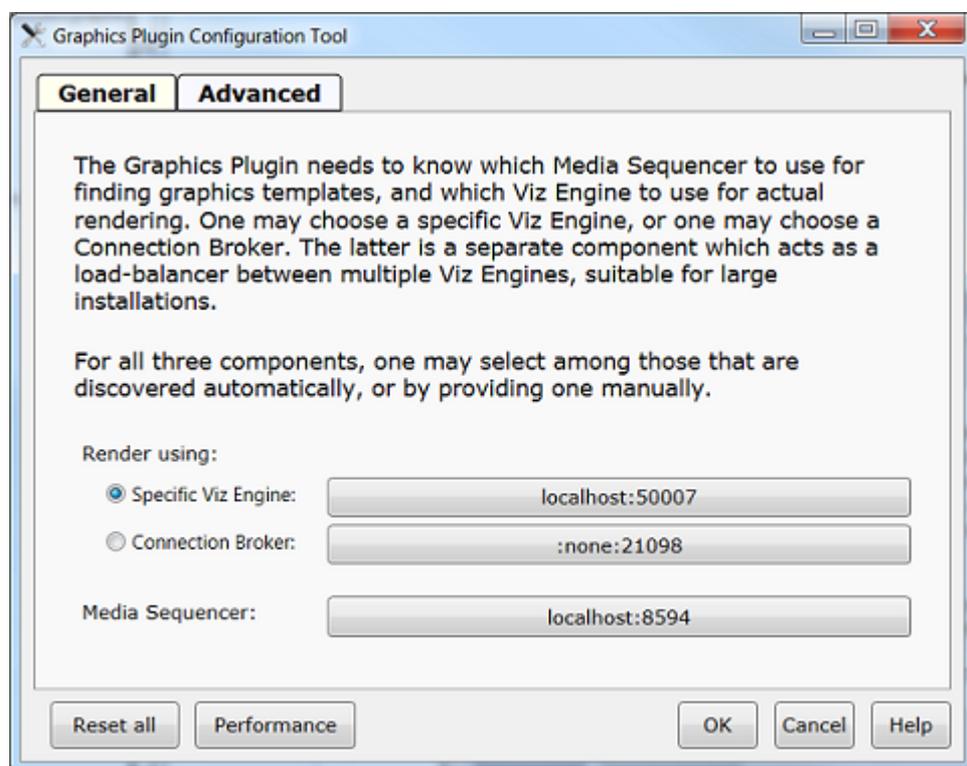
1. Start the NLE system; Quantel.
2. Add a clip to the timeline (the clip is added in layer 1).

3. Create a new layer (layer 2).
4. Make sure that the second layer is selected.
5. Make sure that the **Effects** tab is selected (lower left).
6. Click the **Tracker > Qplugin** button.
7. Click **Favorites > Vizrt > select > VizNlePlugin**.

The Graphics Plugin effect is then added to the second layer in the timeline.

8. In the Vizrt Editor that appears, click the **Viz NLE Config** button.

The *Graphics Plugin configuration tool* then opens.



9. Make sure that the **General** tab is selected.
10. Select a Viz Engine:
  - **Specific Viz Engine:** Sets a Viz Engine connection.
  - **Connection Broker:** Sets a [Connection Broker](#) connection.
11. Select a Media Sequencer.
12. Click **OK** to confirm the settings and close the configuration tool.

#### 4.5.4 Removal of Windows-based Graphics Plugin Systems

The Graphics Plugin is removed using Windows' *Uninstall or change a program*.

- [To remove the Graphics Plugin for Adobe from a Windows machine](#)
- [To remove the Graphics Plugin for Avid from a Windows machine](#)

- [To remove the Graphics Plugin for Quantel](#)

#### **To remove the Graphics Plugin for Adobe from a Windows machine**

1. Open **Uninstall or change a program**.
2. Select **Vizrt Graphics Plugin for Adobe**.
3. Click **Uninstall**.
4. Click **Yes** in the appearing confirmation dialog box.

#### **To remove the Graphics Plugin for Avid from a Windows machine**

1. Open **Uninstall or change a program**.
2. Select **Vizrt Graphics Plugin for Avid**.
3. Click **Uninstall**.
4. Click **Yes** in the appearing confirmation dialog box.

#### **To remove the Graphics Plugin for Quantel**

1. Open **Uninstall or change a program**.
2. Select **Vizrt Graphics Plugin for Quantel**.
3. Click **Uninstall**.
4. Click **Yes** in the appearing confirmation dialog box.

### **4.5.5 Upgrade from Graphics Plugin 1.3 to Later Versions**

As the AVX1 effects are being phased out, newer versions the Graphics Plugin has been implemented for AVX2 to ensure that interoperability is secured for recent and future Avid NLE versions.

Older versions of Avid NewsCutter and Media Composer supported only AVX1, as did the corresponding version 1.3 of the Graphics Plugin. More recent versions of NewsCutter and Media Composer, such as NC 9 and MC 5, supported both AVX1 and AVX2, and hence the Graphics Plugin versions 1.5 and 1.7 also supported both these formats. The new NewsCutter 10 and Media Composer 6, which corresponds to Graphics Plugin version 1.8, support AVX2 only.

Since NewsCutter 10 and Media Composer 6 do not have support for AVX1, migrating AVX1 material must be done before upgrading to these versions.

It is recommended to remove old Graphics/NLE plugins before installing Graphics Plugin 1.5 or 1.7 for Avid, as the consequence of two differing systems on the same machine is undefined. Recent official releases will be automatically removed.

All existing NLE systems need to be reconfigured due to new location and format of configuration files. The configuration is now done after Avid is started. The configuration for 1.5 and 1.7 is user-specific, whereas 1.3 (and older) configuration was done for all users.

An upgrade from Graphics Plugin 1.3 to 1.5 or 1.7 for Windows users is only available to users of Avid NLE systems that support AVX2 effects. Loading projects that use AVX1 effects will not work before the NLE system is updated to use AVX2 effects.

This section contains information on the following topics:

- [Upgrading Effects in Avid NewsCutter and Others](#)
- [To upgrade the Avid Media Composer 3.0 effect\(s\)](#)
- [To upgrade Avid Media Composer 2.8 effect\(s\)](#)
- [To upgrade effects in a transition period](#)

### Upgrading Effects in Avid NewsCutter and Others

Unfortunately many Avid NLE systems do not have the same support for upgrading effects as recent Media Composer versions, so this procedure is more cumbersome.

One problem is that to upgrade effects Avid also needs to have access to the old effect, and if the old AVX1 effect exists on the system it will hide the AVX2 effect in the effect library. This means that new AVX2 effects cannot be created directly, and that new effects will be Graphics Plugin 1.3 and AVX1 effects. Effects will then have to be manually promoted.

As this is an impractical situation, the Graphics Plugin 1.5 and 1.7 installer will try to remove any prior versions of the plugin it finds on the system. This is done to ensure that the new plugin is used when creating a new effect, hence there is no immediate way to upgrade the old effects to new effects.

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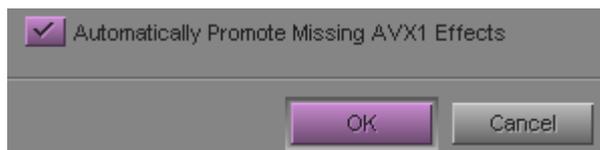
**Note:** It is possible to upgrade old effects to the new plugin version, but the procedure differs based on the Avid version used.

---

### To upgrade the Avid Media Composer 3.0 effect(s)

Graphics Plugins for Avid 1.5 or 1.7 must be installed, and versions prior to 1.5 and 1.7 must be removed, otherwise the following procedure will not work. If an older version is not removed it will take precedence over later versions.

1. Start Avid Media Composer 3.0.
2. In the **Project window**, go to the Settings tab and double-click on **Effect Editor**.



3. In the appearing dialog box, check the box labeled **Automatically Promote Missing AVX1 Effects**.

- *Optional:* In Avid Media Composer 3.0 it is also possible to manually upgrade an old effect by opening the **Effect Editor** for the effect and clicking the **Promote** button.

4. Click **OK**, and **restart** the Avid system.
5. From then on, when you open a sequence with missing effects (that contains old AVX1 effects), a dialog box will be displayed with the following message:

*"This sequence contains missing AVX effects which will be promoted to Advanced Keyframe AVX 2.0 effects. A copy of the sequence will be created before it is updated."*

6. Click **OK**.
  - A backup copy of the sequence will be made, and the missing effects will be promoted to AVX2.

-----  
**Note:** Old effects will not be accessible until the NLE system is updated.  
 -----

### **To upgrade Avid Media Composer 2.8 effect(s)**

Graphics Plugins for Avid 1.5 or 1.7 must be installed, and versions prior to 1.5 and 1.7 must be removed, otherwise the following procedure will not work. If an older version is not removed it will take precedence over later versions. Vizrt also recommends upgrading Avid systems if conformation problems are experienced with the current version.

1. Start Avid Media Composer 2.8.
2. After opening a bin, but before opening a sequence, type the following command in the Avid console:
 

```
PromoteMissingAVXEffects
```
3. Open a sequence with AVX1 effect(s).
4. If there are any missing promotable AVX1 effects, a confirmation dialog box will be displayed.
5. Click **OK** to promote the effect(s).

-----  
**Note:** This must be done for every project/bin that contains old effects.  
 -----

### **To upgrade effects in a transition period**

After a promotion, the NLE system will work exclusively with AVX2 effects. If other projects needs to be upgraded just repeat the procedure.

Vizrt strongly discourage doing anything else than promoting old effects while both versions are installed. Editing should only be used with the new effects when both are installed.

1. **Remove** the old plugin version.
2. **Install** Graphics Plugin 1.5 or 1.7 for Avid.

3. Then **install** the latest **1.3** release of the plugin, which will use the old configuration (INI) file right away.
4. **Open** a project with old effects.
5. For each effect, open the **Effect Editor** and click the **promote/upgrade** button.
6. Save the **project**.
7. Repeat steps 3 to 6 for similar projects.
8. **Exit** Avid, and **remove** the Graphics Plugin 1.3 for Avid.

---

## 5 User Interface

This section describes the Graphics Plugin Editor and Graphics Plugin configuration tool interface. The configuration tool enables you to configure and tune the Graphics Plugin while using the NLE client.

All settings described in the following sections are valid for the latest version of the Graphics Plugin. For older versions, see available documentation for the version in question. Example settings are given where it is needed to illustrate how they are used.

This section contains information on the following topics:

- [Graphics Plugin Editor](#)
- [Graphics Plugin Configuration Tool](#)
- [Graphics Plugin Performance Tester](#)

### See Also

- *Viz Pilot User's Guide*
- *Viz Trio User's Guide*

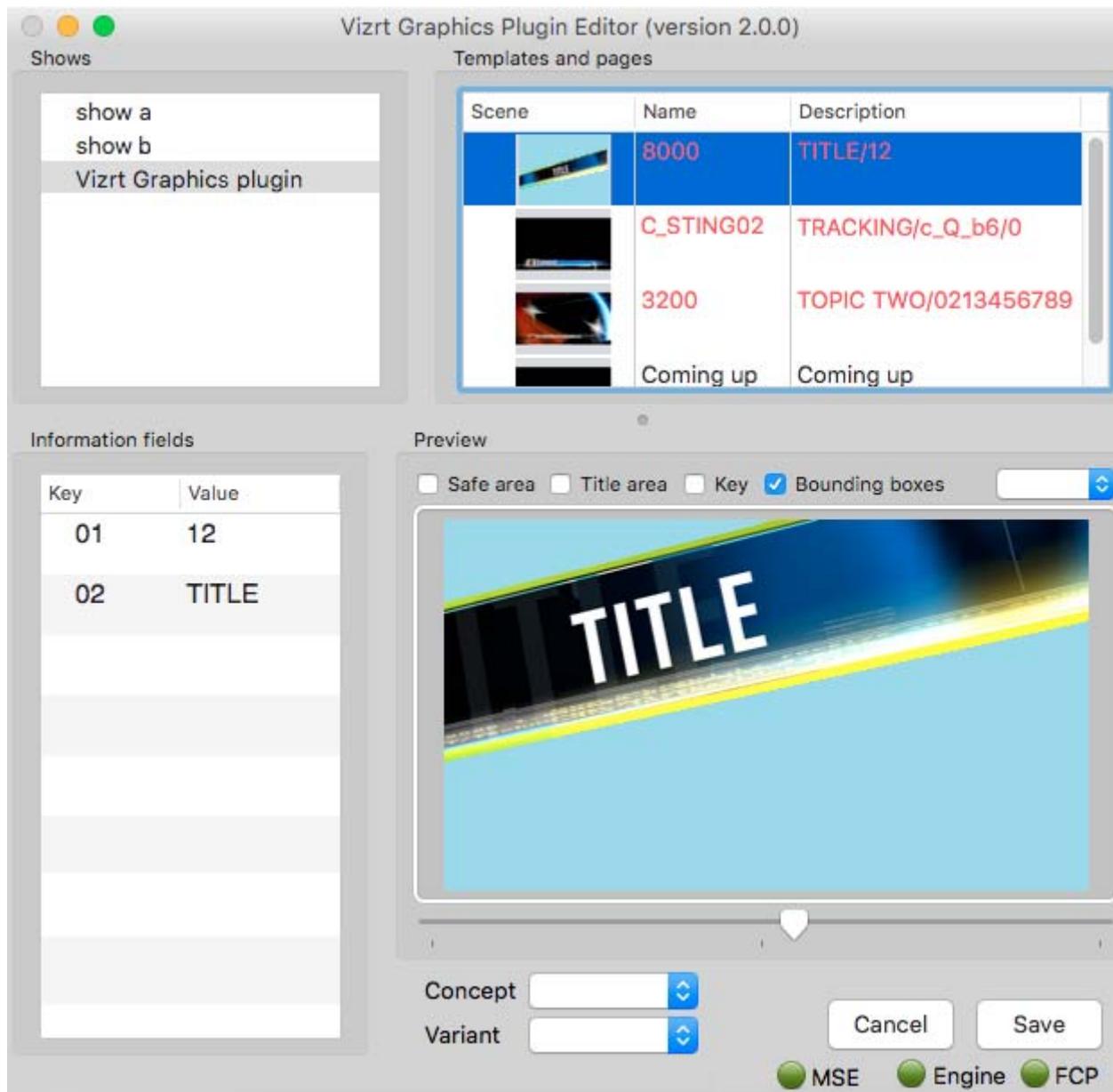
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### 5.1 Graphics Plugin Editor

This section describes the Graphics Plugin Editor's interface (available for Mac users). If you are using Windows with Viz Pilot or Viz Trio, please refer to the respective user guides.

This section contains information on the following topics:

- [Menu Options in Graphics Plugin Editor](#)
- [Information Fields in Graphics Plugin Editor](#)
- [Preview Settings in Graphics Plugin Editor](#)



### Menu Options in Graphics Plugin Editor

The following menu options are unique to the Graphics Plugin Editor. Other options are generic options provided by the operating system.

- **Page**
  - **Save Page (Cmd+S)**: Saves a page back to the Media Sequencer.
  - **Next tabfield (Cmd + Arrow Down)**: Selects the next tabfield.
  - **Previous tabfield (Cmd + Arrow Up)**: Selects the previous tabfield.
- **Show**
  - **Import Trio XML Archive**: Imports an exported Viz Trio archive. The import recreates the exported show on the connected Media Sequencer.

---

**Note:** When performing an import you should always make sure that the scenes are available to the connected Viz Engine.

---

### Information Fields in Graphics Plugin Editor

The Graphics Plugin Editor supports the most common control properties; however, it is only possible to input text, change numerical values, select images, geometries, fonts and materials.

There is no support for input of boolean values, editing of lists and tables or scrolls. However, the editor can use and render Viz Trio pages made using a regular Viz Trio even though they have these field types.

### Preview Settings in Graphics Plugin Editor

The following may be set for the preview:

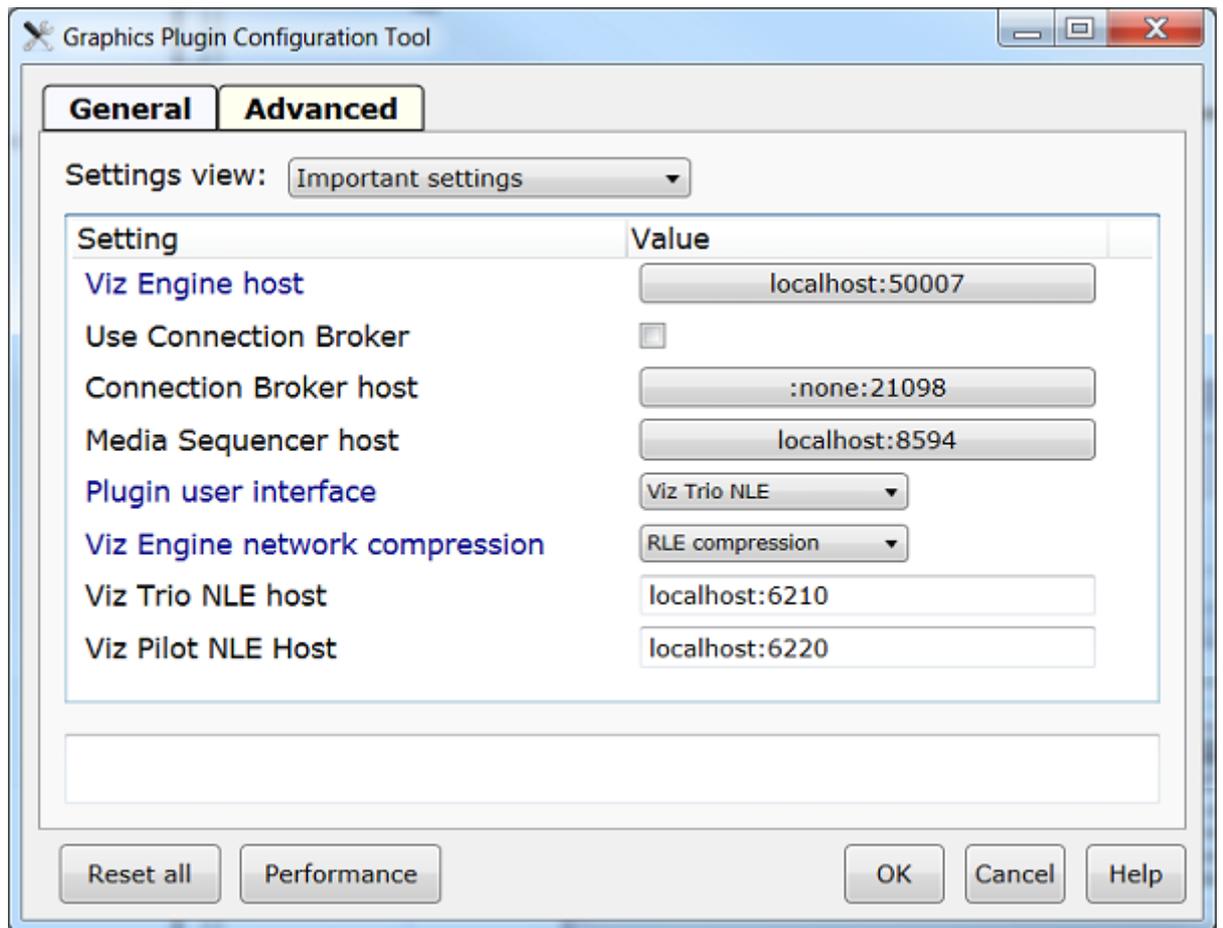
- **Safe area:** Shows the defined safe area configured by the current Viz Engine.
- **Title area:** Shows the defined title area configured by the current Viz Engine.
- **Key:** Shows the graphics' key signal.
- **Bounding boxes:** Shows the bounding boxes for the graphical elements in the scene.

---

## 5.2 Graphics Plugin Configuration Tool

This section describes the basic user interface that applies for the configuration tool's General and Advanced tab.

- **Reset All:** Resets all settings to default (factory settings).
- **Performance:** Opens the performance tester for [Tuning the System](#). See also [Graphics Plugin Performance Tester](#).
- **OK:** Saves the current configuration.
- **Cancel:** Cancels all changes and closes the configuration tool.
- **Help:** Opens this guide in a browser.



Depicted above is the Windows-based configuration tool that describes the basic settings needed to connect to a remote machine running a multiplexed Viz Engine and a Media Sequencer as the “database”.

The following sub sections describe all user-configurable settings under the configuration tool’s Advanced tab. The tables contain information about valid values and what the settings are used for. Information about operating system specific settings are noted in the Description column.

This section contains information on the following topics:

- [Important Settings in Graphics Plugin Configuration Tool](#)
- [Plugin Settings in Graphics Plugin Configuration Tool](#)
- [Viz Engine Settings in Graphics Plugin Configuration Tool](#)
- [Editor Settings in Graphics Plugin Configuration Tool](#)
- [Object Store Image Search](#)
- [Startup Variables](#)
- [Shared System Settings](#)

## 5.2.1 Important Settings in Graphics Plugin Configuration Tool

The [Important settings](#) view displays the most important settings needed in order to run the Graphics Plugin.

Table 2: Important settings

Setting	Description
Viz Engine host	See the <a href="#">Viz Engine Settings in Graphics Plugin Configuration Tool</a> section.
Use Connection Broker	Enables use of the Connection broker, see <a href="#">Connection Broker</a> .
Connection Broker host	Sets the host of the computer running the Connection Broker, see <a href="#">Connection Broker</a> .
Media Sequencer host	Sets the host of the computer running the Media Sequencer service.
Plugin user interface	See the <a href="#">Plugin Settings in Graphics Plugin Configuration Tool</a> section.
Viz Engine network compression	See the <a href="#">Viz Engine Settings in Graphics Plugin Configuration Tool</a> section.
Viz Trio NLE host	Defines the hostname of the machine running the Viz Trio NLE. Typically, this hostname is <i>localhost</i> .
Viz Pilot NLE host	Defines the hostname of the machine running the Viz Pilot NLE. Typically, this hostname is <i>localhost</i> .

.....  
**Tip:** These settings can be modified by selecting *Important settings* from the drop-down list in the Graphics Plugin configuration tool's **Advanced** tab.  
.....

## 5.2.2 Plugin Settings in Graphics Plugin Configuration Tool

The [Plugin settings](#) view displays all settings that are separate and only in use by the Graphics Plugin, hence they are not application specific settings such as Viz Engine and Graphics Plugin Editor.

Table 3: Plugin settings

Setting	Description
Plugin anti-aliasing	Determines whether requests for small frame sizes should be anti aliased on the Viz Engine.

**Table 3:** Plugin settings

Setting	Description
Plugin color correction	<p>Enables broadcast-safe colors.</p> <p>Set cap-601 to cap high and low values directly to get 16-235.</p> <p>Set linear-cap-601 to perform a linear recalculation of the data to 16-235.</p> <p>Default value is <i>None</i>.</p>
Plugin field dominance	<p>In case the host application consistently reports a wrong field dominance to the plugin, it is possible to force the plugin to assume the field dominance which is correct. It will not override the host application when the host application states that there is no field dominance, but will override it when it does.</p> <p>Available options are: Autodetect (default), Lower field first and Upper field first.</p> <p>Limitation: Mac OS X only.</p>
Plugin log directory	<p>Use this setting to override the default logging directory.</p> <p>See the <a href="#">Log Files</a> section for more information on logging.</p>
Plugin log level	<p>Set the log level in order to provide an error report to Vizrt. Set to "Report" the plugin will generate dated log files. See the <a href="#">Log Files</a> section for more information on log file locations.</p> <p>Only use it when it is specifically needed to make a report as it will slow the effect of the plugin.</p> <p>The default directory where logs are saved can be overridden using the plugin log directory setting.</p> <p>If set to <i>None</i>, the plugin will only log errors, which is the default behavior.</p> <p>If set to <i>Report</i>, the plugin will in almost all cases include enough information in the log files to let Vizrt figure out the cause of problems.</p> <p>If set to <i>Extreme</i>, the plugin will generate a very large amount of logging information.</p> <p>Options: <i>None</i>, <i>Report</i> and <i>Extreme</i>.</p> <p>Default value is <i>None</i>.</p>
Plugin premultiply alpha	<p>Configures whether the plugin will pre-multiply alpha or not when rendering. In some cases the Viz Engine has already multiplied the color channels with the alpha channel.</p>

**Table 3:** Plugin settings

Setting	Description
Plugin should log fields/frames	Enables the plugin to dump all frames and fields it renders to the file system allowing the user and Vizrt support to identify issues related to the graphics. Files are dumped in a sub directory below the "Plugin log directory".
Plugin user interface	Sets the interface to use for selecting graphics templates.  The plugin works with Viz Trio (default) and Viz Pilot. A Viz Trio template and Viz Pilot template that use the same scene, are two different entities. Once an editor is set and used to add a graphic effect to the timeline the effect is also bound to that editor. To create an effect with a template from another editor the old effect must first be deleted, a new editor configured, and then a new effect created.  Limitation: Windows only.

-----  
**Tip:** These settings can be modified by selecting *Plugin settings* from the drop-down list in the Graphics Plugin configuration tool's **Advanced** tab.  
-----

### 5.2.3 Viz Engine Settings in Graphics Plugin Configuration Tool

The [Viz Engine settings](#) view displays all settings relevant for Viz Engine.

**Table 4:** Viz Engine settings

Setting	Description
Use Connection Broker	Enables the Graphics Plugin to connect to the Connection Broker for graphics rendering.
Connection Broker host	Sets the hostname or IP address of the Connection Broker (see <a href="#">Connection Broker</a> ).
Viz Engine host	Sets the hostname or IP address of the Viz Engine renderer.
Viz Engine network cleanup	Sets the time for how long the plugin should wait after last use before considering tidying up loose connections to the Viz Engine.  Unless the actual use of the plugin has been measured, this should not be changed.  Default value is <i>8m</i> .

**Table 4:** Viz Engine settings

Setting	Description
Viz Engine network compression	<p>Sets the compression to level.</p> <p>No Compression for gigabit networks will send all frames across the network uncompressed.</p> <p>PNG (Portable Network Graphics) is a lossless compression format.</p> <p>RLE (Run-length Encoding) is a lossless compression format. RLE is only supported by Viz Engine 3.2.2. and later versions (see the <a href="#">Software Requirements</a> section).</p> <p>It is recommended to use no compression on gigabit networks, and compressed formats on slower networks (e.g. 100mbit).</p> <p>Default value is <i>RLE</i>.</p>
Viz Engine network timeout	<p>Sets the time for how long Viz Engine connections should wait for replies.</p> <p>Unless network measurements for the Viz Engine has been performed, this setting should not be changed.</p> <p>Default value is <i>45s</i>.</p>
Viz Engine prefetching	<p>Pre-fetching, also known as caching, greatly increases the rendering speed when using a start to stop rendering, like Pinnacle's yellow slices, or Avid's pre-render effect mode.</p> <p>Failsafe mode is <i>off</i>.</p> <p>Default value is <i>on</i>.</p>
Viz Engine prefetch size	<p>Use this setting to indicate how many frames or fields the plugin should pre-fetch. A higher number improves start to stop rendering (pre-render) performance but reduces the scrub performance.</p> <p>Note that this option is only available if pre-fetching is enabled.</p> <p>Default value is <i>20</i>.</p>

.....  
**Tip:** These settings can be modified by selecting *Viz Engine settings* from the drop-down list in the Graphics Plugin configuration tool's **Advanced** tab.  
.....

## 5.2.4 Editor Settings in Graphics Plugin Configuration Tool

The different editor settings views display settings relevant for either the Graphics Plugin Editor, Viz Trio or Viz Pilot. Limitations are noted.

**Table 5:** Editor settings

Setting	Description
Drive remappings	Semicolon-separated list of drive remappings used during import of Viz Trio shows. These will cause associated files of the specified file types to be unpacked to a different drive letter than stored in the *.trioshow file. Each mapping is on the form wildcard=driveletter. Limitation: Only used by Viz Trio.
Executable	Name of the editor's executable file. Can be changed in case another filename is in use than the usual. Default values are <i>trionle.exe</i> or <i>VcpAxNle.exe</i> . Limitation: Windows only.
Grace period	Sets the time for how long the plugin should give Graphics Plugin Editor to start everything without interruptions. Default time is 2s.
Host	Sets the hostname or IP address of the machine running the Graphics Plugin Editor, Viz Trio or Viz Pilot.
Network timeout	Sets the time for how long connections to Graphics Plugin Editor should wait for replies. Unless network data for the Graphics Plugin Editor has been measured this should not be changed. Default value is 90s.
VOS image search	URI template for image search from Object Store, a component of Viz Pilot. This requires the Viz Pilot Data Server, introduced in Viz Pilot 5.6. Being a URI template means there should be a placeholder in the text you enter, indicated by curly-brackets, which gets replaced by specific search terms, as in this example: <code>http://vcpserver.example:8177/vos/search?q={query}</code> . Limitation: Mac only.
Options	The exact command line option(s) string that should be passed to the editor's process at startup. For more information on command line options, see the <a href="#">Startup Variables</a> section. Limitation: Only used by Viz Trio and Viz Pilot.

**Table 5:** Editor settings

Setting	Description
Shared folder	Shared path used for temporary files during import of Viz Trio shows. Both the Graphics Plugin and the external Viz Engine should have full access to this folder. Limitation: Only used by Viz Trio.
Shared folder for Viz Engine	Shared path as seen from the Viz Engine machine, must refer to the previous setting. Only needed if the external Viz Engine uses a different path (e.g mapped network drive) for the same folder. Limitation: Only used by Viz Trio.

**Tip:** The various editor settings can be modified by selecting *Graphics Plugin Editor*, *Viz Trio NLE* or *Viz Pilot NLE* from the drop-down list in the Graphics Plugin configuration tool's **Advanced** tab.

## 5.2.5 Object Store Image Search

When using the *Graphics Plugin for Final Cut*, it is possible to set up an Object Store image search, provided that an app server is set up.

### To perform an Object Store image search

1. Create a sequence.
2. Add a clip to the sequence.
3. Drag the Graphics Plugin effect to the sequence.
4. Double-click the effect, and select the **Controls** tab at the top of the screen.
5. From the **Controls** panel, click the **Graphics Plugin Config** button.
6. In the **Graphics Plugin Configuration Tool** window that opens, click the **Advanced** tab.
7. From the **Settings view** list, click *All settings*.
8. Locate the **VOS image search**, and set the path to your Object Store.
9. Click the **OK** button.
10. Back in the **Controls** panel, click the **Graphics Plugin Editor** button.
11. In the **Graphics Plugin Editor** window that opens, select a show and then a template containing an image field.
12. From the **Information fields** list, select the field that contains the image.
13. From the window that opens, click the **Search** tab.
14. Type a search string that matches your preferences in the search field.
15. From the list of images on your app server, select the one you prefer.

16. The image is being updated both as a thumbnail in the **Information fields** list, and in the preview window.

17. Click the **OK** button to return to the sequence view.

## 5.2.6 Startup Variables

Options are used as variables for the actual value set for the plugin. The options can be used as part of an editor's startup options.

The following options are available and configurable:

- MSE\_HOST: References the active *Media Sequencer host*.
  - Example: `-mse MSE_HOST`
- LOG\_PATH: Refers to the currently used *Plugin log directory*.
  - Example: `-logfile-path "LOG_PATH"`

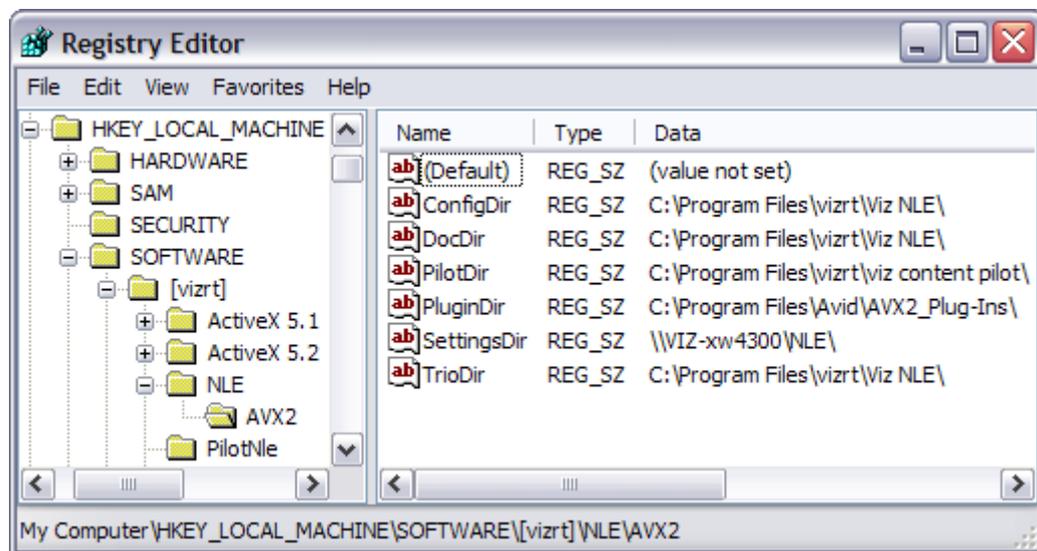
---

**Note:** The startup options are only valid for NLE editors on Windows.

---

## 5.2.7 Shared System Settings

This section covers the shared settings feature that is available to Windows users in the system registry.



Whereas the Graphics Plugin 1.3 setup file had a static placement for example under `C:\Program Files\`, the new system stores the settings in a per-user directory, for example under `C:\Documents and Settings\\`. Placing the same file in a shared directory allows multiple users to use a standardized setup overriding per-user settings.

---

**Note:** The shared setting does not apply for Mac users.

---

By adding a Windows registry entry with a path to the *master configuration file*, the settings in that file will take precedence over the default values for the various settings, but the individual settings that the user changes in the Graphics Plugin configuration tool will take precedence over the *master configuration file*.

HKEY\_LOCAL\_MACHINE/SOFTWARE/[vizrt]/NLE/AVX2/SettingsDir

Given a particular setting, the following rules apply:

1. If a setting has been set using the Graphics Plugin configuration tool, that value is used, otherwise
2. if it has a value in the master configuration file, that value is used, otherwise
3. the *default* value for the setting is used.

#### **To add a shared system setting**

1. Start Graphics Plugin configuration tool.
2. Configure the Graphics Plugin using the configuration tool.
3. Save and exit the configuration tool.
4. Find the file *vizplugin.xml* in the current user's *Application Data* folder.
5. Copy the file to the designated shared location.
6. Set up the *SettingsDir* registry entry to point to the shared directory location where the copied file was placed.

---

## **5.3 Graphics Plugin Performance Tester**

With the Graphics Plugin for Windows and Mac there is a small performance tester tool available for testing various configurations. The tool will test the plugin directly and how it performs on the network and how quickly it returns graphics to the NLE system.

It will not test the time it takes to fill the NLE system's frame buffer or the time the NLE system uses between each request for frames to the NLE system. Hence, it is recommended to test the NLE system once the Graphics Plugin is tested and found to be working satisfactory.

Protocol	Prefetch	Time w/ pause	FPS w/ pause	Time w/o pause	FPS w/o pause
Viz Engine	ibm3 (ibm3:50007)				
Image protocol	<input checked="" type="checkbox"/> RLE <input type="checkbox"/> PNG <input checked="" type="checkbox"/> No compression				
Prefetch size	<input type="checkbox"/> 5 <input checked="" type="checkbox"/> 10 <input checked="" type="checkbox"/> 20 frames or fields				
Scene name	02_GFX/GraphicsPlugin/1000				
Clip length	10 seconds				
Pause time	20 milliseconds				
Video mode	1080i, 60fps				
<input type="button" value="Run tests"/>					

The performance tester tool tests the rendering, network speed and how long it takes before the plugin delivers a frame to the NLE system, that is the raw speed of the plugin.

- **Results table:** Shows a table of results displaying the protocol tested, prefetch size, time and frames per second achieved.
- **Viz Engine:** Sets the Viz Engine host to be used for testing.
- **Image protocol:** Sets the parameter for how to transfer the graphics over the network. Select one or multiple options.
- **Prefetch size:** Sets the pre-fetching that will be tested. Available options are 5, 10 or 20 frames or fields.
- **Scene name:** Sets a particular scene that can be loaded and tested (e.g. 02\_GFX/VizNLE/1000).
- **Clip length:** Sets the length of the clip that is to be rendered. 5 or 10 seconds are good starting points to check the rendering time.
- **Pause time:** Sets the pause in milliseconds between renders, that is the time that an NLE system uses to process the previous data. This would be set much lower for SD than for HD. It is recommended to try other values between 0 and 100 ms+ to see how this affects the network use. For more information, see the [Tuning the NLE System](#) section.

- **Run tests:** Tests the current settings configured for the plugin with the clip length and pause options set. This is useful when performing tests with concurrent users.
- **Video mode:** Sets the Viz Engine video mode to either:
  - 1080i 50 FPS
  - 1080i 60 FPS
  - 720p 50 FPS
  - 720p 60 FPS
  - PAL
  - NTSC
- **Test summary:** Shows a report of problems and various statistics.

Once the settings that give the optimal results are found they can be set in the Viz configuration tool manually such that the settings can be tested with the actual NLE system as well.

#### See Also

- [Tuning the System](#)

---

## 6 Tuning the System

The Graphics Plugin is a fairly complex product that involves several applications communicating over a network. These applications need to be individually robust and the communication between them equally robust.

The first step of any installation is to see that everything works fine; hence, the plugin will in most cases work out of the box. After everything is working, the next step is to configure it to work reliably in the work environment it is used which for many is a non-trivial task.

This section contains information on the following topics:

- [Introduction to Tuning the NLE System](#)
- [File Compression](#)
- [Prefetching](#)
- [Concurrent Graphics Plugin Users](#)
- [System Processing](#)

### See Also

- [Graphics Plugin Performance Tester](#)

---

### 6.1 Introduction to Tuning the NLE System

The Graphics Plugin is designed to give the NLE system direct access to preview, edit and apply graphics to the NLE project and consequently onto the video on the timeline. In addition the Graphics Plugin is designed around the concept of one renderer being shared by several concurrent users on a fast network. The complexities of this design is hidden from the normal user and to a certain extent to the system administrator. Hence, there are multiple challenges with this approach when effects are rendered.

The following can be described as a common workflow for most NLE systems:

- The NLE system (Final Cut Pro, Avid Media Composer and others) demands a frame or field from the Graphics Plugin.
- The Graphics Plugin checks its configuration and tries to connect to Viz Engine over the network.
- When connected, the plugin will query Viz Engine for basic information, load the graphical scene in question and set the correct values in the scene, and stretch the graphics to fit the effect in the NLE project.
- The plugin will then start requesting fields and frames from Viz Engine depending on what the NLE system has requested.
- Viz Engine will receive the requests and ensure that the right scene is loaded and move to the right frame or field and grab the graphics and send them back over the network.

- Graphics Plugin will receive the graphics and hand them back to the NLE system.
- The NLE system will process the data it received before requesting more graphics, thus repeating the steps above.

The procedure described above is simple to follow, it works fine and is easy to test. The problem with it is that it is not very fast. The most obvious problem is that NLE systems ask for a simple frame or field at a time and blocks until it gets a reply. The Graphics Plugin sends the request to Viz Engine and has to wait for a reply before it replies back to the NLE system.

The first concern is the amount of data being sent, for example a simple interlaced HD (1080i) field with full alpha is 4MB (1920\*540\*4 bytes) in size which will take some time to transmit. To render a 5 second interlaced HD clip at 50 frames a second means that more than a gigabyte of raw data has to be rendered and then processed by Viz Engine, sent over the network, received by the Graphics Plugin, and then moved into the buffers provided by the NLE system whereupon the NLE system needs to process the gigabyte of data.

Every network also has latency and is affected by other traffic on the network. Waiting for every request returning with 4MB of graphic will take time, and then waiting for the NLE system to process it further also means that there is a lot of inactivity. Therefore, the Graphics Plugin has a goal of whenever the NLE system asks for a frame or a field it will have it ready to cut the delay. The plugin tries to accomplish this by keeping the network and Viz Engine continuously busy. It will try to predict what the NLE system will ask for next by asking Viz Engine in advance for graphics. Once Viz Engine has received the request it will render the graphics, have it sent back to the plugin which will process it to fit the format of the NLE system and have it ready.

To keep this workflow going there are a number of factors affecting it:

- What tv-standard to use, for example PAL is a lot smaller than 1080i and will be quicker to render, process and send over the network.
- The CPU and GPU of the Viz Engine defines how fast it can deliver graphics. As always, a better graphics card, faster CPU and more memory will help.
- The network card on Viz Engine and the NLE client machine.
- The network capacity defines how much data can be sent over the network.
- The compression of the data decides both how much CPU is used on Viz Engine to compress and on the client to uncompress, as well as how much data is sent over the network.
- The amount of ask-in-advance requests keeping the renderer and the network busy.
- The processing the NLE system needs to do with the data it receives (affected by CPU and/or GPU, memory, software and so on).

Some things can be improved by adding hardware to the renderer and the clients, and by using as fast a network as possible. Other things, such as [File Compression](#), [Prefetching](#) and [Concurrent Graphics Plugin Users](#), can be configured, either by the plugin or by convention. In addition the processing done by the NLE system will have a great impact on the performance as well.

## See Also

- [System Processing](#)

---

## 6.2 File Compression

Currently the Graphics Plugin supports two different types of compression as well as sending uncompressed data.

The following options are available:

- No compression (raw)
  - **Benefit:** No CPU spent on the renderer to compress and no CPU spent on the client to decompress. Usually very good for SD on good networks. Very good on clients with weak CPU and a good network card.
  - **Problems:** For HD the amount of data is large, and it will typically take longer to transfer over the network than compressed alternatives and it will use a lot of network capacity.
- Portable Network Graphics compression (PNG)
  - **Benefit:** Compresses graphics very well. On very slow networks this compression will have a very small footprint, which is useful for example over a Digital Subscriber Line (DSL) network, 10Mbit networks or district offices rendering on a renderer in a central office.
  - **Problems:** Can use a lot of CPU to compress and decompress, which will be a problem on slower computers. Generally outperformed by the other two options and mostly useful for special cases.
- Run-length Encoding compression (RLE)
  - **Benefit:** Compresses graphics well. Is easy and fast to compress and decompress. Uses a small fraction of the space for a 1080i field compared to no compression so network footprint is quite good. For HD on fairly updated computers it will often perform best. Also does very well on 100Mbit networks. Has special handling that exploits the nature of TV-graphics and NLE graphics which contain bigger open areas, for example lower thirds, over the shoulders, and so on.
  - **Problems:** Uses CPU on the renderer and the client, so less powerful machines might get better performance with no compression. The smaller amounts of data with SD negates some of the compression benefits, but can often be best for SD too. Might not give much benefit if there are big horizontal gradients.

Experience when testing in a lab has shown that the general advice above will not always hold, and only on site testing will tell what works best for a given network.

---

## 6.3 Prefetching

As explained, in the [File Compression](#) section, the Graphics Plugin will try to guess what the NLE system will ask for next and ask for the frames and fields from the renderer in advance. It is possible to disable this feature but this will be

the safe mode described earlier and is only for use if there are problems with the pre-fetching.

When tuning the performance, the question is how aggressive the pre-fetching should be. The current releases use more aggressive pre-fetching than earlier, so the key thing is to configure how many fields to pre-fetch, that is, how many graphics requests should be on the network from one client at any given moment. It is also an option to ask the system to pre-fetch the whole clip, and it would probably give a reasonable performance; however, this will block the Viz Engine for other users who want to edit their effects, scrub the timeline or render. In general the default setting of pre-fetching 20 fields is a good compromise, but the setup might require a different value and anything between 5 and 30 are acceptable values.

#### See Also

- [File Compression](#)

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## 6.4 Concurrent Graphics Plugin Users

The Graphics Plugin has been designed for several users editing, scrubbing the timeline and rendering at the same time. And the users should have a responsive system and they all need to have their own state on the Viz Engine. Viz Engine has its own built-in multiplexer functionality.

When tuning performance it is important to take into account that testing on a single machine will not give the full answer as to how it will be when all machines are working at the same time. In a video editing environment one can also assume that big video files are also transferred over the network taking up a certain amount of the network capacity. The *Graphics Plugin performance tester* will only test speed for one user, so the real test is to test with several users after things are ok for a single user.

#### See Also

- [Graphics Plugin Performance Tester](#)

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## 6.5 System Processing

One thing that we have seen is that despite an optimally configured Graphics Plugin, users still might have performance problems. One important factor is the size of the project. One can safely assume that working on a fully interlaced HD (1080i) project will use more resources than PAL or NTSC.

When there is a mismatch between video size and the timeline/project settings, the NLE system might need to rescale graphics and video which is a costly process. Rendering on a video that resides on a shared drive on the network will also steal valuable network capacity.

Consider the following case; An interlaced HD project with a well-configured Graphics Plugin has an effect added to a layer above the video, and rendering is started. The following will happen;

1. The NLE system asks for a frame,
2. receives it from the Graphics Plugin,
3. and processes the graphics and possibly caches the data on disk.

These steps will then be repeated for each frame. Steps 1 to 2 might only take 20 milliseconds (ms); however, the time from 2 to 3 can be as much as 600–1000 ms. So ensuring that the video size, format, project, and timeline settings correspond with each other, and that rendering is done locally on a fast disk helps a lot. Although the performance analysis reports all things as good, the system as a whole might be slow due to slow hardware on the NLE system.

---

## 7 Scene Design

When designing scenes in Viz Artist that is to be used together with the various [Supported NLE Systems](#), it is important to follow specific design conventions, in order for the output to render correctly.

The following notes must be taken into consideration when designing for the Graphics Plugin workflow:

- [Key](#)
- [Stop Points](#)
- [Stretching Stop Points](#)
- [Directors and Stop Points](#)
- [Sound and Stop Points](#)
- [Video and Stop Points](#)
- [Effect Plugins](#)
- [Transition Logic](#)
- [Lift and Extract](#)

### Key

When designing a scene that is to be used in the Graphics Plugin workflow, a *key* signal must be added to the scene, in order for the graphics to blend correctly with the video.

The key signal can be created by adding the Key plugin to one or more containers in the scene, or by enabling Auto Key under the global scene settings.

### Stop Points

When designing a scene that is to be used in the Graphics Plugin workflow, one or more *stop points* should be added to the directors at the root level of the Stage.

In a scene that contains only one stop point, the in-animation takes place on the left side of the stop point in the Stage, while the out-animation is visualized on the right side. The stop point will automatically be converted to a pause point, and if needed, stretched, to make the entire animation (in, pause, and out) match the length of the graphics element in the NLE timeline.

### Stretching Stop Points

The stop points in a scene will automatically be stretched, in order for the animation to match the length of the graphics element in the NLE timeline.

As an example, imagine having an in-animation of 3 seconds and an out-animation of 4 seconds. If the animation is stretched to 10 seconds in the NLE timeline, the in-animation will be shown for 3 seconds, followed by the stop point

between the in- and out-animation that will be stretched to 3 seconds, and then the out-animation will be shown for 4 seconds, totaling to 10 seconds.

In another example, if the animation above is shortened to 5 seconds, it will show the in-animation for 3 seconds, skip the pause point, and then cut the out-animation down to 2 seconds.

When using multiple stop points, the length of the stretching will be divided evenly across the stop points. Note that in the NLE workflow, it is not possible to adjust the length of the various stop points. Again an example, so if the animation contains two stop points and is stretched to 17 seconds, then the in-animation will be shown for 3 seconds, the first stop point for 5 seconds, the second for another 5 seconds, and then finally the out-animation for 4 seconds.

### **Directors and Stop Points**

Stop points that are used to pause and stretch animations, must be placed in directors at the root level of the Viz Artist Stage. Stop points that are placed in sub-directors (not at the root level), will be ignored by the NLE system.

Animations that are paused and stretched must also be placed in directors at the root level of the Viz Artist Stage. Any animations in sub-directors will not be stretched, hence looping background animations and similar should be placed here. These animations will be played out continuously, regardless of the stop points in the root containers.

### **Sound and Stop Points**

There is no support for embedded sound effects in graphics being used in the Graphics Plugin workflow. Sound that is embedded together with graphics is based on the timeline used for the graphics, and there is no good and general way of stretching sound.

### **Video and Stop Points**

Through the use of various Viz Artist plugins, such as *MoViz*, it is possible to play media files or streams as part of the output of a graphics scene. Note that the video will be stretched according to the length of the graphics clip in the NLE timeline.

### **Effect Plugins**

Effect plugins, such as *RfxSmoke*, works in such a way that particles are emitted from a certain point, and then moved in a random order in some direction until they eventually fade away. The output of this random particle movement may be distorted when played out as part of the Graphics Plugin workflow. Hence, it is recommended to use such effects with caution when designing for NLE.

### **Transition Logic**

The Graphics Plugin workflow makes it is possible to work with *Transition Logic* scenes, with certain limitations.

Following the normal workflow of the supported NLE systems, the graphics templates can be modified and sent to air. A template that contains multiple elements, such as a banner, logo, and a lower third, can be animated to the various in and out states, so that it matches the timing of the graphics event in the timeline.

The following limitations apply to Transition Logic scene design:

- There is *no support* for graphics that are dependent on states of other graphics elements. For example, a normal Transition Logic scene can be designed to have a logo taken on air in the lower part of the screen, and then when a lower third is taken on air, the logo should shift to the upper part of the screen. To achieve this type of behavior; create a combination template, using Viz Trio or Viz Pilot's Template Wizard, to control the required layers, such as bug, clock, lower third, OTS, and so on.
- There is *no support* for multiple graphics stacked together, so-called *in-to-in* or *back-to-back* animations. For example, when showing two instances of a lower third straight after another on the timeline, it is not possible to keep the backplate from object number one, and simply update the editable variables, in this case the name of the interview objects. Instead, the first element must be animated out, and then the second one in.

#### See Also

- *Viz Artist User's Guide's* sections about Transition Logic
- *Viz Trio User's Guide's* section about Combination Templates

#### Lift and Extract

When using Viz Pilot as your Editor, Lift and Extract allow you to remove a portion of a clip from the timeline. This is usually set by the mark-in and mark-out points.

- Lift will remove a portion of a clip, while leaving the interval duration between the mark-in and mark-out points.
- Extract will remove a portion of a clip, but does not leave the interval (cutting the portion of the clip out completely)

Although Lift and Extract modify the clip, no frames in the graphic are skipped. The portions of the clip before mark-in and after mark-out are separate entirely, and the graphic will also be split.

---

## 8 Troubleshooting, Logging and Reporting

The following sub sections describe how to report problems to Vizrt, how to log Graphics Plugin activities and lastly a section on common questions and answers.

This section contains information on the following topics:

- [Reporting Problems](#)
- [Log Files](#)
- [Questions and Answers](#)

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### 8.1 Reporting Problems

The Graphics Plugin is (despite the simple interface) a complex integration of several products with a number of things that can go wrong. The Graphics Plugin is hiding most of this complexity for the users and to a certain extent also to people who set things up.

When there is a problem it might be hard to provide the right information to Vizrt Support in order to track down the problems. This section is a step-by-step guide for how to report problems.

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**Note:** All problems should be registered with Vizrt's Customer Portal, or if your company does not have access to the portal a report should be sent to a local Vizrt representative or directly to support@vizrt.com.  
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This section contains information on the following topics:

- [Before Reporting Problems](#)
- [Reporting a Problem](#)

#### 8.1.1 Before Reporting Problems

- Read the Graphics Plugin Administrator's Guide
- Read the Graphics Plugin Release Notes
- Check that things were configured the way they were meant to

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**Note:** Check that the hardware specified and the tested and recommended versions of Viz Engine are used.  
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**Note:** The plugin depends very much on the Viz Engine being configured for it; hence, it should only be used by NLE users.  
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## 8.1.2 Reporting a Problem

When filling out a report please add as much information as possible. All reports should ideally contain what is described in the [Content of the Report](#) section, and in addition logs and information about how to reproduce the problem for the specific Graphics Plugin installed.

This section contains information on the following topics:

- [Content of the Report](#)
- [To make a report for the Graphics Plugin using Avid Media Composer](#)
- [To make a report for the Graphics Plugin using Final Cut Pro](#)

### Content of the Report

The report should contain information about the following topics; Problem description (as detailed as possible), logs, software and hardware, setup, graphics and network.

See the following sections on how to make reports for different versions of the Graphics Plugin.

- **Problem description:** Include a good description of what the problem is and how to reproduce it. Remember to use simple English.
  - Discern different components, for example when clicking Edit in the NLE system an editor is started (Viz Trio, Graphics Plugin Editor for Mac and so on).
  - Add screen shots and illustrations that will simplify the message.
- **Logs:** Create a log where the problem, and only the problem, has been reproduced. This is essential for tracking down things and ruling out problems. For more information, see the [Log Files](#) section.
- **Software and Hardware:** Add exact versions of software (build number) and hardware used.
  - Graphics Plugin (installer) as well as system type (Windows/Mac versions) it is installed on (including hardware and important service packs)
  - Viz Engine (and hardware, if it is a standard PC or has SDI)
  - NLE system used, and information about project settings, as well as any special things in the project that might make sense (GPU effects, transition effects, video size not same as project setting, and so on.)
  - Editor used, for example Viz Pilot, Viz Trio or Graphics Plugin Editor.
- **Setup:** Describe differences in the installation, if any, from the recommended setup.
- **Graphics:** Include scenes that work and do not work, and add information about what has been tested (for example if key is ok or not).
- **Network:** Add a description of how the network, bandwidth, routers, and switches are configured.

### To make a report for the Graphics Plugin using Avid Media Composer

1. Start Avid.
2. Click **Config** on a Graphics Plugin effect.
3. Go to Plugin settings and find Plugin log level, and set it to **Report**.
4. **Close** the configuration tool.
5. **Close** Avid.
6. Open **Windows Explorer** at the default Graphics Plugin log directory.

-----  
**Note:** The default Graphics Plugin log directory is %APPDATA%/Vizrt/VizNLE/Logs. The log directory can be modified from the *Graphics Plugin configuration tool* for Windows, see the illustration above.  
-----

7. **Move** all log files to a new directory. The log folder should be empty.
8. **Start** Avid and reproduce the problem.
9. **Close** Avid after reproducing the problem.
10. **Store** the files that were created in %APPDATA%/Vizrt/VizNLE/Logs somewhere safe and attach them to the appropriate **support case**.

### To make a report for the Graphics Plugin using Final Cut Pro

1. Start FCP.
2. Click **Graphics Plugin Config** on a Graphics Plugin effect.
3. Go to plugin settings and find logging, and set it to **Report**.
4. **Close** the configuration tool.
5. **Close** Final Cut Pro.
6. **Open** Finder at Home > Library > Logs > VizNLE
7. **Move** all files to a new directory. The log folder should be empty.
8. **Start** FCP and reproduce the problem.
9. **Close** FCP after reproducing the problem.
10. **Store** the files that were created in Home > Library > Logs > VizNLE somewhere safe and attach them to the appropriate **support case**.

#### See Also

- [Log Files](#)

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## 8.2 Log Files

Logging is performed by the Graphics Plugin, and the different applications that the Graphics Plugin integrates with. The following paragraphs describe the different log files, their log levels, and where they are stored.

The Graphics Plugin generates log files that are located in the directory specified by the Graphics Plugin (see below).

The Windows-based log files are placed in the following directory;

- %APPDATA%/Vizrt/VizNLE/Logs
  - viznle-log-<date\_time>.txt
  - nleconfig-<date\_time>.txt
  - vcp\_ax\_nle.log
  - trio-<date\_time>.log

---

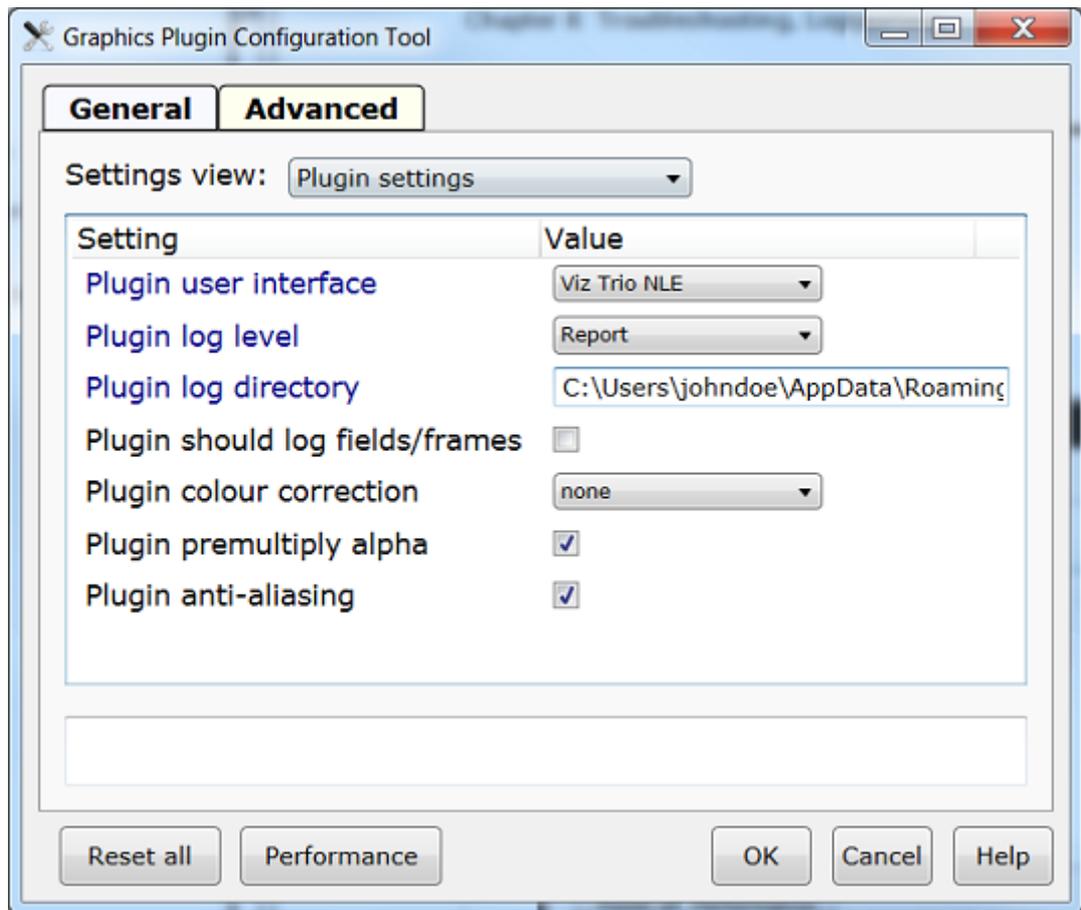
**Note:** The log directory can be modified from the *Graphics Plugin configuration tool* for Windows.

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The Mac-based log files are placed in the following directory;

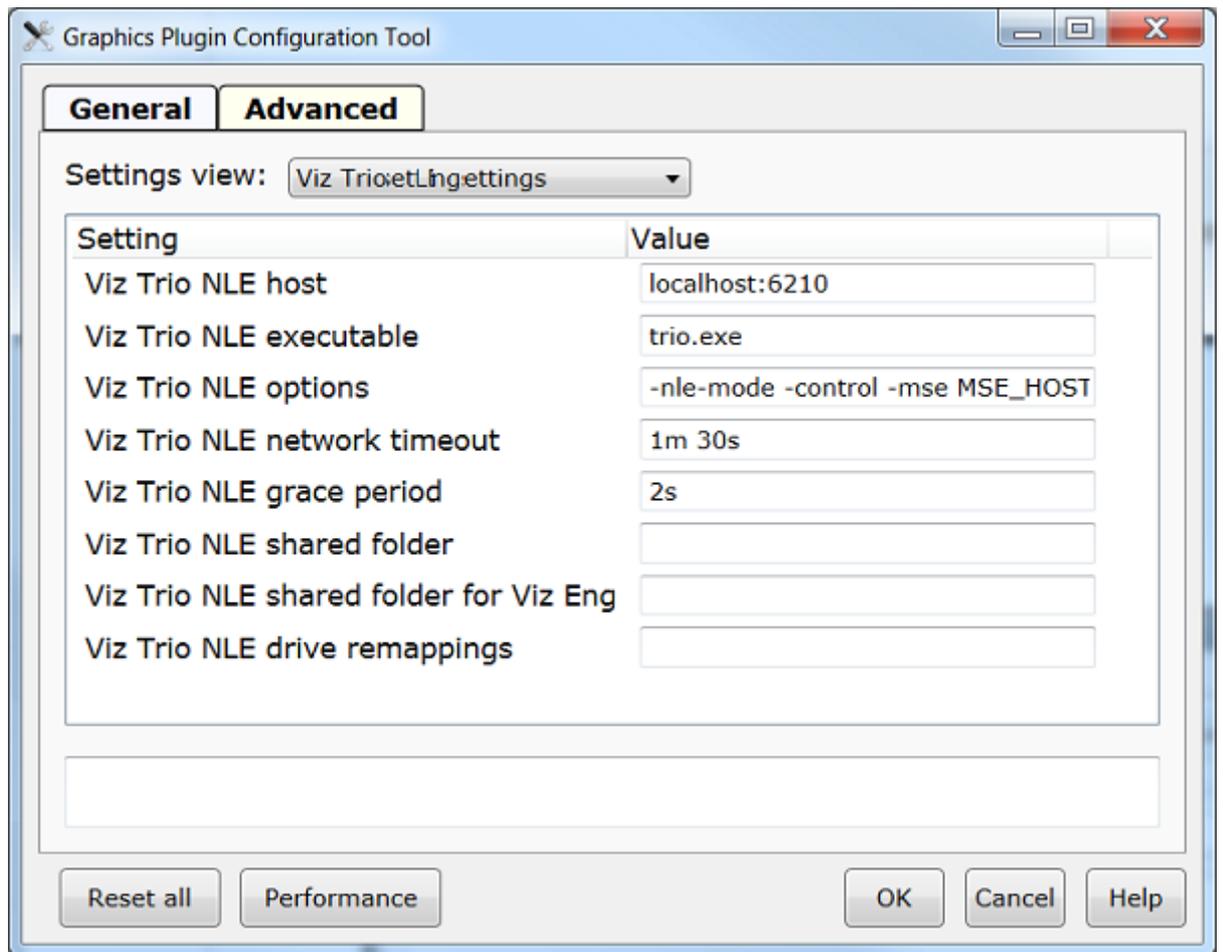
- ~/Library/Logs/VizNLE/
  - viznle\_log--<date\_time>.txt
  - VizNLEConfig--<date\_time>.log
  - VizNLE\_Editor--<date\_time>.log

The Graphics Plugin related log files, including Viz Trio and Viz Pilot log files, are by default placed at %APPDATA%/Vizrt/VizNLE/Logs.



The location of the Graphics Plugin log files can be modified from the Graphics Plugin configuration tool, under the *Plugin settings* view. The text in the *Plugin log directory* box defines the folder where the log files should be placed. To define a new folder for the log files, type a new path in the text box.

The path for the Viz Trio and Viz Pilot log files can be modified from the Graphics Plugin configuration tool, under the *Viz Trio NLE* and *Viz Pilot NLE* settings view respectively. By default, these log files are defined to be put in the same folder as the Graphics Plugin specific log files, by using the `-logfile-path LOG_PATH` command in the options text box (`LOG_PATH` refers to the Plugin log directory setting).



To place the Viz Trio and Viz Pilot log files in a folder separate from the Graphics Plugin log files, replace `LOG_PATH` in the options text box with a folder name.

-----  
**Note:** *Plugin log directory* does not apply for Graphics Plugin Editor.  
 -----

#### See Also

- [Editor settings](#)
- [Plugin settings](#)

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## 8.3 Questions and Answers

This section contains a mix of troubleshoot and frequently asked questions, and will try to answer questions that may arise when using the Graphics Plugin. Differences between the Mac and Windows-based versions are noted where needed.

This section contains information on the following topics:

- [General](#)

- [Using the NLE System](#)
- [Configuring the NLE System](#)
- [Tuning the NLE System](#)
- [Rendering with Viz Engine](#)
- [Configuring Graphics Cards](#)

### 8.3.1 General

- **How do I contact Vizrt with my Graphics Plugin questions?**
  - Before a question is forwarded, please read the questions and answers that are given in the sections below. For problem reporting, see the [Reporting Problems](#) section.
- **Why are my start, stop and continue buttons in Viz Trio disabled?**
  - When using an external Viz Engine, the start, stop and continue buttons in Viz Trio are disabled. This is the same for the Restart Viz Engine option that is available from the context menu in the Render window.

### 8.3.2 Using the NLE System

- **Which video editing software works with the Graphics Plugin?**
  - See the [Supported NLE Systems](#) section.
- **Why am I seeing double-sized graphics?**
  - There is a difference between broadcast and consumer resolution. Several of the plugins are confused by for example consumer HD, producing graphics of the wrong sizes. If the camera says 1080i and has a resolution of 1440x1080 or 1280x1080 it is consumer HD as opposed to broadcast HD of 1920x1080.
  - Check that the software versions are correct. For details, see the [Requirements and Recommendations](#) section.
- **I have edited and saved a scene but I cannot see the graphics on the video. Why is this?**
  - When editing a scene in Viz Trio, Viz Pilot or the Graphics Plugin Editor, select to see the scene with *key* turned on (available above the renderer window). If the scene goes black, there is a design flaw in the scene. Redesign the scene by adding key to it. For details, see the [Scene Design](#) section.
- **Why does the preview in Viz Pilot only display VPreviewPanel?**
  - This might be a network bandwidth problem. In most cases this happens when the Graphics Plugin's compression is set to No Compression and there is a bandwidth mismatch between Viz Engine and the NLE machine. Usually this happens when for example the NLE machine is connected to a 1Gbps network and the Viz Engine is connected to a 100Mbps network.
  - Try to set compression to *PNG Compression* or configure both machines to use the same network with the same bandwidth. Remember to check that the network cards are compatible with the network it is connected to.
  - Viz Engine should ideally be connected to a fast network. If the NLE machine is connected to a slower network it should work fine.

---

**Note:** Recommended bandwidth for No Compression is 1Gbps.

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- **How do I set Viz Pilot's preview aspect ratio?**
  - The preview aspect ratio is set in Config's *Output Format* section (Viz Engine's configuration tool).
- **Why is Avid locked while using the Graphics Plugin?**
  - The architecture of Avid and most NLE systems is that they block whenever a plugin is executing, which includes when the user has pressed Edit, the editor is open and the plugin is waiting for a response.
- **Why are the Graphics Plugin editors and configuration programs not closed when the NLE system is closed?**
  - The NLE system is unable to handle a shutdown of the plugin itself (see previous question).
  - If the NLE system is accidentally terminated or closed this might cause the plugin process to still be running, and a manual and forced shutdown of the plugin is necessary. The latter can be obtained by restarting Avid or using the Task Manager.

### 8.3.3 Configuring the NLE System

- **Which ports are used in a typical installation?**
  - See [Port numbers](#).
- **On a Windows system, how do I configure the Viz Engine host and port?**
  - For details about installing Viz Engine, see the [Graphics Rendering](#) section.
- **On a Windows system, how do I configure the output from the Viz Engine?**
  - Some settings related to the output from the Viz Engine are configurable. For example the image compression protocol (*No, PNG or RLE*).
  - If some of the Viz Engine settings are incorrect the preview will be disabled, and a message giving the reason will be displayed. Cases can be if the host is not found, cannot connect to the port, and so on. In addition if the Viz Engine connection is lost during runtime, the user will be notified.

**Note:** Some GUI settings are only valid for Windows-based NLE integrations using Viz Trio and Viz Pilot.

- **On a Windows system, how do I configure the user interface that the Graphics Plugin should use?**
  - Open the Graphics Plugin configuration tool and set the *Plugin user interface* setting and set it to Viz Pilot or Viz Trio.
  - The setting ensures that the NLE application will send the extra data that the user interface needs. This includes, but is not limited to, the scene length in milliseconds.
  - All user interfaces will show an error message in case the NLE system is not configured properly. The log files will also show warnings for non-critical problems.

## See Also

- [Graphics Rendering](#)
- [Port Numbers](#)

### 8.3.4 Tuning the NLE System

- **How can I find out how much time is used between each call from the NLE system to the plugin?**
  - Empty the log directory, and start a project, make an effect, render it and exit the NLE system. Go to the log directory (see the [Log Files](#) section) and run the following command:

```
grep --binary-files=text PERFORMANCE viznle-log*.txt
```

- Disregard the first few numbers and you might find for example:

```
14:42:03 [T:2689318816] [/Users/<username>/fcp-1.0/plugins/fcp/VizNlePlugin.mm,876] QUEUE PERFORMANCE: Time between renders 397 msecs.
```

```
14:42:03 [T:2689318816] [/Users/<username>/fcp-1.0/plugins/fcp/VizNlePlugin.mm,876] QUEUE PERFORMANCE: Time between renders 170 msecs.
```

```
14:42:03 [T:2689318816] [/Users/<username>/fcp-1.0/plugins/fcp/VizNlePlugin.mm,876] QUEUE PERFORMANCE: Time between renders 394 msecs.
```

```
14:42:04 [T:2689318816] [/Users/<username>/fcp-1.0/plugins/fcp/VizNlePlugin.mm,876] QUEUE PERFORMANCE: Time between renders 161 msecs.
```

```
14:42:04 [T:2689318816] [/Users/<username>/fcp-1.0/plugins/fcp/VizNlePlugin.mm,876] QUEUE PERFORMANCE: Time between renders 157 msecs.
```

```
14:42:04 [T:2689318816] [/Users/<username>/fcp-1.0/plugins/fcp/VizNlePlugin.mm,876] QUEUE PERFORMANCE: Time between renders 411 msecs.
```

```
14:42:04 [T:2689318816] [/Users/<username>/fcp-1.0/plugins/fcp/VizNlePlugin.mm,876] QUEUE PERFORMANCE: Time between renders 161 msecs.
```

## See Also

- [Log Files](#)
- [Tuning the NLE System](#)

### 8.3.5 Rendering with Viz Engine

- **Which Viz Engine version should I run for HD?**
  - A standard-PC version for all HD output is recommended due to a number of issues in the INCA version.
- **Can I include Datapool in the Graphics Plugin workflow?**
  - When including the Datapool mechanism in the Graphics Plugin workflow, you are always working on a scene-copy. The built-in multiplexer functionality of Viz Engine will rewrite references to `RENDERER` to the scene-copy you are using. This means that if your scene has DataActions that refer to `RENDERER`, they will not be rewritten to the right scene, and they will fail fairly often. Referring to `$SCENE` will most certainly also not work.

## See Also

- [Graphics Rendering](#)

### 8.3.6 Configuring Graphics Cards

- How do I configure my NVIDIA card with Avid and Graphics Plugin?
  - From Avid's release notes: *"In the Open GL Settings tab of the Windows Display Properties dialog box, the Multi-Display hardware acceleration should be set to Single Display mode. The default setting is Multi-Display Performance mode. This is the mode that appears if a new version of the NVIDIA driver is installed. If the setting is anything other than Single Display mode, the Avid application might drop frames during real-time playback of 3D effects."*

#### See Also

- [Graphics Rendering](#)